ORGANISATIONAL CREATIVE CLIMATE AND KNOWLEDGE SHARING IN FOSTERING INNOVATIVE WORK BEHAVIOUR AMONG STARTUPS IN MALAYSIA

ROSINTANSAFINAS BT. MUNIR

FACULTY OF ECONOMICS AND ADMINISTRATION
UNIVERSITY OF MALAYA
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ROSINTANSAFINAS BT. MUNIR

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ORGANISATIONAL CREATIVE CLIMATE AND KNOWLEDGE SHARING IN FOSTERING INNOVATIVE WORK BEHAVIOUR AMONG STARTUPS IN MALAYSIA

ABSTRACT

Startups are crucial as it contributes to the thriving economy and national growth of Malaysia. Indeed, various government programmes and initiatives have been implemented over the years to flourish the startups entrepreneurial activities to ensure its sustainability. Noticeably, a significant number of startups failed within five years of business due to the high level of uncertainties and risks. In the new era of innovation, startups need to inculcate an innovative work behaviour to support the business performance as its creative and innovative mindset are the mechanisms to capture the competitive market rather than focus on the innovative product. Unfortunately, the level of individual innovative work behaviour in Malaysia is moderate particularly with startups having a low level of innovative work behaviour as compared to small enterprises which echoed warning sign of the startups eco-system. The understating of organisational creative climate is reckoned as having a powerful effect on employees' creativity and innovativeness. In addition, the knowledge sharing practice is crucial as integrating knowledge among the small circle of entrepreneurial members can increase the performance both individually and collectively. Therefore, this study intends to provide an empirical verification to support the link between organisational creative climate, knowledge sharing, and the innovative work behaviour of startups. The quantitative approach was used to collect data from the entrepreneur (n=355) and employees (n=355) of startups in the services sector in Malaysia. The purposive sampling was used to select a sample of employees due to the limited number of creative and innovative employees in startups and obtain the desired information. The Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied to test the hypothesised model. The results established that organisational creative climate is significantly correlated with the innovative work behaviour, and this organisational creative climate also affects knowledge sharing. In addition, the findings indicated that knowledge sharing has significantly influenced the innovative work behaviour of employees. On the other hand, the mediating roles of knowledge sharing was found to have significantly mediated the relationship between organisational creative climate and innovative work behaviour among startups in Malaysia. Hence, sharing information activities within the realm of startups need to be encouraged to gain valuable creative and innovative ideas. In addition, it is also suggested that startups practice a creative

climate in enhancing the individual innovativeness. It is believed that the comprehensive use of resources could enhance the eco-system of startups. Overall, startups should well incorporate the sharing knowledge activities and harmonious creative climate in forming the best strategies that can adapt to the needs of markets and the competitiveness of startups. The findings have provided valuable input which helps towards better understanding specifically for the startups agencies and government to look further at the programmes as well as to enforce new favourable policies in improving the startups eco-system. Further, this study serves as a guideline for startups to re-design the organisation's policies and structures for the new comprehensive management system. Subsequently, startups that practice effective knowledge sharing and harmonious creative climate will nurture the individual's innovative work behaviour.

Keywords: Startups; Innovative; Creative; Knowledge; Behaviour

PERSEKITARAN ORGANISASI KREATIF DAN PERKONGSIAN PENGETAHUAN DALAM MEMUPUK TINGKAH LAKU KERJA INOVATIF DI KALANGAN PEMULAAN PERNIAGAAN DI MALAYSIA

ABSTRAK

Pemulaan Perniagaan adalah penting kerana ia menyumbang kepada ekonomi yang berkembang maju dan pertumbuhan negara Malaysia. Memang, pelbagai program dan inisiatif kerajaan telah dilaksanakan sejak bertahun-tahun untuk memajukan aktiviti keusahawanan untuk memastikan kemampanannya. Tidak ketara, bilangan permulaan perniagaan yang ketara gagal dalam tempoh lima tahun perniagaan disebabkan oleh ketidakpastian dan risiko yang tinggi. Dalam era inovasi baru, para pemulaan perniagaan perlu menanamkan tingkah laku kerja inovatif untuk menyokong prestasi perniagaan kerana minda kreatif dan inovatifnya adalah mekanisme untuk menawan pasaran kompetitif dan bukannya memberi tumpuan kepada produk inovatif. Malangnya, tahap tingkah laku kerja inovatif di Malaysia adalah sederhana terutamanya dalam golongan permulaan perniagaan yang mempunyai tingkah laku kerja yang inovatif yang rendah berbanding dengan perusahaan kecil yang menyuarakan tanda amaran sistem eko permulaan perniagaan. Pengertian iklim kreatif organisasi dikira sebagai mempunyai kesan yang kuat terhadap kreativiti dan inovatif pekerja. Di samping itu, amalan perkongsian pengetahuan adalah penting kerana mengintegrasikan pengetahuan di kalangan bulatan kecil ahli keusahawanan boleh meningkatkan prestasi secara individu dan kolektif. Oleh itu, kajian ini bertujuan menyediakan pengesahan empirikal untuk menyokong hubungan antara iklim kreatif organisasi, perkongsian pengetahuan, dan tingkah laku kerja yang inovatif bagi pemulaan perniagaan. Pendekatan kuantitatif digunakan untuk mengumpul data dari usahawan (n = 355) dan pekerja (n = 355) dari permulaan dalam sektor perkhidmatan di Malaysia. Pensampelan "purposive" digunakan untuk memilih sampel pekerja kerana bilangan pekerja kreatif dan inovatif terhad dalam startups dan mendapatkan maklumat yang dikehendaki. Pemodelan Persamaan Struktur yang Separa Separa (PLS-SEM) digunakan untuk menguji model hipotesis. Hasilnya menegaskan bahawa iklim kreatif organisasi berkait rapat dengan tingkah laku kerja inovatif, dan iklim kreatif organisasi ini juga mempengaruhi perkongsian pengetahuan. Selanjutnya, penemuan menunjukkan bahawa perkongsian pengetahuan telah mempengaruhi perilaku pekerja yang inovatif. Sebaliknya, perantaraan peranan perkongsian pengetahuan didapati mempunyai pengantaraan yang signifikan antara iklim kreatif organisasi dan tingkah laku inovatif di

kalangan pemula di Malaysia. Oleh itu, berkongsi aktiviti maklumat dalam bidang permulaan perniagaan perlu digalakkan untuk mendapatkan idea kreatif dan inovatif yang berharga. Di samping itu, ia juga mencadangkan supaya para pemulaan perniagaan mengamalkan iklim kreatif dalam meningkatkan keupayaan inovatif individu. Adalah dipercayai bahawa penggunaan sumber yang komprehensif dapat meningkatkan eko sistem startup. Secara keseluruhannya, pemulaan perniagaan perlu menggabungkan aktiviti pengetahuan berkongsi dan iklim kreatif yang harmoni dalam membentuk strategi terbaik yang boleh menyesuaikan diri dengan keperluan pasaran dan daya saing pemula. Penemuan telah memberikan input yang bernilai yang membantu ke arah pemahaman yang lebih baik khususnya untuk agensi-agensi pemulaan perniagaan dan kerajaan untuk melihat lebih lanjut program-program serta menguatkuasakan dasar-dasar baru yang menggalakkan dalam meningkatkan sistem eko-startup. Selanjutnya, kajian ini berfungsi sebagai garis panduan bagi permulaan perniagaan untuk merekabentuk semula dasar dan struktur organisasi untuk sistem pengurusan komprehensif yang baru. Seterusnya, pemulaan perniagaan yang mengamalkan perkongsian pengetahuan yang berkesan dan iklim kreatif yang harmoni akan memupuk tingkah laku kerja inovatif seseorang.

Kata Kunci: Pemulaan Perniagaan; Inovatif; Kreatif; Pengetahuan; Tingkah Laku

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The first chapter of this thesis opens with the overview and further elaborates the background of the study. Further, explanation about startups development and performance services sector are presented. This is followed by research questions, research objectives and significance of the study. Next, the limitation of study is elaborated as well as the operational terms.

1.2 Overview

In a dynamic environment with rapid technological advancement and globalization, startups are required to create additional value in differentiating themselves with their rivals. Globally, the establishment of startups contributes to economic development as well as provides greater employment opportunities. In reality, the survivability of new businesses is extremely challenging at the infancy stage due to high uncertainties and difficult processes of business formation. Studies indicate that more than 30 percent of startups failed in the first year, 43 percent failed within three years, and 57 percent failed within five years of business. Besides, during the starting-up stage, out of three businesses failed and the failure rate exceeds 60 percent.

Innovation and creative features are crucial business strategies for startups' growth and competitiveness. Further, a key success of innovation is the engagement of the creative and innovative individuals in enhancing the organisation to be competitive. The majority of micro and small companies in Malaysia are at a low innovative level and the investment in a capital-intensive innovation, particularly to the micro-enterprises is relatively low. The important question of why most of the small and micro-enterprises failed to innovate is due to lack of innovative employees. Notably,

innovative employees are an organisation key asset and the main driver for startups' achievement. Empirical researches report that innovative work behaviour in Malaysia is a moderate level. Surprisingly, the micro-enterprises are lower in innovative work behaviour than small enterprises. Thus, it is a pressing need to understand how startups in Malaysia develop their innovation capacity through systematic employee-driven innovation. Today, there is a dearth of studies on innovative work behaviour particularly in the context of startups.

Previous work of literature highlighted that innovative employees are triggered by a creative-positive working environment. Conducive work environment not only important to promote innovation in an organization, but also greater influence in nurturing employees' innovative work behaviour. Given that organisational creative climate can influence the innovative behaviour of an individual, startups should develop a climate where employees feel free to express ideas in ideal time, exchange ideas openly, receive support for the creative ideas, are allowed to take risks to be innovative, and to engage in innovative activities. However, there is a paucity studies that investigate the impact of organisational creative climate on innovative work behaviour particularly in startups context, hence this study attempts to fill the gap.

In the knowledge-based economy, the concept of knowledge sharing is becoming more challenging due to the existence of advent technology in assessing reliability information. To survive in today's society and market, startups do not only rely on the innovation aspects but are also driven by knowledge. Given that the willingness to share knowledge and trusting one another are seriously lacking in today's creative community, startups are facing even more challenges to promote innovative work behaviour. Further, in a survey conducted to examine the critical success factor of

knowledge sharing, more than 40 percent respondents agreed that the organisation factor is a critical success factor and the remaining percentage comes from human and technology factors. The association between employees' knowledge sharing and innovative behaviour is still under-theorised and empirically untested. Thus, it is a warning sign to further investigate the influence of knowledge sharing towards innovative work behaviour and its role in mediating the relationship between organisational creative climate and innovative work behaviour.

Unfortunately, the conceptual understanding of the supportive mechanisms linking organisational creative climate and knowledge sharing to employees' innovative behaviour remains underdeveloped. Besides, this current study has identified a knowledge gap related to innovative work behaviour in the context of startups and it needs to be addressed accordingly. The challenges and knowledge gap stated earlier have led to the following research questions: *(1) to what extent could organisational creative climate and knowledge sharing practices foster innovative work behaviour of startups employees, and (2) the role of knowledge sharing as a mediator in regards to organisational creative climate and innovative work behaviour.*

This study responded to the call for rich and novel insights into the innovation field, especially concerning the influence of organisational creative climate and knowledge sharing in fostering startups employees' innovative work behaviour.

The chapter is organized as follows: The background of the study is discussed in the next sub-section, followed by the startups development in Malaysia. The third sub-section entails the performance of the services sector in Malaysia. The fourth sub-section details out the statement problems, while the research objectives and research

questions are elaborated in the subsequent section. The last section explains the significance and limitations of this research study.

1.3 Background of Study

In an era of globalization and an uncertain economically challenging world, there is a constant need for startups to upgrade themselves. In essence, entrepreneurship is vital to the health of Malaysia's economy and driving Malaysia towards a fully developed nation status by 2020. Startups have become pertinent players in the economy including Malaysia. According to the Department of Statistics Malaysia (29 September 2017), a total 907,065 (98.5%) of business establishments in Malaysia are SMEs sectors. Meanwhile, 21.2% of them is derived from mico and small enterprises which indicates that a high growth rate of startups in contributing to the economy. As highlighted in the SME Master Plan 2012-2020, to achieve a more balanced and inclusive growth by addressing the bottom 40% of microenterprises income (SME Corp, 2012) Overall, the SMEs contribute RM521.7billion with 38.3% to the nations' gross domestic product (GDP) in 2018 (Department of Statistic Malaysia, 31 July 2019).

Recently, the current trend of business economy has shifted from traditional business appraoch to the digital business approach which is aligned to the transformation towards Industry Revolution 4.0. Notably, many digital businesses such as Alibaba, eBay, Lazada, Shoppe have become a benchmark as the successful e-commerce site. In this changing trend, the Small and Medium-Size Enterprises (SMEs) businesses in Malaysia also conducting business through internet which is known as e-commerce. The goverment of Malaysia has acknowledged the contribution of this sector, hence allocate incentives in the National Budget 2019 to encourage the adoption

of e-commerce implementation among Malaysia's SMEs in order to remain competitive.

However, Department of Statistics Malaysia (16 October 2019) reported that the percentage of e-commerce contribution to the country's gross domestic product (GDP) is relatively low with 8.0% in 2018. As highlighted by Yun (2019); Lee and Wing Hooi (2017); Ahmad, Abdul Rani and Mohd Kassim (2010); Ahmad, Abu Bakar, Faziharudean, and Mohamad Zaki (2015); and Jones, Packham, Beynon-davies, and Pickernell (2011), the lack of access to the right technology, expensive cost of adoption e-commerce infrastruture, readiness of the SMEs itself as well as the human resources factors are the challenges in digital economy particularly among SMEs in developing countries. Even though, digital approach is the latest trend in business activities but these drawbacks indicate that traditional approach is still relevant in contributing to the economy and growth of Malaysia.

In the 21st century, creativity and innovation have been gaining much attention as the new revolution in Malaysia where all industries pursue new futuristic products as well as activities, leading to new economic and nation growth. It is widely believed that creativity and innovation play a tremendous role in accelerating the growth of a nation's economy and competitiveness (Lanyi, 2016; Yesil & Sozbilir, 2013, Yuan & Woodman, 2010). On top of that, the initiating innovation aspect is one of the business strategies for local SMEs to remain higly competitive (Awang, Mohd Sapie, Hussain, Ishak, & Md Yusof, 2019; Abdullah, 1999) and the adoption of innovation help startups in differentiating themselves with rivals and ultimately drive them to sustain in the marketplace (Wu & Lin, 2018; Gundolf, Gast, & Geraudel, 2017).

Innovation is an important element in almost all sectors of the economy across the world, including education, agriculture, transportation, healthcare and many more. Notably, the services sector has become the main Gross Domestic Product (GDP) contributor to the Malaysian economy since 2011. According to Department of Statistics Malaysia (31 July 2019), services sector was the main contributer to the percentage share of SMEs GDP in 2018 with 62.4% followed by manufacturing sector with 20.1%, agriculture (10.1%), construction (5.9%), and mining and quarrying (0.5%). Further, in the fourth quarter of 2018 services sector contributed 6.9 percent as compared to 6.2 percent in final quarter of 2017 (Department of Statistic Malaysia, 20 February 2019). Moreover, the services sector has also the biggest percentage share on the economic activity in all states in Malaysia for the first quarter of 2018 with 54.8 percent, followed by manufacturing (22.8%), agriculture (7.6%), mining (8.5%), and construction 4.8%) sectors (Department of Statistic Malaysia, 2018).

Certainly, the ability of small business venture including startups to be involved in the creativity and innovation aspects aid in enhancing the nation performance and indexing. For instance, the Global Innovation Index (GII) 2020 shows that Malaysia, which ranked 33rd out of 131, achieved a score of 42.4 (Cornell University, INSEAD, & WIPO, 2020). Among all the Southeast Asian Countries, Malaysia was reported to have manifested the second highest innovative performance after Singapore. Besides, the innovation efficiency index also ranked Malaysia at 45th position which measures the innovation performance through the innovation ratio of input and output sub-index. Both innovation input sub-index and innovation output sub-index were ranked 34th and 36th position, respectively (Cornell University, INSEAD, & WIPO, 2020).

Referring to the Global Competitiveness Index (GCI) in the Global

Competitiveness Report (GCR) for the years 2107-2018, Malaysia was ranked 23rd (up by 2) and achieved a score of 5.20 (scale 0-7) as compared to 2016-2017, which ranked 25th with a score of 5.16 (World Economic Forum, 2018). It shows that Malaysia has improved in the world ranking as compared to the previous years. Additionally, based on the innovation and sophistication factors, Malaysia was ranked 21st, whereas the 11th pillar: business sophistication and 12th pillar: innovation were ranked 20th and 22nd, respectively. Apart from this, the Global Competitiveness Index 2017 – 2018 reported that Malaysia was classified as one of the countries, at the stage of transition, moving from efficiency driven to innovation-driven. Moreover, Malaysia was also categorized as the highest competitive country which ranked at 24th position out of 63 countries in the world. Meanwhile, in Asian countries, Malaysia was at the 2nd position for competitiveness performance followed by Thailand, Indonesia, and Philippines (World Economic Forum, 2018).

Notably, understanding employee innovativeness is crucial as a factor of the organization's innovativeness. Furthermore, Awang et al. (2019) and Vnoučková (2018) highlighted that innovation is obtained from an employees's ideas in the workplace for upgrading organization's level. The individual innovation behaviour in the workplace is considered as the main pillar of high performing organizations (Gundolf et al, 2017; Carmeli, Meitar, & Weisberg, 2006). Nowadays, there is pressure in recruiting skillful and knowledgable talent since employees have been identified as a powerful source of competitive advantage. Kesting and Ulhoi (2010) highlighted that innovation is the activity of generating new ideas, new products and processes, and is not necessarily the role of management and scientists. In order to fulfil the changes and gaps in the marketplace, startups are increasingly dependent on the action and behaviour of employees. The creativity and innovativeness of their members had sustained the

survivality of startups. In other words, their creativity and innovative mindset are the mechanism that can ensure their ability to capture the competitive market out there. This proves that employees are the main supporters to bridge the gap and to enhance the innovation level in Malaysia. Therefore, Malaysia needs to produce more creative and innovative entrepreneurs and employees in order to propel Malaysia towards the competitive status of a high-income economy that thrives on productivity, innovation and creativity in 2020.

Amabile, Conti, Coon, Lazenby, and Herron (1996) and Scott and Bruce (1994) agree that the optimal environment is highly important in facilitating creativity and innovation. Empirical research has shown that organisational climate is one of the significant determinants in stimulating innovative behaviour. For instance, Izzati (2018), Hsu and Chen (2017), Yeoh and Mahmood (2016), Balkar (2015) Ren and Zhang (2015) Shanker and Bhanugopan (2014); Tastan (2013), Imran, Saeed, Anis Ul Haq, and Fatima (2010), and Hunter, Bedell, and Mumford (2007) affirmed that there is a positive relationship between organisational climate and individual innovative behaviour. Moreover, previous researchers have posited that the environment is highly important for the creative and innovative process (Andriopoulos, 2001; Amabile et al., 1996). Furthermore, Dzulkifli and Shaharudin (2013) highlighted that the importance of having a conducive working environment, as well as innovation aspect has also been emphasized in the Malaysian development agenda.

In addition, previous studies found that organisational climate can play a role in shaping the behaviour of the employees and influencing the perception of knowledge management (Chen & Lin, 2004; Sveiby & Simon, 2002). It has been proven that variables such as individual, organisational, and technological factors play an essential

role to motivate knowledge sharing behaviour (Zamri & Baqutayan, 2012; Noor & Salim, 2011; Lin & Noor, 2007). Moreover, many empirical studies have supported the positive relationship between organisational climate and knowledge sharing (Batool, 2019; Han, 2018; Matić, Cabrilo, Grubić-Nešić, & Milić, 2017; Lashari, Alvi, & Farooq, 2016; Villamizar Reyes & Castañeda Zapata, 2014; Chen, Jaafar, & Noor, 2012; Tohidinia & Mosakhani, 2010; Bock, Zmud, Kim, & Lee, 2005) as well as between knowledge sharing and innovative work behaviour (Akram, Lei, Haider, & Hussain, 2018; Kang and Lee, 2017; Akhavan, Hosseini, Abbasi, & Manteghi, 2015; Radaelli, Lettieri, Mura, & Spiller, 2014; Mura, Lettieri, Radaelli, & Spiller, 2013). However, the above-mentioned studies were mainly focused on direct relationships. Furthermore, in order to acquire a deeper insight into the organisational creative climate (OCC) and innovative work behaviour (IWB) relationships, this study attempts to identify the underlying mechanisms through which OCC relates to IWB. Specifically, based on research, it is proposed that knowledge sharing (KS) will be the intervening variable that links OCC and IWB (Luoh, Tsaur, & Tang, 2014). Wang and Noe (2010) pointed out that knowledge sharing, is a knowledge-centered activity, which can be used as a mechanism to determine the success of an organization and ultimately the competitive advantage of the organizations.

This present study, however, attempts to provide a new perspective on OCC and IWB relationships by examining the intervention of KS on individual IWB. However, despite having considerable studies to foster innovative work behaviour, no study to date has explored those variables in the startup context. Therefore, this is seen as the first study that explores the implications of OCC, KS, and IWB among startups in Malaysia.

1.4 Entrepreneurship and Startups Development in Malaysia

The word "entrepreneur" is derived from the French verb "entreprende" which means to undertake, attempt, try in hand, contract for, adventure, or try (Carland, Hoy, & Carland, 1988). Essentially, entrepreneurship refers to a cyclical process of value creation that starts off with human creativity, financial resources, and technological capital which enhances new product development processes and new institutional forms leading to new ventures and successful innovations (Phan, Zhou, & Abrahamson, 2010). According to Gartner (1985), the term "entrepreneur" is associated with new venture creation. It is worth noting that the author developed a specific framework to describe "new venture creation". Weick (1979) described the new venture creation as "to assemble ongoing interdepedent actions into sensible sequences that generate sensible outcomes" (p.3). Meanwhile, Strategic Planning Institute (1978, p. 1-2) defined the new business venture as one of the following: (1) an independent entity, (2) a new profit centre within a company which has other established businesses, or (3) a joint venture which satisfies the following criteria: (i) its founders must acquire expertise in products, process, market and technology, (ii) results expected beyond the year in which the investment is made, (iii) a new market entrant by its competitors, (iv) a new source of supply by its potential customers.

Figure 1.1 presents a framework for describing the creation of a new venture across four dimensions: (1) individual – the person involved in starting up a new organization; (2) organization – the kind of firm that is started; (3) environment – the situation surrounding and influencing the new organization; and (4) new venture process – the actions undertaken by the individual to start the venture.
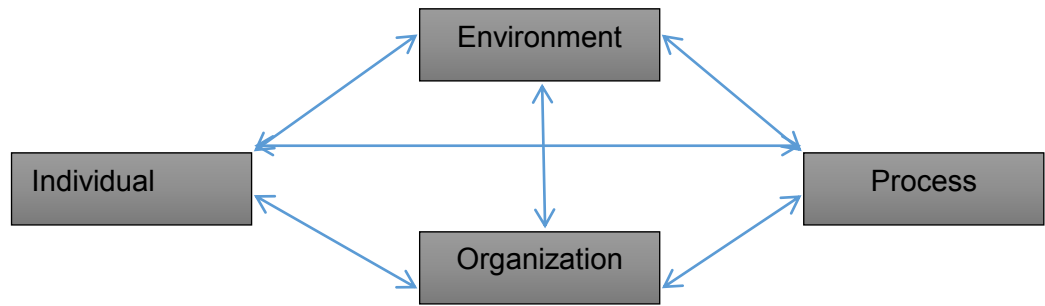
Figure 1.1: A framework for describing new venture creation
Source: Gartner (1985)

Table 1.1 below shows the total number of business registration and new business registration in 2016 and 2015. At the end of 2016, the total number of businesses registered with the Companies Commission of Malaysia is 5.6 million (Companies Commission of Malaysia, 2016). During 2016, the number of new business registration increased by 3.4%, bringing the number of new business registrations to 376,720 compared to 364,230 in 2015. The marginal growth in new business registrations was supported by the stable condition of Malaysia's economy apart from the government's initiatives. Overall, this proves that entrepreneurships particularly startups are the contributing factors to economic growth.

Table 1.1 Total Number of Business Registration and New Business Registration
in 2016 and 2015

Activity	2016	2015	Percentage (%)
Business Registration	6,375,051	5,998,331	↑ 6.3%
New Business Registration	376,720	364,230	↑ 3.4%

Source: Companies Commission of Malaysia (2016)

Generally, new and small firms can be classified as startups (Luger & Koo, 2005). Additionallly, the authors define start-ups *as "a business entity which did not exist before during a given time period (new), which starts hiring at least one paid employee during the given time period (active), and which is neither a subsidiary nor a*

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branch of an existing firm (independent)" (p. 19).   However, some scholars classified

startups based on the length of business operation. For instance, Siaw and Rani (2012)

described startup as a new firm that has a short business operating history and track

record. Further, Klyver and Terjesen (2007) referred startups as young firms running

less than 42 months, and an established firm as a firm running for at least 42 months.

On the other hand, Orford Wood, Fischer, Herrington, and Segal (2003) described

startups as those that have paid salaries for less than three months, new firms as firms

that have paid salaries for 3 to 42 months, and established firms that have operated for

more than 42 months. In addtion, some scholars have defined startups as the firms that

have operated less than six years (Zahra, Ireland, & Hitt, 2000; Brush & Vanderwerf,

1992). Meanwhile, Lambertz and Schulte (2013) stated that startups took an average of

five years to set up themselves in the marketplace.   It can be concluded that the

lifecycle of startup requires one to three years to be viable, and becomes matured after

five years of operation.

As can be seen in Table 1.2, the definition of SMEs in Malaysia is given by the

National SME Development Council (NSDC). Accordingly, the definition of micro,

small, and medium enterprise relies on two fixed quantitative criteria, i.e. the total sales

turnover by a business in a year or the number of full-time employees. Both criteria are

applicable to all sectors in Malaysia including services, manufacturing, and agriculture.

NSDC categorised SMEs into two broad categories namely; manufacturing and

services. From the SME perspective in Malaysia, microenterprise is closely related to

the context of startup. Microenterprise or startup is defined as a firm with sales turnover

not exceeding RM300 thousand per year or the number of full-time employees not

exceeding 5 (SME Corp, 2013).

Table 1.2 Definition of SMEs in Malaysia

SME	Services & Other Sectors	Manufacturing Sector
Medium	Sales turnover: RM3 million ≤ RM20 million OR Employees: From 30 to ≤ 75	Sales turnover: RM15 million ≤ RM50 million OR Employees: From 75 to ≤ 200
Small	Sales turnover: RM300,000 ≤ RM3 million OR Employees: From 5 to ≤ 30	Sales turnover: RM300,000 ≤ RM15 million OR Employees: From 5 to ≤ 75
Micro	Sales turnover: < RM300,000 OR Employees: < 5	Sales turnover: < RM300,000 OR Employees: < 5

Source: SME Corporation of Malaysia (2013)

Table 1.3 presents the number of SMEs establishment in the five main economic sectors: services, manufacturing, construction, agriculture, mining and quarrying. It shows that micro enterprises contribute to the highest number of establishment in all sectors with the 77 percent, followed by small and medium-sized establishment were 20 percent and 3 percent, respectively.

Table 1.3: Number of Establishment by Sector

Sector	Total SMEs	Micro	Small	Medium	Total SMEs % share
	Number of Establishments				
Services	580,985	462,464	106,320	12,201	90.06
Manufacturing	37,861	21,619	13,933	2,310	5.87
Construction	19,283	8,581	6,730	3,972	2.99
Agriculture	6,708	3,777	1,939	993	1.04
Mining & Quarrying	299	57	126	116	0.05
Total SMEs	645,136	496,497	129,047	19,591	100

Source: Chin and Gomez (2019)

The importance of new business startups cannot be overlooked as it functions in generating economic development. Undoubtedly, creating a new business especially a startup involves an extremely difficult process due to high uncertainties, therefore, it is more susceptible to failure compared with older businesses. For instance, Siaw and

Rani (2012) highlighted that almost 50 per cent of startups failed within three years, whilst, about 60 per cent failed within 5 years of business. Further, Chin and Gomez (2019) highlighted that out of three businesses failed and the failure rate exceeds 60 percent especially at the starting-up stage.

This situation is even more challenging because the majority of startups offer me-too products and services which further reduces their chances of success as they are competing with stronger incumbents. From the business prespective, innovation is an important element as the primary driver in bringing the business to succeed and prosper. Thus, innovative and creative features are needed among startups so that they can create additional value in the market. Indeed, startups can be more successful if they are able to offer new products and services which are different from those offered by their competitors. A startup that is innovation-oriented has a significant growth potential and tends to outperform and sustain despite market competitiveness. As supported by Lee and Lee (2007), the younger small and medium sized business enterprises are more likely to innovate compared with older businesses. This is because as a newly-formed business, it should possess extra factors that distinguishes them from other businesses, hence, ensure long-term sustainability.

In the last few years, creativity and innovation have garnered much attention in the business field. Every business phase such as ideation, conception, validation, scaling, and establishment, contains creative and innovative components. In order to succeed in a competitive market, business industries encounter increasing pressure to innovate and have higher expectations of employee creativity (Lundmark & Bjorkman, 2011). In addition, Chandran, Rasiah and Wad (2009) reiterated that lack of innovative culture is one of the reasons for the low innovation in Malaysia. Startups have become

pertinent players in the economy. As new business ventures, startups strive in the phase of developing a business model that is scalable, repeatable, and profitable (Rabideau, Wong, Gordon, & Ryan, 2016). Moreover, a study done by Ahmad and Xavier (2012) found that inadequate financial support, bureaucracy and inconsistency of government policies, lack of entrepreneurial education at tertiary level and inadequacy of entrepreneurial training are some of the important obstacles encountered by entrepreneurs in Malaysia. Due to these issues, the government is working hard to provide a supportive business environment mainly to motivate people in doing business.

The government of Malaysia acknowledges the significance of creativity and innovative attributes in startups by forming various agencies such as SME Corporation, Startup Malaysia.org, Perbadanan Usahawan Nasional Berhad (PUNB), Malaysian Global Innovation and Creativity Centre (MaGIC), Malaysia Industry-Government Group for High Technology (MIGHT), Malaysia Digital Economy Corporation (MDEC), Malaysian Technology Development Corporation (MTDC), MSC Malaysia, National Science Research Council (NSRC), National Innovation Agency Malaysia (AIM) with the aim to monitor the startup ecosystem in Malaysia.

Even though the number of early-stage entrepreneurial activities in Malaysia is still lower than in other parts of developing countries, the Ministry of Science, Technology and Innovation (MOSTI) and the Ministry of Finance (MOF) have given support to, and collaborated with those agencies to provide various programmes and more initiatives to flourish the startup entrepreneurial activities such as 1 MET Bootcamp, Prosper Young Entrepreneur, "Tunas Usahawan Belia Bumiputera" (TUBE), MDEC'S Start-up and Entrepreneurship Ecosystem Development (SEED), MSC for startups programme, MaGIC Accelerator programme, MARA

entrepreneurship programme, and Global Start-up Youth. The aim of these programmes basically is to educate the startups on innovative business ideas, the techniques for preparing a business plan, a unique business model and creative marketing strategy, the preparation and management of business financing, and network building opportunities. To sum up, normally the startup entreprenuers will get guidance from mentors and experts from various fields on starting up their business. Further, these initiatives are aligned with the Eleventh Malaysia Plan with the theme "anchoring growth on people", which represents the Government's commitment to focus on what matters most to the people such as small businesses, jobs, family wellbeing, the cost of living and social inclusion.

1.5 Performance of Services Sector in Malaysia

In the 1970s, Malaysia's economy was dominantly agriculture-based. The economy achieved a stable real GDP growth of 6.2% per annum; whcih shifted to manufacturing in the mid-1980s, and services in the 1990s. During the 10th Malaysia Plan, the economic performance of all sectors grew positively and expanded at an average of 5.3%. For the term 2011 – 2015, the report shows that the services sector is the largest contributor to the GDP of Malaysia followed by the manufacturing sector. As highlighted in the Eleventh Malaysia Plan, the aim of becoming a high value and knowledge-based economy with a strong focus on the services and manufacturing sectors very much rely on innovation. Thus, innovation is a crucial factor to raise the overall efficiency and the productivity of each sector. In addition, one of the six strategic thrusts is to re-engineer economic growth for greater prosperity where the initiatives comprise transforming the services sector and manufacturing sector towards a more knowledge-intensive and high value-added activities.

According to the Department of Statistics Malaysia, the contributor to the Malaysia Economic Performance was determined based on five different sectors namely: Services, Manufacturing, Construction, Mining & Quarrying, and Agriculture. The importance of the above-mentioned sectors to the economy is evident in their contributions to the gross domestic product (GDP), revenue, job employment, as well as salaries and wages. In 2018, Malaysia's economy registered a growth of 4.7 per cent with a value of RM1,429.8 billion at current prices and RM1,229.8 billion at constant prices as compared to 2017, 3.0 per cent with a value of RM1,353.3 billion at current prices and RM1,174.3 billion at constant prices (Department of Statistic Malaysia, 20 February 2019)

The services sector in Malaysia has become the main contributor to the country's income in the past few years. Thus, the services sector is known as the central driver of economic growth and development. In addition, the Department of Statistics Malaysia has reiterated that the services sector is the biggest contributor to the Gross Domestic Product (GDP) of the country with its positive and leading growth over other sectors since 2011 at 6.3% per annum (RM2.55 billion). The total GDP of services sector in 2018 recorded a growth of 6.8 % as compared to 6.2% in 2017 (Department of Statistic Malaysia, 20 February 2019). Based on the quarter-on-quarter performance, it shows an improvement with GDP growth at 6.5 % in the first quarter of 2018, followed by 6.5 % in the second quarter, 7.2 % in the third quarter, and in the last quarter with 6.9 per cent (Department of Statistic Malaysia, 20 February 2019).

For the year 2018, the growth of the services sector was primarily driven by Wholesale and Retail Trade, Information and Communication, Food & Beverages and Accommodation, and Business Services. Similarly, the Food & Beverages and

Accomodation sub sector is the main catalyst for the services sector followed by Information and Communication, and Wholesale and Retail Trade. The Food and Beverages and Accomodation sub sector maintained its stronghold by recording a growth of 7.7 per cent, 9.0 per cent, 9.3 per cent, and 9.5 per cent for the four quarters, respectively. Moreover, the Business Services reported continuous increase (Q1: 8.5%, Q2: 9.1%, Q3: 9.2%, Q4:9.1%) to support the services sector (Department of Statistic Malaysia, 20 February 2019).

The total revenue of services sectors increased to RM459.4 billion in 2019. The highest revenue was driven by the Wholesale & Retail Trade, Food & Beverages, and Accommodation sub sectors with a total of RM362.5 (5.8%) billion. The second highest was Information and Communication, and Transportation and Storage sub sectors contributed RM69.1 billion (6.8%) followed by the Health, Education and Arts, and Entertainment & Recreation sub sectors with total revenue of RM17.5 billion (7.2%). Meanwhile, the lowest revenue was contributed by the Professional and Real Estate Agent sub sectors with 10.4 billion (9.8%) (Department of Statistics Malaysia, 10 February 2020). Besides the contribution of services sector to the revenue, it also recorded greater job opportunities. Quarter on quater, number of person engaged rose 2.6% with 3,808 million persons in 2019. The Wholesale & Retail Trade, Food & Beverages, and Accommodation sub sectors recorded steady growth of 3.0% to 2.9 million persons as compared with the same quarter in 2018 (Department of Statistics Malaysia, 10 February 2020).

Table 1.4 below shows the GDP of services sectors from 1987 until 2016. The table presents a comparison of the GDP for four services sub sectors namely: 1) Wholesale and Retail Trade, Accommodation, Food and Beverage, 2) Transport,

Storage, Information and Communication, 3) Finance, Insurance, Real Estate and Business Services, and 4) Other services.

Table 1.4: GDP by Kind of Economic Activity at Current Prices for the year 1987 to 2016

Year	Services (RM/Million)			
	Wholesale and Retail Trade, Accommodation Food and Beverage	Transport, Storage, Information and Communication	Finance, Insurance, Real Estate and Business Services	Other Services
1987	8,720	5,267	6,239	5,526
1990	16,171	7,026	10,707	7,572
1995	34,132	14,964	25,758	14,891
2000	47,934	24,898	48,287	21,324
2005	74,641	36,434	66,015	27,500
2010	134,634	68,511	93,939	36,766
2011	151,000	73,701	99,118	39,297
2012	161,393	79,620	108,044	41,514
2013	174,576	85,973	113,993	44,216
2014	197,576	93,509	120,907	46,873
2015	216,735	102,048	126,002	50,176
2016	234,637	110,540	133,174	53,492

Source: Department of Statistics Malaysia (19 December 2017b)

It can be seen in Table 1.4 that the GDP of all services sub sectors rose dramatically every year. For the services sub sectors, Wholesale and Retail Trade, Accommodation, and Food and Beverage are the highest contributors to the GDP, followed by Finance, Insurance, Real Estate and Business Services; Transport, Storage, Information and Communication; and Other Services with the total GDP of RM234,637, RM133,174, RM110,540, and RM53,492, respectively. In total, the GDP of the services sector amounted to RM531,843 million in the year 2016.

From 1987 to 2010, the GDP increased rapidly, particularly in the Wholesale and Retail Trade, Accommodation, Food and Beverage; and Finance, Insurance, Real Estate and Business Services. Precisely, the GDP of Wholesale and Retail Trade,

Accommodation, Food and Beverage sub-sectors rose from RM8,720 in 1987 to RM134,634 in 2010, while Finance, Insurance, Real Estate and Business Services increased from RM6,239 in 1987 to RM 93,939 in 2010. However, Transport, Storage, Information and Communication sub-sectors showed moderate increase especially from the year 2010 to 2016, that was from RM68,511 to RM110,540.

Drawing from the positive growth of all sectors to the nation's economy, the Eleventh Malaysia Plan strategises the economic growth through transforming services, energising manufacturing, modernising agriculture, and transforming construction. The aim of these strategies is to stimulate sectorial movement towards high valued-added and knowledge-intensive economic activities. In the Eleventh Malaysia Plan, the Services Sector Blueprint serves as a guideline for the transforming services sector to become knowledge-intensive and innovation-led. Therefore, five strategies have been developed in order to achieve its target with the expectation to grow at 6.9 per cent per annum, contributing 56.5 per cent to GDP in 2020, and providing 9.6 million job opportunities. The strategies comprise of fostering a dynamic environment for knowledge-intensive services, implementing comprehensive and integrated governance reforms, stepping up the internationalisation of services firms, enhancing the management of investment incentives, and expanding modern services. Aligned with the creativity and innovation initiatives, these can be addressed by intensifying human capital development in the services sector. It is crucial to focus on the human capital with soft skills and proficient in ICT knowledge. Besides, creativity and innovation in Malaysia can be improved by modernizing the services sub-sectors for example promoting creativity and promotion anchored in the Halal industry, ICT products and services, Private Healthcare (Health Tourism), Ecotourism, Oil and Gas services, and professional services.

1.6   Problem Statement

The survivability of new businesses called startups are extremely challenging due to their capibility to sustain in the marketplace for a long run as compared to the older businesses. Further, the importance of startups in contributing to the nation's growth and economy is undeniable. As a newly emerged business, startups are struggling to meet the marketplace through an innovative idea in developing a business model. De Bernardi and Azucar (2020) mentioned that the establishment of startups are very risky and its survival rates are rather low. According to Siaw and Rani (2012), more than 30 per cent of startups failed in the first year, about 43 per cent failed within 3 years and 57 per cent failed within 5 years in business. Besides, during the starting-up stage shows that one out of three businesses failed and a failure rate exceeding 60 percent (Chin & Gomez, 2019). Overall, there is quite significant number of small businesses failed in between five to ten years of business operation (Xu, Quaddus, & Gao, 2014).

Noticeably, there are thousands of possible factors influencing the success or failure of the businesses. Based on the dialogue session among entrepeneurs hosted by the Malaysian Global Innovation and Creativity Center (MaGIC) in June 2014, lack of talent is one of the issues faced by startups in Malaysia. According to Baharin and Abdullah (2011), one of the factors that had contibuted to the situation where Malaysian businesses are lagging behind other countries such as Singapore, in terms of sustainability is, the lack of talent. In addition, Moussa and Zaiem (2013) showed that a lack of qualified employees is among the several barriers to innovation development. In 2003, a survey conducted by the Ministry of Science, Technology and Environment found lack of skilled personnel as one of the obstacles that caused failure of innovation besides cost of innovation, economic risks, lack of finance, lack of information on markets, lack of information on technology, lack of customer's response, legislation and

regulation, and organisational rigidities. Indeed, lack of an entrepreneurship and innovative culture among Malaysians is the contributing factor to the low innovation in Malaysia specifically in R&D activities (Chandran, Rasiah, & Wad, 2009).

One important strategy for Malaysian startups to remain sustain and compete effectively in markets is through the application of innovation activities such as produce new innovative products, design new innovative marketing strategies, and apply new technological process for the business's operation. However, these innovation activities require employees to produce innovative ideas and implement them. The innovative employees are key factor in completing the process of innovation. Recent studies revealed that innovation level of Malaysian SMEs including startups is at low level (Yusof, Imm, Ann, & Rahman, 2018; Zakaria, Abdullah & Yusoff, 2016, Abdullah, Ping, Wahab, & Shamsuddin, 2014). Given the fact that innovative employees are the main driver in driving startups' achievement, requires startups to stimulate the innovative work behaviour. Unfortunately, previous researchers found the level of individual IWB in Malaysia is still at a moderate level (Awang et al., 2019; Sapie, Hussain, Awang, & Ishak, 2015; Awang, Sapie, Hussain, Ishak, & Yusof, 2014; Yunus, Bustaman, & Wan Rashdi, 2014; Hilmi, Pawanchik, Mustapha, & Mahmud, 2012). Surprisingly, the innovative work behaviour at micro-enterprises is lower than small enterprises (Awang et al., 2019). It is believed that a good circle of individual talents is vital in supporting a business' development. Thus, it is significantly important to ensure a high level of innovative work behaviour among employees in startups.

There is a dearth of studies on innovation particularly innovative work behaviour in the context of startups in Malaysia. As stressed by Wu and Lin (2018), Yusof et al. (2018) and Subramaniam (2012), studies on innovative work behaviour are still

insufficient in Malaysia particularly among services based SME employees (Xerri & Brunetto, 2011). For instance, most of the studies on innovation are general, and only examine innovation in a broader context and industry (Awang et al., 2019; Leong & Rasli, 2014; Nasurdin, Ling, & Hou, 2014; Ishak & Omar, 2013; Abd Ghani, Hussin & Jusoff, 2009; Khairuzzaman & Majid, 2007; Ismail, 2005; Mohamed & Rickards, 1996). Although there are studies focusing on innovative work behaviour in Malaysia such as (Ismail & Mydin, 2019; Munir & Beh, 2016; Yean, Johari, & Yahya, 2016; Ebrahim, Sauid, & Mustakim, 2015; Rahim, Salleh, Ahmad, Mustapha, 2015; Hakimian, Farid, Ismail, & Ismail, 2014; June & Kheng, 2014; Kheng, June, & Mahmood, 2013; Subramaniam, 2012), nevertheless, those studies were done based on different perspectives and in different sectors.

In addition, a study on the determinants that could foster IWB has received little attention (Qi, Liu, Wei, & Hu., 2019; Riaz, Xu, & Hussain, 2018; Haq, Usman, & Hussain, 2017). Locally, most researchers in Malaysia have been interested to investigate the relationship between leadership and innovative work behaviour (Ebrahim et al., 2015, Rahim et al., 2015; Hakimian et al., 2014; June & Kheng, 2014; Kheng et al., 2013; Noor & Dzulkifli, 2013). For example, Subramaniam (2012) conducted a study on leader-member exchange, leader role expectation, demographic variable, problem solving style as independent variables which was mediated by psychological climate for innovation among 79 teacher educators. In spite of that, there are studies that measure other determinants of innovative work behaviour like Awang et al. (2014) who studied on organisational learning and work environment. A set of questionnaire was distributed to 235 employees at 44 micro and small-scale manufacturing companies in the main cities in the East Coast Economic Region (ECER), Malaysia. Statistical analysis shows that organisational learning and work

environment have a significant influence on the formation of innovative work behaviour. Meanwhile, Rahman, Panatik, and Alias (2014) carried out a study on psychological empowerment among 393 lecturers in five Malaysian research universities. This study tested the multi-dimensional constructs of innovative work behaviour, and the results revealed that the dimensions of meaning, competence, and self-determination from psychological empowerment affected the generation, promotion, and realisation of new ideas of innovative work behaviour. Meanwhile, the dimension of psychological empowerment only influences the promotion of new ideas of innovative work behaviour.

Globally, most of the research has focused so far on personal attributes such as self-efficacy (Runhaar, Bednall, Sanders, & Yang, 2016; Nisula & Kianto, 2015; Odoardi, 2015; Wojtczuk-Turek & Turek, 2015; Momeni, Ebrahimpour, & Ajirloo, 2014), self-leadership (Carmeli et al., 2006), intellectual capital (Ornek & Ayas, 2015; Radaelli et al., 2012), individual personality (Jiantreerangkool & McLean, 2015), person-organization fit (Afsar, Badir, & Khan 2015; Afsar & Rehman, 2015) and individual creativity (Moussa, 2014; Slatten, Svensson, & Svaeri, 2011). Empirical studies have been carried out on work and group attributes such as leadership and supervisor (Wu & Lin, 2018; Gard & Dhar, 2017; Millar, Culpin, Stoffers, Van der Heijden, & Notelaers, 2014; Moussa, 2014; Agarwal, Datta, Blake-Beard, & Bhargava, 2012; Xerri, 2012; Slatten, 2011; Sanders et al., 2010; De Jong & Den Hartog, 2007; Janssen, 2005), job standardization (Luoh, Tsaur, & Tang, 2014), job design (DeSpiegelaere, Van Gyes, De Witte, & Van Hootegem, 2015), and team climate and cohesion (Chatchawan, Trichandhara, & Rinthaisong, 2017; Chang et al., 2011). Likewise, on organisational attributes such as culture (Szczepanska-Woszczynaa, 2015; Hartmann, 2006), climate (Balkar, 2015; Arif, Zubair, & Manzoor, 2012; Shi, 2012;

Slatten et al., 2011; Imran, Saeed, Anis Ul Haq, Fatima, 2010) organisational factors (Haq, Usman, & Hussain, 2017; Abdel Aziz & Rizkallah, 2015), perceived organisational support (Sulistiawan, Herachwati, Permatasari, & Alfirdaus, 2017; Jiantrerangkool & McLean, 2015; Agarwal, 2014; Xerri, 2012), learning organization (Park, Song, Yoon, & Kim, 2014) and organisational commitment (Jafri, 2010).

According to Li and Mahadevan (2017), there is limited studies on organisational climate in Malaysia. Besides, Liu, Chow, Zhang and Huang (2019) recommended that a further study need to be conducted in determining on what conditions organisational climate influences innovative work behaviour due to complex findings between both variables. Even though there are a number of studies on organisational climate as conducted by Shanker and Bhanugopan (2014), the study used single source respondents that include 202 managers in Government Linked Companies (GLCs). According to Ismail (2005) it is a warning sign to conduct a study that particularly associates creative organisational climate towards innovation within the Malaysian context. Hence, based on the literature and empirical research, there is a lack of extensive and in-depth studies that investigate the impact of organisational creative climate on individual innovative work behaviour (Awang et al., 2019; Shanker, Bhanugopan, Van der Heijden, Farrell, 2017) particularly among startups in Malaysia.

Although the determinants of innovation literature are extensive, research concentrating on organisational creative climate, knowledge sharing and innovative work behaviour have not been explored to the best knowledge of the researcher. Numerous studies (Awang et al., 2019; Izzati, 2018; Liu et al., 2017; Yeoh & Mahmood, 2016; Balkar, 2015; Ren & Zhang, 2015; Shanker & Bhanugopan, 2014; Dzulkifli & Shaharudin, 2013; Tastan, 2013; Imran et al., 2010) have found a positive

relationship between organisational climate and innovative work behaviour. Moreover, many empirical studies have supported the positive relationship between organisational climate and knowledge sharing (Batool, 2019; Han, 2018; Matić, 2017; Lashari, 2016; Villamizar Reyes & Castañeda Zapata, 2014; Chen, Chuang, & Chen, 2012; Tohidinia & Mosakhani, 2010) as well as knowledge sharing and innovative work behaviour (Akram et al., 2018; Kang and Lee, 2017; Akhavan et. al, 2015; Radaelli et al., 2014; Mura et al., 2013). This indicates that most of the studies were mainly focused on direct relationships. Hence, this study will be the first study that complement previous research by revealing how organisational creative climate can foster innovative work behaviour through knowledge sharing.

Knowledge sharing activities have a strong influence and are also vital for the development of innovation systems (Qammach, 2016; Rasiah & Yap, 2015; Chandran et al., 2009; Mooradian, Renzl, & Matzler, 2006). Unfortunately, this topic has less explored especially in the small businesses (Razzaq, ul Rehman, Dost, & Akram, 2017; Xu, Quaddus, & Gao, 2014). Although previous researchers have attempted to identify the determinants of knowledge sharing, but only little attention was focused on the influence of organisational creative climate towards knowledge sharing (Andretto, Periotto, & da Cruz Urpia, 2019; Jain, Sandhu & Goh, 2015; Wang & Noe, 2010). Surprisingly, a review on the knowledge management literature highlighted that more than 40 per cent categorised "organisation" as critical success factor in influencing knowledge sharing, while the remaining percentage comes from human factors and technology factors (Razmerita, Kirchner, & Nielsen, 2016). Moreover, Akram et al. (2018), Lee (2018) and Radaelli et al. (2014) highlighted that the link between employees' knowledge sharing and innovative behaviour is still under-theoretised and empirically untested. In line with the above statement, this research study is set out to

determine the importance of organisational creative climate to knowledge sharing, and knowledge sharing towards innovative work behaviour. Further, Ren and Zhang (2016) stated that the connection between climate variables and creative performance might vary due to intervention variables. As such, Yidong and Xinxin (2013) suggested to incorporate other mediating or even moderating variables. Hence, Munir and Beh (2019a), Qammach (2016), Luoh et al. (2014), Butler and Murphy (2007) recommended to explore knowledge sharing deeply due to its function as a strong mediator effect.

The methodological issue that arises is concerned on the sources of information about the practices of innovative work behaviour. Previous researchers collected data from single respondents such as (Seather, 2019; Riaz, Xu, & Hussain, 2018; Sulistiawan et al. 2017; Runhaar et al., 2016; DeSpiegelaere et al., 2015; Odoardi, 2015; Park et al., 2014; Prieto & Perez-Santana, 2014; Bysted, 2013; Agarwal et al., 2012; Arif et al., 2012; Slatten & Mehmetoglu, 2011; Chang et al., 2011; Imran et al., 2010). Moreover, several studies in Malaysia also measured IWB through single respondent like (Awang et al., 2019; Yean, Johari, & Yahya, 2016; Munir & Beh, 2016; Ebrahim et al., 2015; Rahim et al., 2015; Hakimian et al., 2014; Rahman et al., 2014; Kheng et al., 2013; Subramaniam, 2012). Single respondent measures of IWB may have led to a large amount of measurement errors (Guest, 2011). It is more sensible to seek information from those experiencing the practice such as employees (Gerhart, Wright, & McMahan, 2000). As recommended by Boh-Nehles and Veenendal (2019), Raja and Madhavi (2018), DeSpiegelaere et al. (2015), Ali Chugtai (2016), and Liao, Kickul, and Ma (2009), in order to minimise the common method bias, it is suggested that data for innovative work behaviour should be accessed from among multiple informants or by using multi-source data which is through supervisory rating and employee rating. A group of researchers have reported a high reliability (α =.86) when measuring

innovative behaviour from the perspective of the supervisors and the employees (Carmeli et al., 2006). Surprisingly to date, none of the studies in Malaysia measures IWB from among multiple informants. Thus, this issue will lead the researcher to collect the data of innovative work behaviour through dyadic perspectives.

Innovation theorists descibe innovative work behaviour with regard to a few dimensions relating to problem recognition, idea generation, idea mobilisation, including idea realisation (De Jong & Den Hartog, 2008; Janssen, 2000; Scott & Bruce, 1994). More early research has focused on the creative or idea generation stage of innovation (Aziz & Rizkallah, 2015; McAdam & McClelland, 2002; Mumford, 2000). For example, Aziz and Rizkillah (2015) analysed the organisational factors (rewards, management support, risks, free time, and decentralisation) towards idea generation dimension from among 244 employees in the software development industry in Egypt. In 2014, Mura et al. conducted a study on knowledge sharing towards innovative behaviour specifically on the implementation-oriented behaviour which comprised of idea promotion and idea implementation. Thus, this study will explore on both interrelated set of behavioural activities

This study focuses on the relationship between organisational creative climate and innovative work behaviour where knowledge sharing is playing as a mediating roles among the constructs. Therefore, this study aims at to bridge this gap by considering knowledge sharing as a mediating which may consequently be helpful in broadening the literature of organisational creative climate and innovative work behaviour among startups in Malaysia.

1.7 Research Questions

The following are the research questions for this study:

1. What is the relationship between Organisational Creative Climate and Innovative Work Behaviour among Startups in Malaysia?

2. What is the relationship between Organisational Creative Climate and Knowledge Sharing among Startups in Malaysia?

3. What is the relationship between Knowledge Sharing and Innovative Work Behaviour among Startups Entrepreneurs in Malaysia?

4. Does Knowledge Sharing mediate the relationship between Organisational Creative Climate and Innovative Work Behaviour among Startups Entrepreneurs in Malaysia?

5. Are there any significance differences between entrepreneur and employee in Organisational Creative Climate and Innovative Work Behaviour?

1.8 Research Objectives

The objectives of this study are as follows:

1. To determine the relationship between Organisational Creative Climate and Innovative Work Behaviour.

2. To determine the relationship between Organisational Creative Climate and Knowledge Sharing.

3. To determine the relationship between Knowledge Sharing and Innovative Work Behaviour.

4. To examine the mediating role of Knowledge Sharing on the relationship between Organisational Creative Climate and Innovative Work Behaviour.

5. To investigate the significance differences between entrepreneur and employee in Organisational Creative Climate and Innovative Work Behaviour.

1.9 Research Significance

1.9.1 Theoretical Contribution

This study makes a significant contribution to the new model which determines the relationship through the mediating role of knowledge sharing on the organisational creative climate and the individual' innovative work behaviour. The findings of this study will fill the gap in the literature that is lack of empirically examining the mediating roles of knowledge sharing in the relationships between organisational creative climate and innovative work behaviour. In a nutshell, this study notably contributes to three different bodies of knowledge which are innovative work behaviour, organisational creative climate and knowledge sharing in Startups context.

Even though empirical research has investigated organisiational creative climate and innovative work behaviour in various contexts, very limited studies have investigated both variables in startups. The startups are becoming popular and demanding in many developing countries due to it contributions to nation's growth and economy.

1.9.2 Methodological Contribution

Sources of information is an important element in collecting the data. Unfortunately, previous researchers in both global and local context, collected the data from single respondents such as employees' rating or supervisor' rating. According to Wright, Gardner, Moynihan, Park, Gerhart, & Delery (2001) and Guest (2011), the

single respondent measures of IWB may have led to large amount of measurement error. In order to minimize the common method bias, assessing the IWB from multi-source data is more reliable (Boh-Nehles & Veenendaal, 2019; Ali Chugtai, 2016; DeSpiegelaere et al., 2015; Liao et al., 2009). Thus, by obtaining the data from multiple-source will enhance the reliability and accuracy of IWB.

1.9.3 Practical Contribution

This study is believed to bring the attention of the government, startups' entrepreneurs and employees to the understanding of the real practice and experience in startups. The finding of this study is hoped to serve as the key driving factor for competitiveness and to foster individual innovativeness in startups. Besides, the finding of this study is intended to enhance the understanding on how organisational creative climate and knowledge sharing are more favourable to stimulate employees' innovative work behaviour. It is, also, hoped that this finding will help the management in implementing new strategies of developing and retaining employees' psychological bonds through innovative work behaviour among employees in the organization. Furthermore, this study will also give a clear understanding on employees' innovative work behaviour who will be dominating the workforce in the future, which in turn affects innovative achievement.

1.10 Limitation of Study

The sampling frame of this study is limited to two agencies which assisted and monitored the startups eco-system in Malaysia only, this is because of restrictions under the Personal Data Protection Act 2010. In terms of unit analysis, only one representative among the employees participated in the study due to the resource challenge.

1.11 Operational Terms

1.11.1 Innovative Work Behaviour

Individual actions in exploring and introducing new ideas, products, work processess and methods, improving the existing works processes and methods, promoting the proposed ideas and the realisation of the ideas to improve the quality of individual' work, and increasing the startups' performance (De Jong & Den Hartog, 2008; Janssen, 2000; West & Farr, 1989).

1.11.2 Organisational Creative Climate

A conglomerate of attitudes, feelings, and behaviours that characterizes life in the organization and exists independently of the perceptions and understanding of the members of the organizations (Ekvall, 1996)

1.11.3 Knowledge Sharing

An activity of individual mutually exchange knowledge, experiences, and skills within a group of employee through the whole department or organization (Lin, 2007; Van den Hooff & Van Weenen, 2004).

1.11.4 Startups

A new business venture operated less than six years and the total number of employee is less than five (SME Corp, 2013; Zahra, Ireland & Hitt, 2000).

1.11.5 Entreprenuers

An individual who initiates a small business venture, willing to take risks of a startup and take benefit of an opportunitiy (Shane & Venkataraman, 2000; Carland et al., 1988; Gartner, 1985).

1.11.6 Employees

Individuals involved in the creative and innovative aspects of work, in particular, those who performed non-routine works and activities such as designers, mechanics, beauticians, programmers and so forth according to business related functions of the services sector (De Jong & Den Hartog, 2007; Amabile et al., 1996).

1.12 Chapter Summary

In summary, this chapter presented the startups development and the performance of services sector in Malaysia, followed the statement of the problem. Next, the research objectives are listed as well as the research questions. Further, explanation about the significance of this study are elaborated. The chapter concludes with limitations of the study and outlines the operational terms.

The structure of the thesis is as follows: Chapter 2 outlines the literature related to the hypotheses development on the organizational creative climate, knowledge sharing and innovative work behaviour. Chapter 3 elaborates on the research methodology and data analysis technique employed for this study. The details description of results in Chapter 4 is described and presented. Finally, the discussion, conclusion and recommendation are outlined in Chapter 5.

CHAPTER 2: LITERATURE REVIEW

2.1   Introduction

Organisational creative climate studies towards innovative work behaviour have gained the attention of recent scholars since individual innovativeness plays a significant role in ensuring the success of an organization specifically in the context of startups. Consequently, this behaviour helps startups focus on their customers' needs, and fullfill the market's demands and desires to create creative and innovative products as well as provide services for the sake of sustainability and survivability of their businesess. On the other hand, it is reputed that startups or microenterprises in Malaysia give remarkable and significant contributions to the economy and society. Hence, the government of Malaysia has highly increased the initiative to empower developing startups eco-system, and balance the environment and development of startup businesses. This has helped startup entrepreneurs create a favourable climate to gain individual innovative behaviour which is done by revitalizing a creative and innovative environment as well as knowledge sharing practice in their businesses.

In light of previous and antecedent literature on the existing issues regarding innovative work behaviour, this research study will be proven important and significant. This chapter, in particular, provides a review of the existing organisational climate and other relevant constructs in this research.   This chapter begins with a detailed explanation of startups development, which is followed by the overview of creativity and innovation. Relevant theories applied throughout this study will also be discussed. Next, this chapter highlights the gaps in the existing literature that paves the way to the development of the framework for this study. Subsequently, from the framework, research hypotheses were developed. Additionally, this chapter also discusses the

details of literature review from previous and current research relating to the study conducted. Finally, a summary of this chapter is presented.

2.2   World's Scenario on Startups

The Global Innovation Index (GII) 2016 theme is "Winning with the Global Innovation", in which the innovation aspect is gaining more attention in a global context where it becomes one of the vital pillars in assessing the innovation quality either in developed or developing countries. However, the COVID-19 pandemic has been triggering a global economic shutdown. Aligned with the GII 2020 theme, which is "Who Will Finance Innovation?" indicates that the state of innovation finance is changing rapidly. Therefore, most governments in high and middle-income economies are drastically setting up a strategy to counteract the effect of COVID-19 on economies and innovation.

As the second higher performer in innovation among the upper-middle income economy countries, Malaysia striving in stimulating innovation initiatives in all sectors including services, manufacturing, construction, mining and quarrying, and agriculture. The Global Innovation Index (GII) 2020 shows that Malaysia, which ranked 33rd out of 131, achieved a score of 42.4 (Cornell University, INSEAD, & WIPO, 2020).   Further, the innovation efficiency index also ranked Malaysia at 45th position which measures the innovation performance through the innovation ratio of input sub-index (34th) and output sub-index (36th).   Besides, for the sub-pillar of business sophistication and market sophistication, Malaysia is rank 31st and 20th position, respectively (Cornell University, INSEAD, and WIPO, 2020). Notably, innovation and entrepreneurship are crucial for the social and economic development of Malaysia.

Given the fact that small-medium enterprises (SMEs) including startups as the key driver of economic growth, the government of Malaysia plays a role as a facilitator to formulate and implement laws and regulations that support the activities of SMEs. The SME Masterplan 2012-2020 is designed to anchor the bigger policy framework of the ETP and the Tenth Malaysia Plan, which emphasizes the key characteristics of the desired SME eco-system including the existence of strong enterprise culture, strong entrepreneurial and innovation culture, active national innovation system, strong non-banking financing, effective value chain network, effective support services for SMEs, and effective monitoring and evaluation system. Aligned with the National Transformation Programme and SME Masterplan, the government of Malaysia formed various agencies such as 1 Malaysia Entrepreneur (1MET) under Startup Malaysia.org, Malaysian Global Innovation and Creativity Centre (MaGIC), Malaysia Industry-Government Group for High Technology (MIGHT), Malaysia Digital Economy Corporation (MDEC), SME Corp., Malaysian Technology Development Corporation (MTDC), MSC Malaysia, National Science Research Council (NSRC), National Innovation Agency Malaysia (AIM). Those agencies provide advisory and information on entrepreneurship, educate startups on all aspects including preparing business plan, financing, business and networking opportunities, etc.

In Europe, Switzerland is the top position in GII ranking followed by Sweden and United Kingdom. Switzerland does particularly well in knowledge output and technology output, business sophistication, and creative output. Further, Switzerland is ranked as 1st for Innovation Output Sub Index that capture the results of innovative activities within the economy. Switzerland is well-known in producing big corporation and has become the World's Innovation Capital. Even though, the Switzerland Innovation' mission is to focus on larger companies with investment capacity and

attracted to establish companies, the Government of Switzerland is taking notice of startup. In addition, Startups in Switzerland are struggling to compete with other countries across Europe including Germany and France which more established as entrepreneurship hubs. Knowing the importance of startup to the ecosystem and have catalytic effect, Public foundation Switzerland Innovation has introduced Swiss Innovation Park and Technoparks, where both focusing on startup ecosystem. Besides that, more programmes have been organized in Switzerland. For instance, the Swiss Startup Factory is the most valuable Startup Accelerator programs in 2014. Basically, this program provides early stage startups with financing, services, coaching, mentoring, and access network to investor.

In Northern America region, Canada has been ranked 17th in GII for 2020, as compared to 16th place in 2019. Even though, there is an improvement in term of ranking, there is room for improvement for the business sophistication, knowledge and technology outputs, and creative outputs. This achievement was lead Canada as one of the countries which actively in startup ecosystem since 2012. Until today, Startup Canada has become the most recognized, energized and active entrepreneurship organization in Canada with a network of more than 120,000 entrepreneurs, 400 enterprise support partners, 300 volunteers and over 22 Startup Communities from coast to coast. Besides that, Startup Canada has increased ecosystem capacity to support entrepreneurs through the Startup Canada Investment Fund Program, Startup Canada Community Investment Fund, Retail Startup Fund, Startup Space Fund and many more. Interestingly, half of the leading startup ecosystems in the world are from Northern American Region, which are U.S and Canada. Further, Innovation hubs for startup entrepreneurs exist throughout the United States in a wide variety of sectors and platforms.

In Northern African and Western Asia region, Israel among the highest rank besides Cyprus and United Arab Emirates. According to GII 2020, Israel was ranked 13th position. Israel has been focusing on creating a culture of innovation and establishing a vibrant ecosystem for startups to thrive. In Israel, it is called Startup Nation that facilitate people and technology to grow and develop as well as creating sparks between global corporatios, business leaders, and the Israel innovation engine in finding innovative solutions.

According to GII 2020, India is the top country in Southern Asia followed by Iran (Islamic Republic of) and Kazakhstan. India was ranked 48th as compared to Kazakhstan (77th) and Iran (67th). Referring to the Innovation Output Sub-Index and Innovation Input Sub-Index, the performance of India is at average level. Nevertheless, India committed in bringing the country forward at par with the other countries. Startup India was initiated and supported by the Ministry of Commerce and Industry with the aimed to foster innovation, create job and facilitate investment. Due to the ambition to strengthen startup ecosystem, The Startup India Hub was developed under the Startup India and serves as an online platform for all stakeholders of the startup ecosystem in India, including startups, investors, mentors, incubators, accelerators, aspiring entrepreneurs, service providers and government bodies.

Singapore ranks 8th position in GII 2020 and as the top rank in South East Asia, East Asia, and Ocenia. It has also achieved a top spot in Innovation Input Sub Index (70.2/100) and the 1st rank in the input pillars, namely: Institutions. In term of ease of starting a business, Singapore has been ranked 6th. It is proven with the establishment of Startup SG as a leading startup hub which provide a platform for entrepreneurs to have a network in the global stage and access the local support initiatives. Futher,

Startup SG also introducing the six pillars of support: Startup SG Founder, Startup SG Tech, Startup SG Equity, Startup SG Accelerator, Startup SG Loan, and Startup SG Talent. Besides that, SPRING SEEDS Capital (SSC) is one of the agency under the Ministry of Trade and Industry, Singapore responsible for assisting Singapore enterprises grows. It also administers and supports early stage startups in financing, capability and management development, technology and innovation, and access to markets across a wide range of technology and industry domain areas.

Besides Singapore, China's government also not excluded in organizing the entrepreneurial program. The Ministry of Science and Technology, China introducing the program called Torch Program as a kick-started Chinese high-tech innovation and startups. Currently, there are four major areas of Torch program including Innovation clusters, Technology Business Incubators (TBIs), Seed Funding (Innofund), and Venture Guiding Fund.

In a nutshell, the establishment of Startups is crucial in supporting national and economic growth. Hence, most of the developed and developing countries were designed various initiatives and programs to enable the eco-system to accelerate growth through productivity gains and bring them to the next level of development.

2.3   Creativity and Innovation

Since 1980, creativity and innovation have become crucial pillars of a business that help it face up to the challenges of change, complexity, and competition. The importance of creativity and innovation is indubitable as it serves as a benchmark in assessing the performance and productivity of businesses, as well as the demand of this modern world.

The terms, creativity and innovation, are used interchangeably, and are conceptually interrelated (Ford, 1996; Scott & Bruce, 1994). Van de Ven (1986, p. 592) states that "the foundation of innovative ideas is creativity". Further, Amabile et al. (1996) highlights that "all innovations begin with creative idea". Since creativity is a prerequisite for innovation, creativity is thus deemed as a starting point for innovation (Amabile et al., 1996). Ekvall (1996) and McLean (2005) affirm that innovation can be viewed as a successful implementation of creative ideas within organization. According to Anderson et al., (2014), "*Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis*" (p. 1298).

Creativity on the other hand, is a thinking process which helps to generate ideas (Majaro, 1992). In the 1980, Welsh (1973) views creativity as "a process of generating unique products by transformation of existing products. These products, tangible and intangible, must be unique only to the creator, and must meet the criteria of purpose and value established by the creator" (p. 97). Additionally, De Jong and Den Hartog (2008) define creativity "as the production of new and useful ideas concerning products, services, processes and procedures" (p. 5). Further, creativity occurs at multiple levels including individuals, team, and organizations (Woodman, Sawyer, & Griffin, 1993) as well as involves multistage process of idea generation and validation (Amabile, 1996).

Innovation has been claimed to be an essential part in the new venture success (Baron & Tang, 2011) as well as for long-term survival (Yuan & Woodman, 2010; McAdam & Keogh, 2004). Generally, innovation means introduction of something new; new ideas, methods and process for more effective in performing daily activities. It can be concluded as improved ways of doing things at work. Innovation therefore has been deemed essential for the long-term survival of an organization. Previous literature has generated broad concepts and definitions of innovation. According to Scott and Bruce (1994), innovation does not only generate original ideas or new knowledge, but also adopts service practices and processes from external sources and implements them to solve problem. From a behavioural perspective, Unsworth and Parker (2003) define innovation as "the process of engaging in behaviours designed to generate and implement new ideas, processes, products, and services, regardless of the ultimate success of the phenomena" (p.180).

In the last few years, creativity and innovation components have received a growing amount of attention leading to a pressure to inject both components in the business industry. Creativity and innovation are key drivers underlying the competitive advantage in entrepreneurial sector. Indeed, integrating and practicing creative and innovative components are crucial at every business phase starting from ideation and conception until establishment. In order to be competitive in the market, it is highly expected that employees would be creative and innovative because their actions will lead to improvement in business, and continuous innovation especially for startups (Lundmark & Bjorkman, 2011; De Jong & Den Hartog, 2010). Moreover, employee creativity can also help organizations gain competitive advantages for organisational innovation, survival, and long-term success (Zhou & George, 2001; Amabile, 1997; Oldham & Cummings, 1996; Scott & Bruce, 1994; Woodman, Sawyer, & Griffin,

1993). Theoretical models and empirical studies suggest that organisational creativity is encouraged particularly through a combination of individual qualities such as personality and cognitive style, and by taking into account workplace factors, such as supportive and safe climate (Amabile, 1996, Scott & Bruce, 1994, Woodman et al., 1993). From the organisational perspective, Woodman, Sawyer, and Griffin (1993) describe organisational creativity as "the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system" (p.293).

There are numerous literature discussing innovation fields relating to product innovation, process innovation, marketing innovation, and administrative innovation that occur at different levels of management for instance, organizations and work groups. However, this study intends to focus on the innovation at the individual level specifically individual innovative work behaviour.

2.4 Innovative Work Behaviour (IWB)

2.4.1 Definitions of Innovative Work Behaviour

Previous researchers in the entrepreneurial or business sector have heavily focused on innovation outcomes. More specifically, the attention was given to business innovative performance, administrative innovation and product innovation rather than human aspects. Referring to resource-based view, human capital may develop a competitive advantage for an organization. In order to become a competitive organization, human capital should posses bundles of unique resources that are valuable, rare, and inimitable (Hisrich, Peters, & Shepherd, 2013). Besides, human capital should also have the capability to explore opportunities and actualize ideas into reality (De Jong & Den Hartog, 2010; 2008). In this context of study, human capital

refs to employee innovative work behaviour for instance, identifying problems, generating ideas, and making subsequent efforts in implementing ideas generated. In addition to that, Hurmelinna-Laukkanen, Atta-Owusu, and Oikarinen (2016) highlight that individual creativity and innovation capicity are considered as elements of innovative work behaviour.

The individual is the key resources in the organization and employee innovative behaviour is claimed as a crucial foundation for organisational innovation, competitiveness, and success (George & Zhou, 2001; Amabile, 1997; Oldham & Cumming, 1996; Scott & Bruce, 1994). Additionally, the success of an organization also depends on intelligence capability such as employee creativity, rather than material assets (Amabile et al., 1996). McLean (2005) believes creative people will lead to the generation of new and useful ideas in any domain. Axtell et al. (2000) mention that organization requires employees not only to perform basic duties but also to manifest their ability to perform beyond their routine tasks in order to engage in innovative behaviour in workplace. Pierce and Delbecq (1977) states that employees will develop and implement new ideas, whereby as according to Midgley and Dowling (1978), the ideas and decisions are not influenced by others' experiences.

De Jong and Den Hartog (2008) followed Farr and Ford's definition of innovative work behaviour that indicates "an individual's behaviour aiming to achieve the initiation and intentional introduction (within a work role, group or organization) of new and useful ideas, processes, products or procedures" (pg. 5). They also posit that creativity is part of IWB in which problems are identified and ideas are generated at the beginning phases of innovation output. Further, Slatten et al. (2011) elaborate that

creative engagement is the input of innovative behaviour, while innovative behaviour is a process of application and implementation of proposed novel ideas.

From the literature review, numerous definitions of innovative work behaviour have been identified. Table 2.1 below enumerates the definitions of innovative work behaviour. In this study, innovative work behaviour is defined as individual actions in exploring and introducing new ideas, products, work processes and methods, improving the existing works processes and methods, promoting the proposed ideas and the realization of the ideas to improve the quality of individual' work, and ultimately increasing the startups' achievement.

Table 2.1: Definitions of Innovative Work Behaviour by the Scholars

Year	Author	Definition
1977	Pierce and Delbecq	The development and implementation of new ideas by people.
1978	Midgley and Dowling	Individual's openness to new ideas and decision-making to adopt and innovate, and which is free from the influence of other employees' experience.
1989	West and Farr	The intentional creation, introduction and application of new ideas, processes, products or services within a work role, group, or organization
1994	Scott and Bruce	The intentional generation, promotion and realization of new ideas within a work role, a work group or an organization.
2000	Janssen	The intentional creation, introduction and application of new ideas within a group or organization in order to benefit business performance (p.288)
2001	Kleysen and Street	Individual action directed at the generation, introduction or application of beneficial novelty at any organisational level.
2005	Dorenbosch, van Engen, and Verhagen	The voluntary willingness by individual employees that constitutes job innovation eg, the upgraded ways of working, communication with direct colleagues, the use of computer, or the development of new services or products.
2007	Cho and Lee	Willingness to seek for better ways to improve the level of productivity in an organization.
2008	Chang and Liu	The intentional generation, promotion and realization of new ideas.

Table 2.1 continued

Year	Author	Definition
2011	Slatten and Mehmetoglu	Application of novel and useful ideas parallels the work role.
2012	Hilmi et al.	Individual action in applying novel ideas or improvement that is beneficial to his or her organization.
2013	Kheng, June, and Mahmood	An employees' action directed at the generation, application and implementation of novelty ideas, products, processes, and methods in accordance with his or her job position, departmental unit or organization.
2017	Mirić, and Krstić	Individual innovation as individual ideas and acceptance attitudes toward innovation and changes that might enhance organisational innovation or result in benefits.

2.4.2 Dimensions of Innovative Work Behaviour

Several innovation dimensions can be identified within the concept of innovative work behaviour. Innovation theorists often describe innovation process as being composed of two main phases which are initiation and implementation (Axtell et al., 2000). Scott and Bruce (1994) and Janssen (2000) conceptualized innovative behaviour as a complex behaviour involving activities relating to idea generation and introduction, and the realization or implementation of new ideas. Meanwhile, Kleysen et al. (2001) indicate five dimensions of innovative work behaviour namely opportunity exploration, generativity, formative investigation, championing and application. Hansen and Brikinshaw's Innovation Model (2007), highlights three dimensions which are idea generation, conversion, and diffusion.

Recent studies by De Jong and Den Hartog (2010; 2008) have examined innovative work behaviour from four interrelated set of behavioural activities namely (1) idea exploration, (2) idea generation, (3) idea championing, and (4) idea implementation. The first two activities represent the production of an idea which is

also known as creativity-oriented work behaviour, whereas the last two activities represent the implementation-oriented work behaviour wherein an individual tries to promote a novel idea and apply or implement the idea or solution. It is believed that all of these activities can increase an employee's ability to innovate.

It starts with the generation of ideas. The terms, idea generation and creativity are often used interchangeably, De Jong and Den Hartog (2007); Janssen (2000); Scott and Bruce (1994) used idea generation in connection with the innovative work behaviour literature. McAdam and McClelland (2002) mention that creativity is often equated solely with idea generation as a single entity. Within this creativity-oriented behaviour, employees will recognize problems, explore opportunities and find new ideas as solutions. Mumford (2000, p.316) describes idea generation as "a free-flowing activity where application, implication, and consequences are identified and then shaped through refinement into a new ideas or set of ideas". In the process of capturing good ideas, the activities of identifying and experimenting them are required in order to figure out the relevance of those ideas which may lead to innovations. Further, individual ability in constructing new ideas is also crucial for continuous innovation implementation. Idea generators are able to approach issues and problems from a different angle as well as reorganize the concepts for better achievement (De Jong & Den Hartog, 2008).

The subsequent activity is implementation-oriented work behaviour which comprises of championing an idea, and implementation of the idea. Generally, it is quite challenging for employees to implement ideas on their own for they are required to get an approval from a higher level of management. Thus, the ideas should be promoted and communicated throughout the organization to receive feedback for further

development. Support and coalitions can be gained from the managers and co-workers who have the power and authority to bring ideas into practice in which it involves the right people, persistence and commitment, enthusiasm, and confidence about success (De Jong & Den Hartog, 2010; Janssen, 2000; Kanter, 1988). In sum, idea championing or promotion is all about finding support and feedback for the ideas generated whereby it basically involves the top management or key organisational members.

The aim of the last activity, idea implementation, is to incorporate the ideas generated and promoted into daily business, and to realize those ideas that can be experienced and applied within the work role, group or organization (Kleysen & Street, 2001; Janssen, 2000; Kanter, 1988). At this stage, the employee proceeds with the initial plans such as anticipating problems, developing contingency plan, finding resources, sharing the objectives to obtain other's confidence, and overcoming any challenges and obstacles (Lukes & Stephan, 2017). The idea is achieved once the output of such product, service and work process has been applied into practice and businesses.

From the perspective of entrepreneurship, specifically the startup setting, innovative work behaviour activities require the entrepreneurial members (employees) to recognize problems and issues of the current business, improvise existing products and processes, identify and refine a novel idea to introduce new products that differ from its competitors, promote and get engaged in the entrepreneurial team and innovative working system, as well as implement the ideas proposed into reality such as producing new products, and practising new effective work process and services.

Overall, the dimensions of innovative work behaviour are considered as important elements in determining the level of employee innovation and the survival of an organization. Each dimension has its own unique function in which employees must be given the opportunity to get involved in all activities starting from generating ideas up to the realization phase. The aim is actually to change and bring improvements to one's current situation. Table 2.2 presents the dimensions of innovative work behaviour.

Table 2.2: Multi-dimensional Aspect of IWB

Year	Author	Dimension
1988	Kanter (Kanter's Model)	1. Idea generation and activation of the drivers of the innovation 2. Coalition building and acquisition of the power necessary to move the idea into reality 3. Idea realization and innovation production (turning the idea into model) 4. Transfer of diffusion (spreading the model)
1994	Scott and Bruce	1. Idea Generation 2. Idea Promotion 3. Idea Realization
2001	Kleysen et al.	1. Opportunity Exploration 2. Generativtiy 3. Formative Investigation 4. Championing 5. Application
2007	Hansen and Birkinshaw's Innovation Model	1. Idea Generation (in-house, cross pollination, external) 2. Conversion (selection and development) 3. Diffusion (spread)
2008&2010	De Jong and Den Hartog	1. Exploration of ideas 2. Idea Generation 3. Championing the Idea 4. Implementation of Idea

2.4.3 Determinants of Innovative Work Behaviour

Individuals' innovative behaviour in the workplace are the foundation of any high performance organization; and thus, "the study of what motivates or enables individual innovative behaviour is critical" (Scott and Bruce, 1994, p. 580). In addition, Qi, Liu, Wei and Hu (2019), Riaz, Xu and Hussain (2018), Zhou and Velamuri (2018), and Haq,

Usman and Hussain (2017) stated a study in understanding the process that can enhance the individual innovative work behaviour is deficiency that requires extensive investigation.

Many studies have been conducted to determine the factors that influence IWB such as leadership (Wu & Lin, 2018; Gard & Dhar, 2017; Agarwal, 2014; Stoffers, Van & Notelaers, 2014; Haris & Bariah, 2013; Shunlong & Weiming, 2012; Zhou, Zhang, & Montoro-Sánchez, 2011; Pieterse et al., 2010; Janssen, 2005); autonomy (De Spiegelaere et al., 2015; Bysted, 2013; Knol and Linge, 2009; Ramamoorthy et al., 2005); organisational factors: rewards, management support, risks, free time, and decentralization (Saether, 2019; Aziz & Rizkallah, 2015, Ramamoorthy et al., 2005); and self efficacy (Momeni, Ebrahimpour, and Ajirloo, 2014; Bouwhuis, 2007; Axtell et al., 2000). Table 2.3 shows previous studies on factors affecting innovative work behaviour in a global context.

Table 2.3: Factors affecting Innovative Work Behaviour (Global Context)

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2019	Boh-Nehles &Veenend-aal	Netherlands – 463 individuals in four Dutch manufacturin g companies	• HR Practices (compensation system, training and development, information sharing, supportive supervision)	Innovative climate	
2019	Saether	Norway – 235 employees from three multinational firms	• Work motivation • Pay justice, • Creativity support • Person - organisation fit		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2019	Qi et al.	China – employees and supervisor from service-based organization	• Inclusive leadership		Perceived organizati on-al support
2018	Riaz, Xu & Hussain	China – 402 R&D employees from variety sectors	• Thriving at work	External work contact	Organizatio o-nal support for innovation
2018	Sazkaya & Dede	Turkey – 219 employees at Teknopark Istanbul	• Employee empowerment		Employee loyalty
2018	Sethibe & Steyn	South Africa – 3,180 employees from 52 compnaies	• Transformation al Leadership • Transactional leadership		Organisati onal climate
2018	Theurer et al.	Germany	• Contextual work cesign	Climate dimension	
2018	Wu & Lin	China – employees of an Ecological industry	• Leadership style		Organizatio o-nal culture
2017	Chatchawan, Trichandhar a, & Rinthaisong	Thailand – Employees in local administrativ e organizations (Conceptual Paper)	• Team climate inventory • Organisational supportiveness • Transformatio n leadership • Learning orientation		
2017	Gard & Dhar	India – 294 employees in Banking industry	Leader-Member Exchange	Job Autonomy	Work Engageme nt
2017	Haq, Usman, & Hussain	Pakistan – employees from telecommuni cation sector in Pakistan	- Perceive failure tolerance - Communiction openness - Work discretion - Perceived reward fairness	Organisatio nal Tenure	

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2017	Sulistiawan, Herachwati, Permatasari, and Alfirdaus	Indonesia – 214 employees from various industries	- Perceived organisation support - Superior relationship quality - Group relationship quality - Expected image risk and gains	Self-monitoring	
2016	Runhaar, Bednall, Sanders, & Yang	Netherlands - 364 teachers at Dutch Vet Institutes	- Task interdependence - Learning goal orientation - Occupational self-efficacy		
2015	Hanif & Bukhari	Pakistan - employees from telecommunication sector in Pakistan	Job Involvement		
2015	De Spiegelaere et. al	Belgium – employees from various industries	Autonomy		
2015	Odoardi	Italy - administrative employees	Proactive goal generation	Role breadth self efficacy	
2015	Aziz & Rizkallah	Egypt - software development industry	**Organisational factors**: 1. Rewards 2. Mgmt support 3. Risks 4. Fee time 5. Decentralization		
2015	Akhavan et. al	Iran – employees in high tech companies	**KS determinants** 1. Social Exchange Theory 2. Social Capital Theory 3. TPB		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2015	Balkar	Turkey - primary & secondary teacher	**Organisational Climate** 1. Support 2. Fairness 3. Cohesion 4. Recognition 5. Pressure		Innovative Behaviour ****DV** job performance
2015	Yogun	Turkey (Banking Sector)	**Cyber loafing** 1. Informational 2. Social 3. Leisure 4. Virtual emotional		
2015	Tastan	Turkey (mgr)	1. Supportive manager relations 2. HR practices 3. Autonomy	Organisational culture	
2015	Afsar et. al	China (empE and SV - electronic, pharmaceutical, and information-communication technology industries)	1. Person-job fit 2. Person-organization fit		Innovation trust
2015	Afsar & Rehman	Thailand (empE & SV-telecommunication and insurance)	Workplace spirituality		Person-organization fit
2015	Örnek & Ayas		**Intellectual Capital** 1. Human Capital 2. Structural Capital 3. Customer Capital		
2015	Jiantreerangkool & McLean	Bangkok (empE insurance companies)	1. Individual personality 2. Perceived organisational support		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2015	Ren & Zhang	China - 282 empE of R&D from various org	Organisational Climate	Job Stressors	
2015	Szczepańska-Woszczyna a	Poland (mgr)	1. Leadership 2. Organization-al culture		
2015	Nisula & Kianto	Finland (Aalto Camp for Societal Innovation)	1. Self-efficacy 2. Participative safety 3. Support for innovation 4. Task orientation 5. Vision 6. Experimentati-on		
2015	Turek & Turek	Poland (empE diff org)	1. HR flexibility 2. Individual Flexibility		**Psychologi-cal Capital** 1. Self efficacy 2. Optimism 3. Hope 4. Resilience
2015	Shazi et. al	Autralia (empE at project team oil & gas & mining sector)	**Trustworthiness** 1. Ability 2. Benevolance 3. Integrity		
2014	Abstein & Spieth	Germany (professional in HR)	**HRM Meta Features**: 1. Individual orientation 2. Discretion orientation 3. Effort orientation 4. Expectancy orientation		
2014	Momeni et. al	Iran (empE in Ardabil Province)	Self efficacy		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2014	Moussa	Tunisia (senior mgr: food, mechanical & metallugical, electrical & electronic)	1. Individual creativity 2. Leadership		Creative org climate
2014	Luoh et. al	Taiwan (empE - Front Office, Housekeeping, and Food and Beverage dprtmnts)	Job Standardization	Psychological empowerment	Psycholog i-cal empower-ment
2014	Ortega-Egea et. al	Spain (workers)	1. Communicati-on flow 2. Knowledge flow	Labor externalizati on	
2014	Stoffers & Notelaers	Netherland (empE & supervisior)	1. LMX 2. OCB	Firm performanc e: organisation al & market	Employabi -lity
2014	Radaelli et. al	Italy (health care organization)	**Knowledge sharing**: 1. Motivation 2. Ability 3. Opportunity		Knowledg e reciproca-tion
2014	Prieto & Pérez-Santana	Spain (f&b, manufacturin g, chemistry, metallurgy, automotive, services & others)	**HR practices** 1. Ability enhancing 2. Motivation enhancing 3. Opportunity enhancing		**Supportiv e work environm et** 1. Mgmt support 2. Cowork er support
2014	Agarwal	India (Mgr outsourcing firm & IT compny)	Perceived Organisational Support	LMX	Work Engageme nt
2014	Park et. al	Korea (manufacturi ng, construction, IT, and electronic)	Learning organization		Work Engageme nt

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2013	Mura et. al	Italy (Hospice & Palliative Care Org)	**Knowledge sharing**: 1. Sharing best practices 2. Sharing mistakes	Individual's perception of SC (Social Capital Theory)	
2013	Bysted	Danish (empE financial company)	1. Job autonomy 2. Innovation trust	1. Mental involve-ment 2. Job satisfaction	
2013	Tastan	Turkey (400 non-mgr empE of SMEs)	1. Participative Orgnztnl Climate 2. Self Leadership	1. Job Involvement 2. Proactive Personality	
2013	Ting et. al	Japan (empE)	1. External information awareness 2. Proactiveness of innovation strategy		**Theory of planned behaviour** 1. Attitude 2. Subjective norms 3. Perceived behavioural control
2012	Sagnak	Turkey (teachers & principals)	Empowering leader		Innovative climate
2012	Shi	China (empE)	**Passion:** 1. Harmonious 2. Obsessive		1. Cognitive absorption 2. Organization-based self-estee

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2012	De Spiegelaere et. al	Belgium (empE various industries)	**Job Design** 1. **Job resources** (autonomy, learning opportunities, organizing tasks, routine tasks) 2. **Job challenges** (time pressure, emotional pressure) 3. **Job hindrances** (job insecurity)	Type of employees	
2012	Shunlong & Weiming	China (enterprise staffs)	Transformational leadership		LMX (intermediary)
2012	Hebenstreit	Nurse educators	Structural empowerment		
2012	Arif et. al	Islamabad & Rawalpindi (empE advertisement agencies	**Communication Climate** 1. Defensive CC 2. Supportive CC		
2012	Xerri	Australia (Nursing empE & Mgr)	LMX		Perceived Organisational support
2012	Agarwal et. al	India (Mgr outsourcing firm, IT, telecomN, retail compny)	LMX		Work engagement
2011	Zhou et. al	China (empE)	Rewards (utilitarianism vs romanticism) extrinsic vs intrinsic		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2011	Chao et. al	Taiwan (mgr, engineers, members in R&D manufactrG)	Market orientation	1. Absorptive capability 2. Organisational innovative climate	
2011	Slåtten et. al	Norway (hotel frontline service empE)	1. Empowering leader 2. Humourous work climate		Employees' creativity
2011	Slåtten	Southern Norway (hospitality frontline empE)	1. Work role 2. Managerial relationship quality		Joy
2011	Xerri & Brunetto	Australia (SME Engineering empE)	**Social Capital Theory** 1. Tie 2. Trust 3. Socialibility		Innovative culture
2011	Chang et. al	Taiwan (adminstrative staff in post-secondary school	Team Cohesion	Perception of effort-reward fairness (PERF)	
2011	Slåtten & Mehmetoglu	Norway (hotel frontline empE)	**Antecedents of Creativity** 1. Empowerment 2. Company's vision 3. Commitment		
2010	Jafri	India (Executives in Retail sector)	Organisational commitment		

Table 2.3 continued

Year	Author	Country	Independent Variable	Moderator Variable	Mediator Variable
2010	Newton & Nowak	US (IT professionals)	**Psychological Contracts** 1. Stability, 2. Scope 3. Tangibility 4. Time frame 5. Particularism 6. Focus		
2010	Imran et. al	Pakistan (mgr Fast Moving Consumer Good organization)	Organisational climate		
2008	Lee	South Korea (empE)	1. Trust 2. Commitment		
2007	De Jong & Den Hartog	Dutch (mgr & entrepreneur - consultant, researchers, engineers)	Leaders		
2006	Carmeli et. al	Israel (empE & supervisors)	Self leadership		
2006	Hartmann	Swiss (construction firm)	Organisational culture	Managerial action (communication, recognition, participation, symbolism)	
2005	Janssen	Dutch (empE energy industry)	Employees perceived influence	Supervisor support	

A recent study conducted by Sethibe and Steyn (2018) examined the leadership styles consisting tranformational and transactional on innovative behaviour. The survey was carried out on a sample of 52 South African companies. The results revealed that tansformational leadership style has a positive relationship with innovative behaviour, meanwhile transactional leadership style has no relationship with employees' innovative behaviour. Similarly, Ghad and Dhar 2017 conducted a study to explore the impacts of leader-member exchange on innovative work behaviour. The results confirmed a positive and significant association between leader-member exchange and innovative work behaviour.

A more recent study by Saether (2019) among three Norwegian-based multinational firms utilizing high technology with R&D departments in Norway reported that identified motivation had a significant relationship with innovative work behaviour. The finding of this study also revealed that the intrinsic motivation had a strongest relationship with innovative work behaviour.

Another study by Sulistiawan et al. (2017) among 214 employees and superiors from media industry in Indonesia. The aim of this study to examine "why employees engage in innovative behaviour even though innovation is a risky behaviour?". The finding of this study revealed that self monitoring did not have moderation effects in the relationship between expected image gains and innovative work behaviour. The finding also indicated that expected image gains and expected image risks were both significant with innovative work behaviour. Furthermore, this study suggested that organization should supports employees who engages in innovation activities and creating strong innovation culture in reducing employees' social risks.

Aziz and Rizkallah (2015) investigated the effect of organisational factors on employees' generation of innovative ideas among 244 employees of the large software organizations in Egypt. Organisational factors examined include rewards, management support, tolerance for risk taking, allocation of free time, and decentralized decision-making. The findings indicated that all organisational factors were significantly correlated with employees' innovative idea generation. Futhermore, the findings also revealed that availability of innovation-based rewards, action-based managerial support and decentralized decision-making are important factors contributing to the increase of innovative ideas generated and shared by employees.

The perceptions of HRM and their effects on the dimensions of innovative work behaviour was investigated by Veenendaal and Bondarouk (2015). A total of 328 workers in a Dutch company participated in the survey. Interestingly, this study analyzed multi-dimensional constructs of innovative work behaviour (idea generation, idea championing, and idea application). HR practices were measured with supportive supervision, training and development, information sharing and compensation. The results indicated that supervision positively correlates with all three dimensions of innovative work behaviour (idea generation: $r=0.30$, $p<0.01$; idea championing: $r=0.34$, $p<0.01$; idea application: $r=0.30$, $p<0.01$). Information sharing also positively correlates with the three dimensions (idea generation: $r=0.15$, $p<0.01$; idea championing: $r=0.14$, $p<0.01$; idea application: $r=0.20$, $p<0.01$). The findings also showed that training and development only positively correlate with idea application dimension ($r=0.12$, $p<0.05$) and compensation is negatively related to idea generation ($r=-0.12$, $p<0.05$).

Similarly, Prieto and Perez-Santana (2014) studied the role of high-involvement human resource practices in the innovative work behaviour of employees, with the

mediation of supportive work environment conditions. The study measured high-involvement human resource practices namely, ability-enhancing HR practices, motivation-enhancing HR practices, and opportunity-enhancing HR practices. The findings showed that ability-enhancing HR practices (B=0.27, p<0.001) and opportunity-enhancing HR practices (B=0.26, p<0.001) are significantly related to innovative work behaviour. While, there is no significant relationship between motivation-enhancing HR practices and innovative work behaviour. The results also indicated that management support (B=0.13, p<0.05) and co-workers support (B=0.50, p<0.001) are significantly related to innovative work behaviour.

Ortega-Egea et. al (2014) analyzed how the presence of communication and knowledge flows influence the creation of work context that supports innovation among 249 workers from Spanish firms. The authors found out that when communication flows exist, workers' orientation to innovation is greater. Likewise, knowledge transfers influences workers' innovative attitude positively.

In Malaysian perspective, most researchers examined the relationship between leadership and innovative work behaviour such as Ebrahim et al., 2015; and Rahim et al., 2015; June and Kheng, 2014; Hakimian et al., 2014; Kheng et. al, 2013; Noor and Dzulkifli, 2013; and Subramaniam, 2012. Nevertheless, there are other studies that investigated organisational learning and work environment, (Awang et al., 2014) and psychological empowerment (Rahman et al., 2014). There is a lack of research on organisational creative climate towards innovative work behaviour conducted in Malaysia. Table 2.4 shows Malaysian studies on the determinants of innovative work behaviour.

Table 2.4: Factors Affecting Innovative Work Behaviour (Malaysia Context)

Year	Author	Methodology	Independent Variable	Moderator Variable	Mediator Variable
2019	Awang et al.	QTV – 44 employees at all 44 at SME	1. Organisational learning 2. Work environment		
2019	Baharuddin, Masrek, & Shuhidan	Conceptual Paper	1. Job autonomy 2. Job Commitment		
2019	Ismail and Mydin	QTV – 961 teachers at Secondary schools	Transformational Leadership		Commit-ment
2016	Munir and Beh	QTV – 63 employees at automotive components manufacturin	Personality Traits		
2016	Yean, Johari, & Yahya	QTV - 265 academic staffs from six public universities located in the northern and central regions	Work Engagement		Learning Goal Orientation
2015	Ebrahim et. al	QTV - 210 lecturers (AP, Senior Lecturer, Lecturer)	**Leader's Role** 1. Participative leadership and delegation practice 2. Relationship oriented practice 3. Work related practice		
2015	Rahim et. al	QTV – 84 Executive Officers in Private Sectors	1. Transformational Leadership **2.** Transactional Leadership	**Knowledge Mgmt** 1. K. Responsiveness 2. K. Acquisition 3. K. Dissemination	

Table 2.4 continued

Year	Author	Methodology	Independent Variable	Moderator Variable	Mediator Variable
2015	Rahman, Panatik, & Alias	QTV – 393 lecturers in five research universities	Web 2.0		
2014	Hakimian et. al	QTV - 219 employees from Malaysian SMEs	Paternalistic Leadership	Job Insecurity	
2014	June & Kheng	QTV 318 knowledge workers in MSC companies	LMX & Social Capital		
2014	Awang et. al	QTV - 235 employees at all 44 micro and small-scale manufacturing industries (SME) in the main cities in the East Coast Economic Region (ECER) Malaysia	**Organisational Learning & Work Environment** *(leadership inspiration, empowerment, reward & recognition, invention facilities and risk taking)*		
2014	Shanker & Bhanugopan	QTV - 202 managers working in Malaysian Government-lined Companies (GLCs)	**Organisational Climate** - Using SOQ		
2014	Rahman, Panatik, & Alias	QTV - 393 lecturers in five Malaysian research universities and emphasize on the lecturer's research and development	**Psychological Empowerment** 1. Meaning 2. Competence 3. Self determination 4. Impact		

Table 2.4 continued

Year	Author	Methodology	Independent Variable	Moderator Variable	Mediator Variable
2013	Yeoh, June & Mahmood	QTV – 318 knowledge workers in MSC companies in Malaysia	**Pro-innovation climate, LMX, Social Capital** *PIOC (reward, autonamous, training, feedback)*		
2013	Noor & Dzulkifli	QTV - 125 R&D scientists of public agricultural agencies & technology indicators(forestry, veterinary institute, cocoa, palm oil, agricultural R&D institute, nuclear & fishery)	Leadership Practices		Organisational Climate - *using KEYS*
2012	Subramaniam	QTV - 79 teacher educators	LMX, leader role expectation, demographic variable, problem solving styles		**psychological climate for innovation** (*support for innovation & resource supply)*

A recent study by Ismail and Mydin (2019) that investigated the relationship between transformational of school leader and innovative work behaviour was conducted among 961 teachers in various secondary schools. The teacher's commitment plays a role as a mediating variable in both relationships. The finding of this study has higlighted that transformational leadership is vital in enhancing the teachers' commitment and innovative work behaviour. The result also revealed that

teachers' commitment partially mediates in the relationship between transformational leadership and innovative work behaviour. It implies that the innovative work behaviour can be increased if the employees are committed with their work and also get a support from a leader who possess a charismatic, individualised, intellectual and inspirational motivation characteristics.

Yean, Johari and Yahya (2016) have surveyed six public universities located in the northern and central regions of Peninsular Malaysia. A total of 265 academic staffs were purposely selected as a sample for this study. Results of this study showed that learning goal orientation has a positive influence on innovative work behaviour. This result also highligted the mediating role of learning goal orientation in the relationship between work engagement and innovative work behaviour. This study concluded that high learning oriented of academic staffs are more likely to exhibit innovative work behaviour in solving problems at the university.

A study by Rahim et al. (2015) explored the relationship between leadership style, knowledge management practices and innovative work behaviour among 84 executive officers working in private organizations in Shah Alam. The respondents were given a 57-item questionnaire that measured leaderhship style (transformational leadership, transactional leadership, and lassiez faire), three knowledge management dimensions (knowledge acquisition, knowledge dissemination, knowledge responsiveness), and innovative work behaviour. Correlation analysis showed a weak positive relationship between transformational leadership (r=.386, p<.05), transactional leadership (r=.358, p<.05), laissez faire style (r=.326, p<.05), and innovative behaviour. The results also indicated that there is a moderate positive relationship between knowledge management practices and innovative work behaviour (r=.554, p<.05).

Another study done on leadership perspective was conducted by Hakimian et al. (2014). This study tested the paternalistic leadership on employees' innovative work behaviour with the moderating effect of job insecurity. A total of 219 employees form Malaysian Small Medium Enterprise (SMEs) participated in the survey. The results indicated a significant relationship between 4 and employees' innovative behaviour. The statistical results also showed a negative interaction of job insecurity towards the relationship between paternalistic leadership and innovative behaviour.

Awang et al. (2014) studied on organisational learning and work environment. A set of questionnaire was distributed to 235 employees at 44 micro and small–scale manufacturing industries in the main cities in the East Coast Economic Region (ECER), Malaysia. Statistical analysis showed that organisational learning and work environment have a significant influence on the formation of innovative work behaviour.

Rahman et al. (2014) conducted a study on psychological empowerment among 393 lecturers in five Malaysian research universities. This study tested multi-dimensional constructs of innovative work behaviour. The results reveal that the dimensions of meaning, competence, and self-determination from psychological empowerment effect the generation, promotion, and realization of new ideas, of innovative work behaviour. Meanwhile, the dimension of psychological empowerment only influences the promotion of new ideas of innovative work behaviour.

Empirical studies have explored comprehensively the drivers of innovative work behaviour from the perspective of individual and organisational in Malaysia as well global context. However, the integration of organisational creative climate and

innovative work behaviour has less explored in Malaysia as most the previous studies were tested on different management perspectives and sectors. Hence, this study believes that the practice of organisational creative climate and its dimensions are crucial in enhancing the individual innovative work behaviour in the Startups context.

2.5   Climate and Culture

The experts from among organisational psychologists have discussed different concepts between climate and culture. According to Nystrom (1990) and Ekvall (1991), climate is defined as the recurring patterns of behaviour, attitudes, and feelings that characterize organisational life. Further, Reichers and Schneider (1990) relate climate to the organisational members' perceptions of policies, practices, and procedures, whilst culture to the basic values and assumptions that underlie those policies, practices, and procedures. Climate is distinct from culture where it is more directly observable within the organization in which there is a connection between a situation and employees' thoughts, feelings, and behaviours (Denison, 1996; Ekvall, 1996). Culture refers to the deeper and more enduring values, norms, and beliefs within the organization that were embedded in history (Denison, 1996; Ekvall, 1996; Schneider, Brief, & Guzzo, 1996).

At the individual level, the concept is called psychological climate. At this level, the concept of climate refers to individual perceptions of the patterns of behaviour. When individual perceptions are aggregated, the concept is called organisational climate (Isaksen & Lauer, 1998). These are the objectively shared perceptions that characterize life in the organization. Although climate is perceived by individuals within the workplace, it exists independently of these perceptions and is considered an attribute of the organization (Ekvall, 1987). Schneider (1980) as cited by Slatten et al. (2011), regarded the climate in service organizations as "crucial" (p. 52). Notably, the concept

of work climate can be described from three perspectives namely processes, practices, and behaviours. (Schneider, 1990 as cited by Slatten, 2011).

Regarding the difference between organisational culture and climate, McLean (2005) states that, "It is culture that creates the parameters for what behaviour is desirable and will be encouraged, and what behaviour is unacceptable and will be censored". Climate may be viewed as a more concrete and tangible way to measure elements of culture in terms of specific behaviours and characteristics" (McLean, 2005, pp. 240-241 as cited by Ystrom, Aspenberg & Kumlin, 2015). Arena, Azzone, and Bengo (2015) described organisational culture to enterprise-related value, belief, and assumption formed and shared by employees in an enterprise, where corporate culture was cultivated in long period and naturally evolved among employees.

2.6 Organisational Creative Climate (OCC)

2.6.1 Definition of Organisational Climate

Every organization consists of tangible and intangible resources such as people, buildings, machinery, know-how, and patents that support business operations (Björkdahl & Börjesson, 2011). Organisational climate is classified as an intangible resource that exerts a powerful affect on employees' behaviour and act as drivers of organisational performance (Garlucci & Schiuma, 2014). Generally, organisational climate can have positive and negative influences on both individuals and organizations. It is, therefore, proven that organisational climate is important to understand how an organisational works and creates value, in particular, in services industries (Gholami et al., 2015; Carlucci & Schiuma, 2014; Carlfjord et al, 2010; Moultrie & Young, 2009) as well as manufacturing industries (Ren & Zhang, 2015; Nasurdin et al., 2014; Björkdahl & Börjesson, 2011). Besides, organisational climate in the entrepreneurial sector has

become an interesting topic of study among scholars such as Friedman and Carmeli (2018), Kang et al. (2016), Reade and Lee (2016), Khan et al. (2015), and Garlucci and Shciuma (2014).

Every organization needs to form and fortify a climate that stimulates creativity and innovation among employees for successful sustainability. It is believed that a harmonious environment will boost employees' performance in which they will be more creative, independent and committed to the organization. Environment and atmosphere are the synonym words used to relate to organisational climate (OC).

There are a number of ways to describe organizatioinal climate. Even though there are different views regarding the definition of organisational climate, there still exists a commonality. An organization's climate is defined as the "*relative enduring quality of an organization's internal environment that results from the behaviour and policies of members of the organization, especially in top management*" (Abbey and Dickson 1983, p. 362). Further, Ekvall (1996, p.105) defined organisational climate as "*a conglomerate of attitudes, feelings, and behaviours that characterizes life in the organization and exists independently of the perceptions and understandings of the members of the organizations*". According to Forehand and Gilmer (1964), OC is "a set of characteristics that (a) describe the organization and distinguish it from other organizations, (b) are relatively enduring over time and (c) influence the behaviour of people in the organization. Meanwhile, Campbell et al. (1970) defined OC as "a set of attributes specific to a particular organization that may be induced from the way the organization deals with its members and its environment". According to Chennamaneni et al. (2012), organisational climate is "*the shared values, norms, meanings, beliefs, myths, and underlying assumptions within an organization*" (p. 180). In light of this

study, organisational creative climate is described as the organisational members' perception of individual attributes and actions towards their work environment.

The framework proposed by Ekvall shows that climate can be an intervention between resources and effects, and this indicates the importance of climate as a determinant of creativity and innovation (Isaksen et.al, 2010; Ekvall, 1996). Climate as proven by recent empirical research is responsible for many job outcomes such as innovation (Paulsen et.al, 2009; Amabile et al., 2008; Tierney, 2008), productivity and profitability (Davis, 2000; Firenze, 1998) as well as individual innovative work behaviour (De Jong & Den Hartog, 2010). Figure 2.1 below shows climate as intervening variable, and which gives effects to innovation.
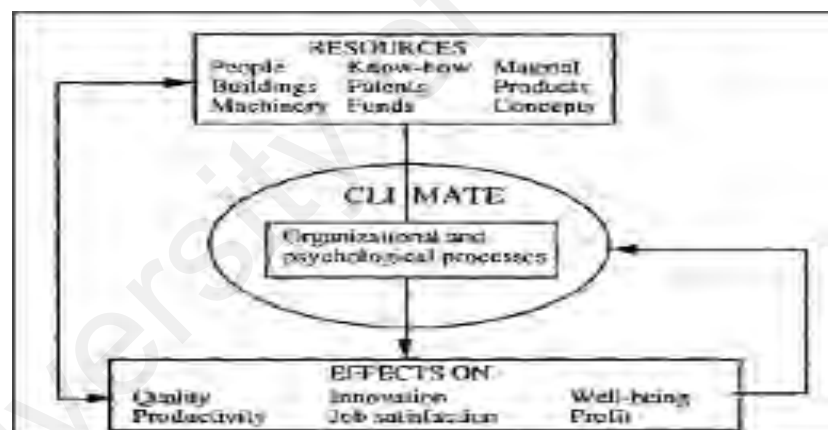
Figure 2.1: Organisational climate as intervening variable
Source: Ekvall (1996)

The general climate of an organization is said to have an effect on the efficiency and performance of the organization (Suguna, 2013). Empirical studies have attempted to analyze organisational climate in a systematic way. This is because different organizations have different climates that help the management to be attentive and improve their employees' performance. For example, Ying et. al (2007) conducted a study among 243 nurses in China. The study looked at flexibility, responsibility,

standards, rewards, clarity, and team commitment as the antecedents of organisational climate towards nursing competency. The results of the study show a moderate level and significant positive relationship between organisational climate and nursing competency. Thus, the researchers highlighted the importance to maintain and practice a positive organisational climate which may lead to tremendeous improvement in the organization.

2.6.2 Dimensions of Organisational Creative Climate

There is a large body of research on creative climate for the promotion of creativity and innovation, for example, Isaksen and Ekvall (2010); Isaksen and Lauer, (2002); Isaksen, Lauer, and Ekvall (1999); Amabile et al., (1996); Ekvall (1996); and West (1990). Historically, Isaksen et al. (1999) stated that the factor analysis of the ten dimensions proposed by Ekvall shows that some items of the dynamism/liveliness was loaded on the challenge dimension, and few items loaded across a variety of scales. Due to the loading factors, Isaksen and colleagues were redefined the challenge dimensions through expanding the information of dynamism/liveliness items into challenge dimension. Thus, the challenge dimension was renamed to "challenge and involvement". Eventhough, one of the dimensions of Ekvall has been removed, this group of researchers remain classified conflict dimension as a factor that impede creativity and change, while the remaining dimensions have positive relationship and potentially to foster creativity and change.

In 1999, Isaksen have investigated a study among 1,111 individuals of diverse occupations employed in various business sectors such as pharmaceutical, state government agencies, telecommunications and mail company, college, and manufacturing. The aimed of the study primarily to measure the reliability and

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construct validiity of situational outlook questionnaire. The Cronbach coefficient alpha shows that all nine dimensions of situational outlook questionnaire in the ranged from .62 to .90.

A series of study were conducted using SOQ as a tool to measure the effectiveness of the creative climate dimension as well as the cronbach alpha value. For example,

i.   Ekvall's Creative Climate Questionnaire

Creative climate was intiated by Ekvall et al. in 1983 who presented 10 climate dimensions that foster the organisational members' creativity and thus promote innovation in the organization. Ten dimensions are namely: challenge, freedom, idea support, trust/openness, dynamism/liveliness, playfulness/humour, debates, conflict, risk taking, and idea time. Conflict dimension was hypothesized to impede creativity, while the other nine dimensions were hypothesized to promote creativity (Ekvall, 1996). Initially, the 50 items questionnaire covering 10 dimensions of five items each is developed based on the theory, field research, and experiences of consultancy in organisational psychology.

ii.   Dimensions of Creative Climate Assessed by Situational Outlook Questionnaire

Situational Outlook Questionnaire (SOQ) is initially based on the Ekvall's. Ekvall introduced creative climate questionnaire to measure ten creative climate dimensions in his early research as an industrial psychologist (Ekvall, 1996). A series of study were conducted using SOQ as a tool to measure the effectiveness of the creative climate dimension as well as the cronbach alpha value. In 1999, Isaksen investigated a study among 1,111 individuals of diverse occupations employed in various business sectors such as pharmaceutical, state government agencies,

telecommunications and mail company, college, and manufacturing. The aim of the study was primarily to measure reliability, and construct validity of situational outlook questionnaire. The Cronbach's coefficient alpha shows that all nine dimensions of situational outlook questionnaire ranged from .62 to .90.

Isaksen et al. (1999) state that the factor analysis of the ten dimensions proposed by Ekvall shows that some items of the dynamism or liveliness were loaded on challenge dimension, and a few items loaded across a variety of scales. Due to the loading factors, Isaksen and colleagues redefined challenge dimension by expanding the information of dynamism or liveliness items to relate to challenge dimension. Thus, the challenge dimension was renamed "challenge and involvement". Even though one of the dimensions of Ekvall has been removed, this group of researchers remains to classify conflict dimension as a factor that impedes creativity and change, while the remaining dimensions have a positive relationship and may potentially foster creativity and change.

Further, in 1999, Isaksen, Lauer, and Ekvall have improvised the instrument which comprise of nine dimensions, namely challenge and involvement, freedom, trust/openness, idea time, playfulness/humour, conflict, idea support, debate, and risk taking. Notably, situational outlook questionnaire dimension represents the characteristics of the climate which potentially influence individuals, group, and organizations' creativity and perspectives. The explanation of nine factors are as follows:

1.   Challenge and Involvement

The degree to which people are involved in daily operations, long-term goals, and visions. When there is a high degree of challenge and involvement, people feel motivated and committed to making contributions. The climate is dynamic, electric, and inspiring. People find joy and meaningfulness in their work. In the opposite situation, people are not engaged, and feelings of alienation and apathy are present. Individuals lack interest in their work and interpersonal interactions are dull and listless. In a dynamic climate, new things happen all the time and there are frequent changes in ways of thinking about, and handling issues. Additionally, Li, Chen, and Cao (2017) defined work engagement into three categories which vigor as working highly energetically, dedication as involvement in work and experiencing inspiration and challenge, and absorption as concentrating on work without realizing time pass.

2.   Freedom

Independence in behaviour exerted by the people in the organization. In a climate with much freedom, people are given the autonomy and resources to define much of their work. They exercise discretion in their day-to-day activities. Individuals are provided the opportunity and take the initiative to acquire and share information about their work. In the opposite climate, people work within strict guidelines and roles. They carry out their work in prescribed ways with little room to redefine their tasks.

3.   Trust/Openness

Ekvall (1996) defined trust/openness as emotional safety in relationships. When there is a high degree of trust, individuals can be genuinely open and frank with one another. People count on each other for professional and personal support. People have a sincere respect for one another and give credit where credit is due. Where trust is

missing, people are suspicious of each other, and therefore, they closely guard themselves, their plans, and their ideas. In these situations, people find it extremely difficult to openly communicate with each other.

At the startups phase, trust is an essential value among entrepreneurial members especially in a process of developing new ideas, products, strategies and implementation of ideas. Such situation requires them to work together closely in achieving consensus. However, trust could have different effects, depending on whether they are related to cognitive trust or affective trust. Paryitam and Dooley (2009) as cited by Khan et al. (2015) described coginitive trust or competence-based trust as a trust-based on knowledge and competence. The affective trust is related to feeling and emotions (Johnson & Grayson, 2005). Cognitive trust is a crucial concept for startups because entrepreneurial members trust each other's competence, objectivitity and rationality especially during an early venture (Khan et al, 2015).

4.   Idea time

Amount of time people can use (and do use) for elaborating new ideas. In the high idea-time situation, possibilities exist to discuss and test suggestions not included in the task assignment. There are opportunities to take the time to explore and develop new ideas. Flexible timelines permit people to explore new avenues and alternatives. In the reverse case, every minute is booked and specified. The time pressure makes thinking outside the instructions and planned routines impossible. Time also can be associated with cognitive trust. Entrepreneurial team or members with high cognitive trust in one another decrease the need to monitor, and this consequently encourages them to generate more novel ideas and make the best decision in an ideal time (Khan et al., 2015).

5.   Humour/Playfulness

Spontaneity and ease displayed within the workplace. A professional yet relaxed atmosphere where good-natured jokes and laughter occur often is indicative of this dimension. People can be seen having fun at work. The climate is seen as easy-going and light-hearted. The opposite climate is characterized by gravity and seriousness. The atmosphere is stiff, gloomy, and cumbrous. Jokes and laughter are regarded as improper and intolerable.

6.   Conflict

According to Ekvall (1996), conflict is regarded as presence of personal and emotional tensions in the organization. When the level of conflict is high, groups and individuals dislike and may even hate each other. The climate can be characterized by "interpersonal warfare." Plots, traps, power, and territory struggles are usual elements of organisational life. Personal differences yield gossip and slander. In the opposite case, people behave in a more mature manner; they have psychological insight and control of impulses. People accept and deal effectively with diversity.

Simon and Peterson (2000) catagorize conflict into two, namely task conflict and relationship conflict. Task conflict is disagreement on the content, viewpoints and opinions, while relationship conflict is rooted in interpersonal incompatibility and animosity (Simon and Peterson, 2000 as cited by Khan et al., 2015). Narrowly, relationship conflict is associated with person-related disagreement which includes 'tension, animosity and annoyance among the team members (Jehn, 1995, p. 258 as cited by Khan et al., 2015). Meanwhile, task conflict is often linked to positive outcomes such as on performance, decision-making, quality, and innovation (Reade & Lee, 2016; Khan et al., 2015).

Entrepreneurial team commonly has to communicate and work together to make decision and execute ideas generated in the early phase of business development. Such close interaction processes and broadened sources of information may lead to argument and conflicts among entreprenuerial members (Khan et al., 2015; Reade & Lee, 2016).

7.   Idea support

Ways new ideas are treated. In the supportive climate, ideas and suggestions are received in an attentive and professional way by bosses, peers, and subordinates. People listen to each other and encourage initiatives. Possibilities for trying out new ideas are created. The atmosphere is constructive and positive when considering new ideas. When idea support is low, the automatic "no" is prevailing. Fault-finding and obstacle-raising are the usual styles of responding to ideas.

Similarly, the study among consultants, researchers and engineers in knowledge-intensive firms found five dimensions of climate (providing vision, delegating, support for innovation, recognition and monitoring) in competing value model have a relationship with idea generation and application (De Jong, & Den Hartog, 2007).

8.   Debate

Occurrence of encounters and disagreements between viewpoints, ideas, and differing experiences and knowledge. In the debating organization, many voices are heard and people are keen on putting forward their ideas for consideration and review. People can often be seen discussing opposing opinions and sharing a diversity of perspectives. Where debate is missing, people follow authoritarian patterns without questioning them.

McAdam and McClelland (2002) highlight feedback from others as one the factors that can influence individual innovative behaviour besides leadersip style and organisational reward systems. Further, De Jong and Den Hartog (2007) posit that the organizing feedback and rewards are only connected to application or idea implementation activity.

9.   Risk taking

Tolerance of uncertainty and ambiguity in the workplace. In the high risk-taking case, bold initiatives can be taken even when the outcomes are unknown. People feel as though they can "take a gamble" on their ideas. People will often "go out on a limb" to put an idea forward. In a risk-avoiding climate, there is a cautious, hesitant mentality. People try to be on the "safe side" and often "sleep on the matter." They set up committees, and they cover themselves in many ways.

Generally, the innovative individuals manifest risk-takers personality as they dare to face up to challenges and stand strong with thier decisions. However, there some situations and extents in which they usually take calculated risks, and which they believe are able to mange. Therefore, the consideration of risks in work requires innovative individuals to calculate risk elements against potential benefits to generate more creative and innovative ideas. The brief descriptions of each dimensions are presented in Table 2.5 below.

Table 2.5: Nine Dimensions of Organisational Creative Climate

Dimension	Description
Challenge/Involvement	The degree of emotional involvement, commitment, and motivation in the operations and goals.
Freedom	The level of autonomy, discretion and initiative/independence in behaviour exerted by individuals to acquire information, make decisions, etc.
Trust/Openness	The degree of emotional safety, trust and openness found in relationships.
Idea Time	The amount of time people can use (and do) for elaborating new ideas.
Playfulness/Humour	The spontaneity, ease, good-natured joking, and laughter that is displayed within the workplace.
Conflict	The presence of personal and emotional tensions or hostilities.
Idea Support	The degree to which new ideas and suggestions are attended to and treated in a kindly manner.
Debate	The expressing and considering of many different viewpoints, ideas and experiences and knowledge.
Risk-Taking	The tolerance of ambiguity and uncertainty exposed in the workplace.

Source: Isaksen, Lauer, and Ekvall (1999)

2.6.3 Typology of Organisational Climate

Models of organisational behaviour that represent perceptions of the work environment, refer to generally as 'organisational climate' (Rousseau, 1988). Patterson et al. (2005) mentioned that climate perceptions are associated with a variety of important outcomes at the individual, group, and organisational levels. An initial assumption of theory and research in the area of organisational climate was that social environments could be characterized by a limited number of dimensions. For instance, Campbell, Dunnette, Lawler, and Weick (1970) identified four dimensions common to a number of climate studies namely: (1) individual autonomy, (2) degree of structure imposed on the situation, (3) reward orientation, and (4) consideration, warmth, and support. While, James and his colleagues (James & James, 1989; James & McIntyre, 1996; James & Sells, 1981) described four dimensions that they have identified across a number of different work contexts: (1) role stress and lack of harmony; (2) job

challenge and autonomy; (3) leadership facilitation and support; and (4) work group cooperation, friendliness, and warmth.

In 1983, Quinn & Rohrbaugh (p.363) developed Competing Values Framework (CVF) to identify the indicators of organisational effectiveness. They discovered two major dimensions underlying the conceptions of effectiveness. The first dimension is related to organisational focus, from an internal emphasis on the wellbeing and development of people in the organization to an external focus on the wellbeing and development of the organization itself. The second dimension differentiates organisational preference for structure and represents the contrast between stability and control and flexibility and change. The competing value framework has four quadrants namely; human relations model, internal process model, open systems model, and rational goal model.

The Human Relations Model (internal focus, flexible orientations) has norms and values associated with belonging, trust, and cohesion achieved through means such as training and human resource development. Coordination and control are accomplished through empowerment and participation, and interpersonal relations are supportive, cooperative and trusting in nature.

In the Internal Process Model (internal focus, control orientation) the emphasis is on stability, where the effects of environmental uncertainty are ignored or minimized. Coordination and control are achieved by adherence to formal rules and procedures. The emphasis on the Open System Model (external focus and flexible orientation) is on readiness, change and innovation, where norms and values are associated with growth, resource acquisition, creativity and adaptation.

In the Rational Goal Model (external focus and control orientation) is on the pursuit and attainment of well-defined objectives, where norms and values are associated with productivity, efficiency, goal fulfillment, and performance feedback. Table 2.6 shows the quadrants and scales of Competing Value Model. While, Figure 2.2 illustrates the Competing Value Framework.

Flexibility

Human Relations Model

Goal: human resource development

Open System Model

Goal: growth, resource acquisition

Internal ——————————— **External**

Internal Process Model

Goal: Stability, control

Rational Goal Model

Goal: Productivity, Efficiency

Control
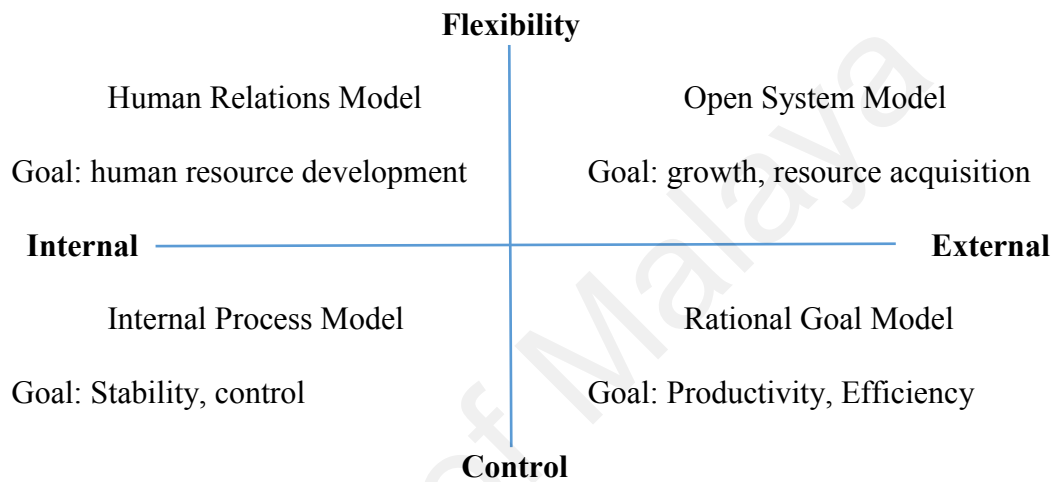
Figure 2.2: Competing Values Framework (CVF)

Source: Quinn and Rohrbaugh (1983, p.369)

Table 2.6: Quadrants and Scales of Competing Value Model

Quadrant	Scale
Human Relations Model	• Employee welfare • Autonomy • Participation • Communication • Emphasis on training • Integration • Supervisory support
Internal Process Model	• Formalization • Tradition
Open System Model	• Flexibility • Innovation • Outward focus • Reflexivity

Source: Adopted from Patterson, et al. (2005).

Table 2.6 continued

Quadrant	Scale
Rational Goal Model	• Clarity of organisational goals • Effort • Efficiency • Quality • Pressure to produce • Performance feedback

Source: Adopted from Patterson, et al. (2005).

Spreitzer (1995) categorized participative organisational climate into four main categories namely: (1) Social Political Support, (2) Participative Work Environment, (3) Access to Resources, and (4) Access to Information.

2.7 Knowledge Sharing

2.7.1 Knowledge

Knowlege is a new weapon in the new business paradigm, and has received so much attention among scholars and business practitioners. In the entrepreneurial sector, knowledge is also vital for most of the organizations with which the organizations do not only become knowledge-based (Ngah & Ibrahim, 2011) but also have extra values and competitive advantage. This is specifically applicable in the context of startups that might probably have limited resources in terms of labor and financial constraint to remain competitive in the industry (Ishak & Che Omar, 2013). However, if the employees' knowledge is properly leveraged, success can be achieved, and the organization will have an edge over competitors. As highlighted by Dawson and Andriopoulos (2014), creative and innovative individuals who possesses an adequate amount of knowledge with specific skills and abilities are pivotal to produce and implement ideas. In other words, those who have this extra knolwedge manage to easily tackle the entrepreneurial industry through the understanding of the customers' current

needs as well as the market trend, and will have the ability to produce more "golden eggs" due to the gaps fulfilled in the marketplace.

Knowledge is recognized as a critical asset for an organization in order survive and attain long-term success. Knowledge can be described as intangible asset that is not "owned" by the organization. This is because, Hung et al. (2011) view knowledge as an individual asset which is created and applied by individuals. Davenport and Prusak (1998, p5) as cited by Dawson and Andriopoulos (2014), defined knowledge as:

"a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knower. In organization, it often becomes embedded not only in documents or repositiories but also in organisational routines, processes, practices and norms".

Initially, Sternberg and Lubart (1995) classified knowledge as formal and informal. Further, Nonaka and Takeuchi (1998) named the formal knowledge as explicit, while informal knowledge as tacit. The knowledge-based theory further argues explicitly that knowledge is a critical resource in production and acts as a primary source of value (Grant, 1996; Nonaka, 1995). According to Newell et al, 2009 as cited by Razmerita et al, (2016), tacit knowledge consists of the "know-how" and skills that individuals obtained through personal experience, while explicit knowledge has been written down as a reference for the guideline of other employees in the organization. Table 2.7 provides the differences between tacit, and explicit knowledge.

Table 2.7 Comparison between Tacit Knowledge and Explicit Knowledge

Criteria	Tacit/Informal Knowledge	Explicit/Formal Knowledge
Definition	Undocumented knowlege (Experiential)	Documented knowledge (Codified)
Characteristic	- Hard to be communicated, visualized, and expressed to others - Cannot be copied - "Know-how"	- Easy to communicated and shared between individuals - Can be copied and imitated - "Know-that", "Know-what", "Know-why", "Know-who"
Example	Experience, Skills and Expertise	Manual, Policy, Book, Academic Journals

Source: Dawson and Andriopoulos (2014)

In the entrepreneurial context, the blend of tacit and explicit knowledge is important because it serves as a platform in business development particularly for startups. Previously, most entrepreneurs depend heavily on formal explicit knowledge as a foundation in starting a business such as preparing business plans, marketing strategies and financial plans; all that can be obtaiend from reading a book or attending seminars and conferences. Indeed, tacit knowledge is a tremendous resource particularly for innovation activities (Ngah & Ibrahim, 2011). However, the importance of tacit knowledge cannot be denied due to its impact on creativity and innovation. This is because entrepreneurs and employees' background such education, skills, experience will be benefited as a guideline in running the businesses.

Knowledge enhances individual capability, competency and skills such as innovative and creativity in performing duties. Further, knowledge is one of the factors besides intelligence or cognition, motivationm, and personality that are significantly associated with individual's ability to innovate (Patterson, 2002). These four factors are also required to promote creativity and innovation in the workplace (Dawson and Andriopoulos, 2014). However, knowledge becomes meaningful when transformation of individual knowledge takes place in an organization. Knowledge sharing is important

to acquire innovative ideas. For instance, knowledge and information sharing will support the process of innovation such as capturing and keeping good ideas alive and practicising the ideas promised. Further, the diversity of employees' knowledge serves as a greater input to create something new in the future. Consequently, the utilization of knowledge will support the process of innovation which in turns lead to higher performance.

2.7.2 Definition of Knowledge Sharing

Riege (2005) described knowledge sharing as the heart of knowledge management. According to O'Dell and Grayson (1998), knowledge management is the process of identifying, sharing, and utilizing knowledge and good practice to enable organizations to compete. The exchange of knowledge that is visible between one another is the vital component of knowledge management process.

Generally, the practices of knowledge sharing can take place at individual level and group level within an organization including organisational level. As for individuals, sharing knowledge with organisational members fundamentally takes place for better, faster and efficient work process. Further, knowlege sharing is one of the important components of knowledge management particularly when serious attention is stressed on the human factors of management (Yi, 2009). This will thus bring competitive values for the organizations particularly startups. Meanwhile for organizations, knowlege sharing is the concept of capturing, organizing, reusing and transferring experience-based knowlege to enhance business performance (Lin, 2007). Based on the SECI knowledge circle, KS is an important process through which individual efficiency (Verburg & Andfiessen, 2011) is improved, and this in turns, enhances organisational performance (Ngah & Ibrahim, 2011).

Until today, there are vast literatures that highlight on the concept of knowledge sharing. Some of knowledge sharing definitions are elaborated as a basis of knowledge sharing concept for this research. Knowledge sharing is defined as "a social interaction culture, involving the exchange of employee knowledge, experiences, and skills through the whole department or organization" (Lin, 2007, p. 315). Knowledge sharing is important in acquiring innovative ideas. According to Van den Hooff and De Ridder (2004), knowledge sharing is a process of disseminating knowledge within a specific group of employees. Basically, knowledge sharing is the act of making knowledge available to others within the organization (Ipe, 2003, p, 32).

According to Hsu (2006), knowledge sharing is "an employee behaviour which facilitates the dissemination or transfer of his or her knowledge to others" (p. 327). In the same context, Bartol and Srivastava (2002) defined knowledge sharing as "individuals sharing organisationally relevant informations, ideas, suggestions and expertise with one another" (p. 65). Moreover, Van den Hooff and Van Weenen, (2004) as cited by Lin, (2007), state that knowledge sharing processes occurs when employees mutually exchange knowledge and create the new knowledge together. In addition, Van den Hoof, asserts that knowledge sharing process embraces two dimensions namely knowledge donating and knowledge collecting. Knowledge donating can be described as a process of individuals communicating their personal intellectual capital to others, while knowledge collecting is a process where the individuals consult and encourage their colleagues to share the intellectual capital (Lin, 2007).

In this study, knowledge sharing is clearly defined as an activity of individual sharing work-related knowledge, skills and abilities with another within the organization. This act gives ultimates benefits to the employees and organization. In

other words, knowledge sharing is a process of trasmitting and exchanging useful information between people. Consequently, individuals gain new knowledge which leads them to produce new ideas and promote knowledge creation.

In an entrepreneurial sector particularly startups, knowledge sharing from one person to another plays a significant role in producing new and innovative products, processes and services. To be competitive in the market, sharing information and knowledge among entrepreneurial members should be practiced. This is because, if they hide and refuse to share their knowledge then it will be difficult to generate novel ideas which in turns will impede their creativity and innovativeness.

2.8   Theoritical Underpinning

2.8.1 Componential Theory of Organisational Creativity and Innovation

The Componential Theory of Organisational Creativity and Innovation as the lens for measuring organizational creative climate that affect the innovative work behavior of Startups employees. Historically, the componential theory of creativity was initiated by Teresa Amabile in 1983 as "the componential model of creativity". There are three major components consisting of domain relevant skills, creativity-relevant skills, and intrinsic task motivation are necessary for creative response. Besides that, another one outside component called the social environment can serve as stimulate and inhibit individuals' creativity. In 1988, Amabile proposes "the componential model of creativity and innovation" in an organization. This model consists of three broad organisational factors as follows:

(1)   Organisational motivation to innovate: a basic orientation of the organization toward innovation as well as supports for creativity and innovation throughout the organization.

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(2)   Resources: everything that the organization has, and which is available to aid work in a domain targeted for innovation.

(3)   Management practices: allowance of freedom or autonomy in the conduct of work, provision of challenging, interesting work, specification of clear overall strategic goals and formation of teamwork.

Amabile, Conti, Coon, Lazenby, and Herron (1996) developed a conceptual model underlying the assessment of perceptions regarding work environment for creativity specifying KEYS. The development of KEYS is more comprehensive of componential theory. Moreover, KEYS is most reliable and appropriate to to be tested in organisational setting.   The main purpose of designing KEYS is to serve as a mechanism to assess the degree to which an organization's work environment stimulates individuals' creative work. This model includes KEYS scale, which are "stimulant scales", and "obstacle scales". The scales predicted to be positively related to creativity are referred to as stimulant scales, while those predicted to be negatively related are referred to as obstacle scales. The work environment stimulant scales on KEYS consisting of six categories, namely: encouragement of creativity, autonomy or freedom, resources, pressures and organizational impediments to creativity. The scales from each category predicted relationship between each scale and assessed creativity.
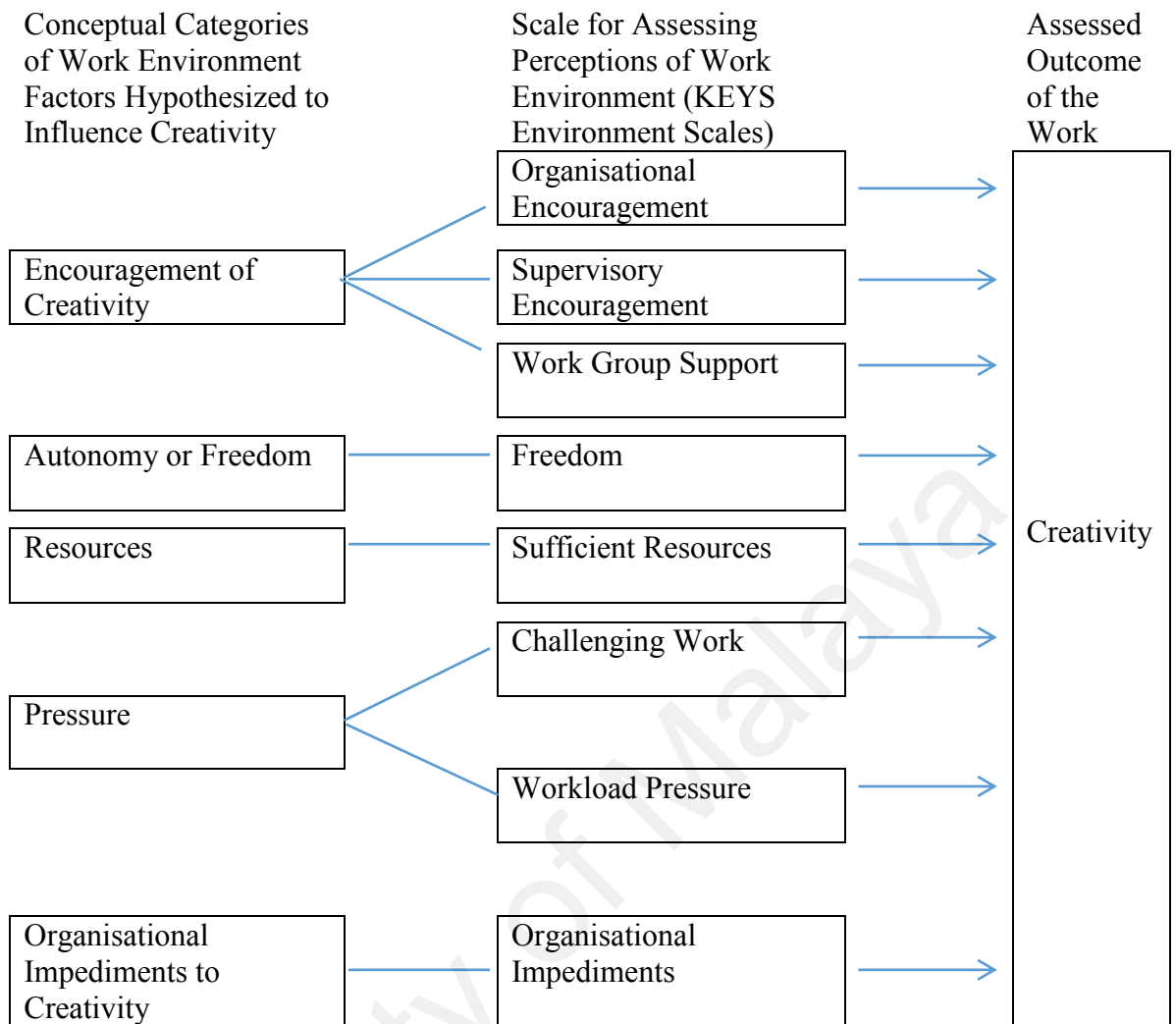
Figure 2.3: Conceptual Model Underlying Assessment of the Work Environment for Creativity.

2.8.2 Social Capital Theory

Social Capital is defined as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an invidual or social unit" (Nahapiet & Ghoshal, 1998). The Social Capital Theory emphasises on the cooperative behaviour among organisational members in a social relation that provide mutual benefits (Razzaq et al., 2017; Ting et al., 2016).

According to Nahapiet adn Ghoshal (1998) classified social capital into three highly interrelated dimensions namely: structural, relational, and cognitive. The structural dimension is social network configuration and social ties between individuals. The relational dimension refers to relationship in the network. This dimension concerns interpersonal trust, norms, obligations and expections, and identification with other individuals. Meanwhile, the cognitive dimension or communication dimension provides shared presentation, information exchange, and conflict management.

For the purpose of this study which to investigate organizational creative climate and knowledge sharing, the structural is employed as it can determine how employees continually interact and access to people within organisation. Besides that, cognitive dimension supports the notion of conflict, debate, freedom in facilitating a shared understanding of the organisation. This study also considers relational dimension as trust/openness and humour/playfulness can facilitate actions related to knowledge sharing and innovative work behaviour in organisation. Therefore, the three dimensions of social captial theory is important to be operationalise the organisational factors for testing.

2.9   Hypotheses Development

Several hypotheses were developed based on the proposed comprehensive conceptual research model and the literature review discussed earlier. These hypotheses focus on the influence of organisational creative climate on innovative work behaviour, organisational creative climate on knowledge sharing, and knowledge sharing innovative work behaviour. In addition, the mediating effect of knowledge sharing on the relationship between organisational creative climate and innovative work behaviour is proposed. The specific research hypotheses will answer the main four specific

research objectives for this study. The details of the specific research hypotheses are presented as follows:

2.9.1 The Relationship between Organisational Creative Climate and Innovative Work Behaviour

Creativity and innovative work behaviour at work seem to be promoted by a combination of both personal qualities and work environment in which the socialize (West & Richard, 1999). As employees spend a large portion of their lives at work, thus it is vital to have a good working environment. A harmonious environment will boost employees' performance whereby they will be more creative, independent and committed to the organization.

Thiruvenkadam and Kumar (2018) and Suliman (2001) state the organisational climate is the predictor that influences employees' readiness to be innovative. According to Moussa (2014) the level of employees' resistance towards changes in organizations is lower if more creative organisational climate is applied. A creative organisational climate is considered the most important factor to produce and implement any new ideas proposed by members in the organization. Therefore, organisation should create an environment that stimulates innovation.

Empirical support found that organisational climate has a pronounced impact on innovation such as in a global context (Hurmelinna-Laukkanen et al., 2016; Yeh-Yun Lin & Liu, 2012; Bjorkdahl & Borjesson, 2011; Isaksen & Ekvall, 2010; Ekvall & Ryhammar, 1999) as well as in Malaysia context (Nasurdin et. al., 2014; Ismail, 2005; Mohamed & Rickards, 1996).

A recent study by Thiruvenkadam and Kumar (2018) among 127 employees in Leather Research Institute located at Chennai, India. The aim is to understand the impact of the organisational climate on enhancing innovation in organisation. The findings highlight that there is innovative climate in the leather industry through R&D efforts. The Aslo, the results reveal that work characteristics and diversity are found to be the significant contributors to innovative climate. Futhermore, this study suggested that further facitlate innovative practices can nurture the climate to become highly innovative.

Another study by Wangombe, Yohannes, Gachunga, and Muchiri (2017) in Market and Social Research Firms (MSRFs) at Kenya, has examined the relationship between organisational climate and innovation. A probability sampling was used to carry out a survey on a sample of 520 employees in the marketing reseach firms. The results explained that training and workplace support had statistically insignificant effect on innovation, while transformational leadership had a positive significant influence to innovation.

In 2014, Nasurdin et al. conducted a survey to 163 manufacturing firms in six states of Peninsular Malaysia. The main objective of this study is to examine the effect of organisational creative climate on product innovation. The researchers adopted creative climate dimensions by Ekvall et al. (1983) as the dimensions of organisational creative climate. Ekvall's model consists of ten dimensions: challenge, freedom, idea support, trust/openness, dynamism/liveliness, playfulness/humour, debates, conflicts, risk taking, and idea time. The findings of the study show only challenge, debate and idea support have significant positive effects on product innovation.

Yeh-yun Lin and Liu (2012) conducted a cross-level analysis of organisational creativity climate and perceived innovation: mediating effect of work motivation. A total of 398 employees from three industrial sectors: high-tech, manufacturing, and service companies in Taiwan participated in the survey. This study adopted the KEYS by Amabile et al. (1996) in assesing the climate for creativity. There are eight dimensions of KEYS namely organisational encouragement, supervisory encouragement, work group support, freedom, sufficient resource, challenging work, organisational impedements, and workload pressure. The result reveals that organisational encouragement, supervisory encourgament, work group support, sufficient resource, and challenging work are positively related to perceived innovation. While freedom, organisational impediments and workload pressure do no have significant effects on perceived innovation.

A study conducted by Bjorkdahl & Borjesson (2011) investigated the prerequisites for innovation at firm level in terms of firms' organisational climate and capabilities for innovation, and how these firms could improve their innovation processes. 462 employees of nine forest-based Nordic manufacturing firms in Sweden partcipated in this study. This study applied mixed method that comprises of interview and questionnaire, in collecting the data. Creative climate was measured using Ekvall's model: 10 dimensions of creative climate (Ekvall et. al, 1996). The results show that forest-based firms are creative and have the potential to be innovative.

Previous studies have evidenced that organisational climate is a key factor for developing innovative work behaviour (Shanker et al., 2017; Ren & Zhang, 2015; Balkar, 2015; Shanker & Bhanugopan, 2014, Imran et al., 2010; Hunter et al., 2007; Montes, 2004; Solomon et al., 2004).

A recent study conducted by Awang et al. (2019) among 235 employees at Micro and Small-scale manufacturing enterprises located in selected cities of the East Coast Economic Region, Peninsular Malaysia reported that SMEs performance can be improved through the employees' innovative work behaviour and the employees' engagement in innovation. The finding of their study revealed a significant relationship between organisational learning and work environment (consisting of leadership inspiration, empowerment, reward and recognition, invention facilities and risk taking) in stimulating employees' innovative work behaviour. Moreover, the findings have indicated a moderate level of innovative work behaviour at the micro and small manufacturing enterprise. Therefore, it is necessary for organisation to emphasise on practising the heatlhy working environment that can foster innovative work behaviour within SMEs context.

Another study by Izzati (2018) attempted to focus on the six components of organisational climate namely: structure, standards, responsibility, recognition, support, and commitment towards employees innovative behaviour. Finding of the study indicated that 82 percent effect of innovative behaviour was influenced by organisational climate consisting of structure, standards, responsibility, recognition, support, and commitment. Overall, it shows that there is a significant relationship between organisational climate and innovative behaviour. This implies that the conducive organisational climate lead to higher employees innovative behaviour.

An empirical study by Liu, Chow, Zhang, and Huang (2017) has examined the relationship between organisational innovative climate and individual innovative behaviour in 157 enterprises across various industries in Guangdong province in China. A sample random used to collect a data from 804 employees. The result indicatated that

organisational innovative climate was significantly related to individual innovative behaviour. Moreover, the result also higlighted that psychological empowerment has a moderate the relationship between organisational innovative climate and individual innovative behaviour. Thus, it is implied that the organisational climate is more effective in encouraging individual innovative behaviour if the employee perceived high level of psychological empowerment.

Another similar research done by Shanker, Bhanugopan, Van der Heijden, and Farrell, (2017) conducted a survey among 202 managers working in Malaysian companies. The study attempted to demonstrate the mediating role of innovative work behaviour plays in the relationship between organisational climate for innovation and organisational performance. The finding of this study revealed that organisational climate for innovation is positively related to innovative work behaviour which leads to organisational performance. This study highlighted that employee's innovative behaviour as the strategic foundation in strengthening the relationship between organisational climate for innovation and organisational performance.

Ren and Zhang (2015) has investigated the possible relationships between job stressors and organisational innovation climate on employees' innovative behaviour among 282 employees of research and development (R&D) teams of various organizations in four cities of China. A total of 23 organisational innovation climate scales were grouped into seven dimensions such as team collaboration, superior supports, sufficient resources, organisational encouragement, and autonomous work. The results indicate that organisational innovation climate has positive effects on both idea generation and idea implementation. The findings also show that innovation climate is more strongly related to idea implementation than to idea generation (β =.47;

β =.26). Axtell et al. (2000) study's results were in line with Ren and Zhang's (2015) where organisational characteristics have a stronger influence on the implementation of ideas than on the generation of ideas. Nevertheless, the reseachers assert that the positive effect of climate on innovative behaviour becomes weaker when hindrance stressors are high.

Another study by Shanker and Bhanugopan in 2014 adopted Situational Outlook Questionnaire (SOQ) to measure the relationship between organisational climate for innovation and innovative work behaviour. Organisational climate factors was initiated by Ekvall (1983), but Isaksen and Lauer (2002) refined the Ekvall's model and identified nine dimensions of organisational climate for innovation namely freedom, challenge and involvement, idea time, idea support, playfulness, debate, conflict, trust and oppennes, and risk taking. A set of questionnaire was distributed to 202 managers working in Malaysian Government-Linked Companies (GLCs). Findings indicated a positive relationship (r=0.60; p<0.05) between organisational climate for innovation and innovative work behaviour. The findings of this study are aligned with the other study conducted in Malaysia (Kheng et al., 2013). Morever, this study denotes that climate for innovation has a positive and significant influence on idea generation, idea promotion and idea realization of innovative work behaviour. The researchers concluded that it is crucial for employees to have a safe environment in the organization, in which pro-innovation is also encouraged.

Dzulkifli et al. (2013) adopted Amabile et al.'s (1996) model which comprises of three sub dimensions (i.e. management practice, organisational motivation, and resources) of work environment to organisational climate in their study to examine the effect of organisational climate on innovative work behaviour in the Malaysian

Research and Development (R&D) setting. A total number of 150 scientists and assistant scientists within seven major agencies: forestry, verinary institute, coca, palm oil, agricultural R&D institute, nuclear and fishery participated in this study. Pearson correlation analysis results show that management practices (r=0.40, p<0.01) and organisational motivation (r=0.46, p<0.01) have positive significant relationship with innovation work behaviour. While, organization resources show no significant relationship with innovation work behaviour. However, Dzulkifli et al.'s (2013) findings contradicts the results of studies done by many scholars (Sanders etal., 2010; Binnewies et al., 2008; Amabile et al., 2004).

A study conducted by Imran et al. (2010) applied Competing Value Model to measure organisational climate as a predictor of innovative work behaviour. Quinn and Rohrbaugh (1983) proposed four quadrants of indicator for organisational effectiveness: (1) Human Relations Model, (2) Internal Process Model, (3) Open System Model, and (4) Rational Goal Model. The study was carried out on a purposively selected sample of 320 managers from Fast Moving Consumer Goods (FMCG) organizations in Pakistan. Unfortunately, this study only investigated the effects of two competing values model that are, open system model and rational goal model. The concept of organisational climate measured by OCM was developed by Patterson et al. (2005). The results of multiple regression analysis show that both open system model and rational goal model have a significant impact on innovative work behaviour. As supported by Solomon et al. (2004) that supportive organisational climate generally enhances the perceptions of support for innovation and innovative work behaviour. They suggested that the other two quadrants: human relations model and internal process model may be tested.

Lu et al. (2011) examined the effects of task and relationship conflicts on individual work behaviours among 166 pairs of supervisors and subordinates in China. The supervisors in each pair were asked to evaluate the subordinate's innovative, knowledge sharing, and organisational citizenship behaviours. While, the subordinates were asked to respond about conflict, support for innovation and reward system. The results show that task conflict is positively related to innovative behaviour and knowledge sharing behaviours, while relationship conflict is negatively related to knowledge sharing and organisational citizenship behaviour. The findings also indicate that support for innovation and reward system for relationship building functions as contextual factors to moderate the relationships between tasks and relationship conflicts, and the workplace behaviours (innovative behaviour, knowledge sharing, and organisational citizenship behaviour).

Furthermore, a review of previous literature indicates that important organisational creative climate dimensions such as autonomy (DeSpiegelaere et al., 2015, Bysted, 2013), job involvment (Tastan, 2013), trust (Bysted, 2013, Lee, 2008), joy (Slatten, 2011), conflict (Shih & Susanto, 2010), supportive work environment (Prieto & Perez-Santana, 2014), communication climate (Arif et al., 2012) have a positive association with innovation particularly innovative work behaviour. These dimensions of organisational climate prove that creative organisational climate is largely vital to innovation.

In fact, Hartel, Schmidt, and Keyes (2003) summarized that employees who are actively involved with the organization are more likely to "think outside the box" and produce ideas, rather than less committed employees, which tend to be more responsive to new ideas. In other words, committed employees with creative thinking skills will

have the ability to define problems, find and propose new ways of doing tasks in order to enhance the work and business processes.

Further, through an interview with R&D managers at biotechnology firms, Judge et al. (1997) found that giving employees autonomy encourages an innovative culture. Meanwhile, through another study done among the employees of a manufacturing plant, Axtell et al. (2000) found a positive relationship between participation and employees' innovative behaviour. In addition, the high level of job involvement is significantly correlated with innovative behaviour (Singh & Sarkar, 2012).

Besides, employees who are exposed to a high level of challenge will be more likely to spend time trying new things (Cokpekin & Knudsen, 2011). According to Ekvall et al. (1983), high challenge climate stimulates creativity and innovation among employees, which are likely to increase their innovative capability to develop new products (Nasurdin et al., 2014). Additionally, Li, Chen, and Cao (2017) who conducted a study among 383 research and development employees of 221 high techology firms in China found that the high level of employees' work engagement is positively related to creativity.

One qualitative study conducted among entrepreneurs and managers in Netherlands and Germany (Oude Luttikhuis, 2014) found that the word "freedom" seems to be the magic word to employees that leads them to being more committed, producing more creative elements and showing extra effort in performing tasks. Further, the findings of the study conclude a linkage between freedom and individual innovation process that includes: initiation (idea generation) and implementation (application behaviour).

Social interaction among colleagues in the organization is significantly connected to innovativeness particularly in enhancing employees' innovative behaviour (Hurmellina-Laukkanen et al., 2016). Friedman and Carmeli (2018) who conducted a study among 149 small entrepreneurial firms indicated that the socio-psychological conditions of connectivity enhance innovative behaviours in the team. The fiindings of the study also reveal that the relationship between strategic decision comprehensiveness and innovative behaviour of top management team is stronger when the members possess a high level of connectivity.

A study by Khan et al. (2015) among 88 incubator-based entrepreneurial teams in Austria found that cognitive trust is significantly related to entrepreneurial team's performance, while affective trust is not significantly related to entrepreneurial team's performance. Bysted (2013) added job autonomy and innovation trust positively affects IWB in financial sector. Job autonomy provides employees with freedom and empowerment to be innovative, while innovation trust is to support inner environment for innovation (Bysted, 2013).

Referring to a study conducted at the hotels in Shenzhen, China found that harmonization which describes as the level of trust between two parties who are able to resolve conflict positively influence employee innovative behaviour (Li & Hsu, 2016). Previous studies stressed out that voice behaviour play a significant role in enhancing individual creativity and transforming into innovation (Chen & Hou, 2016; Walumbwa et al., 2012). Voice behaviour refers to discretionary communication of ideas, suggestions, concerns or opinions about work-related issues with the intent to improve organisational or unit functioning (Walumbwa et al., 2012). Chen and Hou (2016) conducted employee survey to 291 government officers of R&D institutions in Taiwan.

The results reveal that voice behaviour has a direct impact on individual's creativity. The findings also show voice behaviour mediates the relationship between ethical leadership and individual creativity.

A study conducted by Moultrie and Young (2009) on the creative environment in ten firms within creative industries found that time to innovate is considered more important than to train and access to fund. The sufficient amount of time encourages people to produce more novel ideas and suggestions.

Previous emperical researches summarized that humour expression has a correlation with creative behaviour as well as innovativeness (Hurmelinna-Laukkanen, et al., 2016; Lang & Lee, 2010). For instance, Hurmelinna-Laukkanen, et al. (2016) recapitulated through their study that different types of human (affiliate humour and coping humour) are positively related to innovative work behaviour, while aggressive humour has negative association. Meanwhile, Lang and Lee (2010) indicated liberating humour as a humour that facilitate in looking things in a new light and it is significantly related to creativity. As supported by Amjed and Tirmzi (2016), affiliative humour and self enhancing humour are positively related to employees' creativity.

Isaksen et al. (1998) added that an easy-going and light-hearted atmosphere would create a fun workplace. Further, Slatten et al. (2011) believed that the humourous work climate is able to spur individual's creativity and innovation as in such situation, people feel relaxed, have the ability to think, which in turns, leading to greater idea generation for development and improvement (Nasurdin et al., 2014).

Recent studies have proven that conflicts may have many beneficial features such as improving communication and having healthy relationships, which give positive effect on organisational behaviour (Reade & Lee, 2016) as well as enhance innovative activity (Khan et al., 2015). When there is disagreement of ideas and opinions, people in the organization tend to identify innovative solution which stimulates them to exhibit innovative work behaviour (Imran et al., 2014). Indeed, constructive conflict can generate better solutions and decision due to various information and justification of arguments (Lu et al., 2011)

Both conflict and employee innovative behaviour have been identified as fundamental aspects of business success (Reade & Lee, 2016). Giebels, Reuver, Rispens, and Ufkes (2016) classified conflict into task conflict and relationship conflict. They defined task conflict as disagreement about the content and outcome of the tasks, while relationship conflict as interpersonal tensions and personality clashes. Furthermore, they claimed that task conflict could improve performance rather than relationship conflict which could hinder for performance.

For instance, Imran et al. (2014) conducted a study among 320 employees from telecom sector in Pakistan. The result indicates that task conflict has a positive relationship with innovative work behaviour. Another study done by Lu et al. (2011) also found the significant relationship between task conflict and innovative behaviour. The constructive arguments do not only promote sharing information and knowledge but also stimulate creative and innovative behaviour in justifying an individual's views. Another research conducted at Startups in Austria indicates that task conflict has a negatively significant relationship with entrepreneurial team's performance (Khan et al., 2015).

According to Lu et al. (2011), task conflict does not only stimulate employees to be innovative, but is also able to encourage them to share knowledge as this practices is pivotal in the business development. It can be concluded that the conflict drives individual creativity, by which in turns, people tend to become more creative and innovative under pressure and conflict. In addition, a recent study conducted among 166 staff of a large municipality in Netherhlands indicates that task conflict is significantly related to innovative behaviour, but relationship conflict shows an insignificant result. As highlighted by previous researchers where "creativity requires conflict" (Coleman and Deutsch, 2000 as cited by Lu et al. 2011), it is proven that conflict serves as the driving force for the employees to be innovative (Imran et al., 2014).

The concepts of idea support should be led by a leader because the support towards innovative thinking will helps employees to be innovative (Oude Luttikhuis, 2014) and demonstrate innovative work behaviour (Scott & Bruce, 1994). As suggested by interviewees on a qualitative study done by De Jong and Den Hartog (2007), the supportive work climate enhanced by leaders is one of the possible antecedents of employees' idea generation and application behaviour. It is proven that leaders' support indirectly drives individual innovation through work environmental setting. Further, Moussa (2014) asserted that trusting employees by giving them more flexibility in making innovation and improving working methods will be beneficial to the organization. Morever, the opportunities of team members to express their own points of view and ideas openly and being recognized in decision making processes foster innovation.

In an atmosphere of debate, people are excited to bring forward their ideas beccause every idea and suggestion is heard. Under such circumstance, this climate encourages people to challenge and exchange ideas verbally, and it ultimately leads to creativity and innovation (Nasurdin et al., 2014). For instance, Seyr and Vollmer (2014) conducted a survey among 413 individuals on debate and decision comprehensiveness as pre-conditions for team innovation. The result shows a strong relationship between debate and innovation with the r-value 0.62. In addition, they also reported the sequential effect where debate leads to decision comprehensiveness which in turn, affects innovation.

The creative and innovative behaviour is strongly related with risk because it involves an activity with unknown outcomes as well as the reaction of top management regarding the proposed ideas. A study conducted at 173 small and young companies in United States found risk-taking climate does not only play an important role in leading to high levels of innovative behaviour, but also has an indirect relationship with organisational innovative climate and innovative behaviour whereby passion becomes stronger as risk-taking climate increases (Kang et al., 2016). Further, risk-taking characteristics are classified as one of the five crucial dimensions of entrepreneurial supply chain management compentence of small and medium-sized entreprises which in turn may indirectly affect the performance (Hsu, Tan, Laosirihongthong, & Leong, 2011).

Considering the above-mentioned research, it is likely that organisational creative climate has a significant relationship with innovative work behaviour. Table 2.8 presents the empirical studies on the relationship between organisational climate and innovative work behaviour.

Table 2.8: Empirical Studies on the Relationship between Organisational Climate and

Innovative Work Behaviour.

Author, Year	Methodology	Finding
Awang et al. (2019)	Malaysia – 235 employees of SMEs manufacturing industries in East Coast Economic Region	• Work environment (leadership inspiration, empowerment, reward & recognition, invention facilities and risk taking) significantly related to IWB
Baruwo (2018)	Review paper	• Organisational climate and workplace happiness play a direct role in affecting IB
Izzati (2018)	Indonesia – 70 teachers from two vocational secondary schools in Surabaya	• Overall organisational climate (standards, structure, responsibility, recognition, support, commitment) has a positive correlation with IWB
Liu et al. (2017)	China – 804 employees in enterprises across various industry	• Organisational innovative climate was significantly related to IWB
Shanker et al. (2017)	Malaysia - 202 managers working in Malaysian companies	• Organazational climate for innovation has positive relationship with IWB • IWB mediates the relationship between organisational climate for innovation and organization performance
Yeoh & Mahmood (2016)	Malaysia – 310 knowledge workers in MSC companies	• Pro-innovation organisational climate has a significant positive relationship with IWB
Balkar (2015)	Turkey – 398 primary and secondary school teachers	• OC (Support & pressure) had effects on the IB of teachers. • OC (cohesion & fairness) and IB were not significant with IB
Ren & Zhang (2015)	China – 282 of R&The employees of various organization	• Organisational innovation climate showed significant positive correlations with idea generation (r=.13, p=.033) and idea implementation (r = .22, p < .001)
Moussa (2014)	Tunisia – 52 companies: Food, Mechanical & metallurgical and Electrical & Electronics	• Creative climate is significantly related to innovation capability
Shanker & Bhonugopan (2014)	Malaysia – 202 managers working in GLCs	• Positive relationship between organisational climate for innovation and for IWB

Table 2.8 continued

Author, Year	Methodology	Finding
Bysted (2013)	Denmark – 294 employees in Danish financial company	• Job autonomy has a positive effect on IWB • Innovation trust has a positive effect on IWB
Dzulkifli et. al (2013)	Malaysia – 125 R&D scientists of public agricultural agencies & technology indicators	• Positive and significant relationship between organisational climate and IWB
Moghimi, & Subramaniam (2013)	Malaysia – 61 Malaysians SMEs in Kuala Lumpur	• Positive relationship between organisational climate and employees' creative behaviour • Three OC components (resources, mission clarity, leaders support) significantly influenced employees' creative behaviour
Prieto & Perez-Santana (2014)	Spain – 198 employees of F&B, manufacturing, chemistry, metallurgy, automotive, services & others	• Positive and significant relationship between management support ($\beta = 0.16$, $p<0.01$) and coworkers support ($\beta=0.58$, $p<0.001$) and IWB
Tastan (2013)	Turkey – 404 employees of 40 SMEs	• Participative organisational climate (socio-political support, participative work environment, access to resources, access to information) positively related with employees' innovative behaviour
Arif et. al (2012)	Isalamabad & Rawalpindi – 150 employees of advertisement agencies	• Supportive communication climate has significant positive correlation with IWB ($r=.64$, $p<.01$) • Defensive communication climate has significant negative correlation with IWB ($r=-.33$, $p<0.5$)
Sagnak (2012)	Turkey – 710 teachers and 55 principals from 55 elementary schools	• Innovative climate was significantly related to innovative behaviour • Innovative climate partially mediated the relationship between leadership empowerment and innovative behaviour

Table 2.8 continued

Author, Year	Methodology	Finding
Slatten (2011)	Norway – 279 frontline employees in the hospitality industry	• Employees' feeling of joy was directly related to employees' IB • Employees' feeling of joy mediate the relationship between managerial relationship quality and work role benefit and employees' IB
Imran et. al (2010)	Pakistan – 320 managers from Fast Moving Consumer Goods (FMCG) organizations	• IWB has significant positive correlation with open system model ($r = 0.63$, $p < 0.01$) and rational goal model ($r = 0.67$, $p < 0.01$)

H1:   There is significant relationship between organisational creative climate and innovative work behaviour

2.9.2 The Relationship between Organisational Creative Climate and Knowledge Sharing

There is an extensive literature on the determinants that influence knowledge sharing behaviour such as individual factors (Balozi, 2017; Phung et al., 2017), organisational factors (Thiruvenkadam & Kumar, 2018; Matić, Cabrilo, Grubić-Nešić, & Milić, 2017; Villamizar Reyes & Castaneda Zapata, 2014; Erfan, Ali Siadat, & Erfan, 2014) and technological conditions (Rahman, 2011). Besides that, it has been established that organisational climate plays an essential role in shaping employees' outcomes and influencing their perception of knowledge management (Rodriguez, Garcia, Morais, Muniz & Munyon, 2016; Chen & Huang, 2007; Chen & Lin, 2004; Sveiby & Simons, 2002), including knowledge sharing (Han, 2018; Razzaq, Rehman, Dost & Akram, 2017; Jain, Sandhu & Goh, 2015; Chen et al., 2012; Mooghali, 2012).

An analytical study on knowledge management literature reveals that more than 40 per cent of the scholars categorized "organization" as critical success factor, while the remaining 50 per cent were driven by human and technological factors that affect knowledge sharing (Razmerita et al., 2016).

The effectiveness of knowledge sharing requires a conducive and suitable environment (Ngah & Ibrahim, 2011). As highlighted by Koenig (1998), internal supports such as trust, culture, resources, processes, technology and metric are the factors for determining the circulation of knowledge in an organization. Thus, the environment surrounding organisational members is important to enhance knowledge sharing activities.

A recent study conducted by Al-Kurdi, El-Haddadeh, and Eldabi (2020) among 257 academicians in Higher Education Institutions. The aim of their study is to find the impact of organisational climate role in managing knowledge sharing. The finding indicated that organisational climate has a strong influence on academics' knowledge sharing practices. Similarly, Batool (2019) conducted a study to explore the impact of organisational climate consisting of role clarity, innovation, commitment, and morale on knowledge sharing. A total of 201 academicians of public and private colleges in Islamabad, Pakistan were participated in the study. The results confirm that organisational climate has significant association on employees' knowledge sharing.

A study by Han (2018) that investigated the influence of organisational climate dimensions on IT companies' knowledge sharing practices was conducted among 223 R&D enginees located in Korea. Han (2018) has reported the impact of organisational climate (including support and identity) is positively associated to knowledge sharing.

This implies that the sense of belonging to the organization and the organisational support have a greater impact to the level and quality of employees' knowledge sharing. Further, the organisational climate (reward) has negative relationship with knowledge sharing. This confirmed that that monetary incentives do not influence employees to engage in knowledge sharing. The finding also revealed that organisational climate structure (consisting of responsibility, risk, warmth, standards, conflict) have no association with knowledge sharing. Therefore, it is suggested that organisation to recognise the healty organisational climate in designing strategies that lead to achieving the high knowledge sharing intention.

Razzaq, Rehman, Dost, and Akram (2017) have surveyed four hospitals operating in Punjab, Pakistan. A convenient sampling technique is used to obtained data from 450 health care professionals. The results explained that organisational climate has a significant and positive influence on knowledge collecting and knowledge donating. Further analysis revealed that trust moderate the relationship between organisational climate and knowledge donating. This implies that employees who are strongly affiliate with each other, they are more likely to share their knowledge in performing tasks.

Another study by Jain, Sandhu, and Goh (2015) conducted a survey on a sample of 25 multinational companies in Malaysia to examine the influence of organisational climate towards knowledge sharing. The findings indicated that organisational climate (affiliation dimension) has positive relationship with knowledge collecting and knowledge donating. Meanwhile, the organisational climate (fairness dimension) has no significant relationship with knowledge collecting and knowledge donating. This study highlighted that a strong sense of togertherness between one another in the organization leads employees to share their knowledge. Thus, it is necessary to

emphasize on the high sense of affiliation within members in organization as it will develop strong relationship and increase social interaction which in turn will stimulate knowledge sharing.

Extant of literature indicates that most of the reseach attempted to investigate the relationship between organisational climate dimensions and knowledge management including knowledge sharing. For instance, a number of studies have revealed that there is a positive relationship between job satisfaction and knowledge sharing (Kuo et al., 2014; Teh & Sun, 2012), trust and knowledge sharing (Wang et al., 2014; Ding et al., 2013), involvement and knowledge sharing (Teh & Sun, 2012), and disagreement and knowledge sharing (Van Woerkom & Sanders, 2010; Barki & Hartwick, 2004).

A study by Ngah and Ibrahim (2011) mentioned that sharing of knowledge involves the willingness and trust of individuals which can ensure the effectiveness of knowledge sharing. For instance, Akhavan et al. (2015) found a significant relationship between trust and employees' attitudes in knowledge sharing. According to Du et al. (2003), trust and conflicts are inherent issues of any organisational arrangement, and central for knowledge sharing. From the other perspective, trust is viewed as a barrier to knowledge sharing in SMEs (Staplehurst & Ragsdell, 2010).

A quantitative study on determining the the success factor of knowledge management was conducted and the result proved that employee involvement has a positive influence of knowledge management strategies (Yip, Ng, & Lau, 2012). The finding also indicated that the lack of emmployee participation in knowledge sharing activitives lead to the failure of knowledge management. Further, another study reveals that employee engagement practices were significantly influential on knowledge sharing

activities among employees (Gantasala, Bhargavi, & Naikgari, 2009). In general, the active participation of employees can be a value added of an organization particulaly startups by providing an opportunity for them to be involved in designing and evaluating their jobs.

Employees who perceive a higher degree of trust and communicate openly among each other within the organization, they will be more likely to build up a mutual understanding that allow them to exchange and absorb other's knowledge effectively. For instance, Susanty, Handayani and Henrawan (2012) highlighted that the high level of trust towards the knolwedge receivers will encourage people to share knowledge as well as open up more channels of communication.

Another study by Chen and Huang (2007) indicated that the higher level of trust (mediator) influences the organisational climate and knowledge management. Besides that, Ding et al. (2013) investigated the mediation role of trust in knowledge sharing. A total of 211 questionnaires were distributed to architects in China. The results show that two personal construct-based factors (i.e social interaction and attitude on work) significantly influence knower's willingness to share knowledge via the mediator of trust.

In the early stage of business venture, the value of trust among entrepreneurial members is highly important because at this phase entrepreneur are dealing with novelty, ambiguity and uncertainty of business operation (Khan et al., 2015). A recent study done by Razmerita et al. (2016) found that trust issue among colleagues might hinder participation in knowledge sharing. This happens because of fear that others will misuse the knowledge given, fear of losing power and authority as well as

replacement of position (Sajeva, 2007; Razmerita, 2016). Similarly, Vuori and Okkonen (2012) found that the issues of being afraid of criticism, losing power, ownership of knowledge are among the barriers that impede knowledge sharing. In addition, the result of the study reveals that, those barriers influence employees less, as compared to time consuming and more effort needed in sharing knowledge.

In term of openness, people who have a wider capacity to communicate freely, the transferability of information and knowledge may be easily employed, thus in turn, individuals may acquire, share and utilize the required knowledge (Chen & Huang, 2007).

In 2011, Lu's et al. studied on task and relationship conflicts, and workplace behaviour that includes: innovative behaviour, knowledge sharing and organisational citizenship behaviour. A study conducted in China found that task conflict is positively related to innovative behaviour and knowledge sharing behaviour, while relationship conflict is negatively related to knowledge sharing and organisational citizenship behaviour. The results also indicated that the disagreement with task conflict will stimulate the individual to share their knowledge and skills in order to convince their ideas. Lu et al. (2011) suggested that task conflict can spur employees to be innovative and share their knowledge with others, which is pivotal to the organizaion.

Generally, if the ideal time is given sufficiently, the process of sharing information and resources among organisational members would be more favourable and then the levels of knowledge sharing would be enhanced. Razmerita et al. (2016) drew an attention to distinctive categories of lack of time observed as a barrier to knowledge sharing. In their major study, Razmerita et al. (2016) identified that the time

required, or lack of time may affect knowledge sharing process. In addition, lack of time given will cause demotivation among employees (Sajeva, 2007).

Practicing humour or playfulness in the workplace including startups can stimulate individuals to share as much as possible knowledge they have. Altruism is a form of kindness that is performed without expecting anything in return, where individuals are willing to share knowledge because they enjoy helping others (Hung et al, 2011). Moreover, when the individuals gain enjoyment from helping others, they may be passionate about knowledge sharing (Lin, 2007). However, Hung et al. (2011) conducted an experimental study among 140 university students in Taiwan and found that altruistic is not significant, and does not aid knowledge sharing.

Knowledge sharing requires collaboration between sender and receiver of knowledge. Hence, the support from people in the surrounding such as supervisors and peers may encourage knowledge sharing activities through the contribution of new creative ideas at workplace (Hung et al., 2011). There is evidence showing that people are inclined to share their knowledge when they receive a constructive feedback and support from the people within the organization. For instance, Razmerita et al. (2016) analyzed the data from 114 employees regardless of their roles and positions in Danish companies and concluded that managerial support is a significant driver towards knowledge sharing within the organization. Another study done by Cabrera et al. (2006) found a consistent link between perception of support from colleagues and supervisors and employees' engagement in knowledge sharing at multinational companies.

Nevertheless, Sajeva (2007) explained that management-related issues such as lack of support and involvement from top management and management skepticism towards employees' capabilities may stand as critical barriers to knowledge sharing. Appropriate feedback allows people to understand that knowledge sharing is beneficial to others, which, in turn, would lead to ideas and information sharing with the people in the organization (Hung et al, 2011). Thus, dialogues and effective communication among colleagues are seen as seen as the ways to overcome the barriers to knowledge sharing (Brink, 2001; Sajeva 2007).

Considering the above-mentioned research, it is likely that organisational climate plays an important role in knowledge sharing. Further, organisational climate is regarded as a vital determinant of the intention to share knowledge (Akhavan et al., 2015; Chen et al., 2012; Bock et al., 2005). Although previous researchers have attempted to identify the determinants of knowledge sharing, scant attention has focused on the influence of creative climate on knowledge sharing (Wang & Noe, 2010). Table 2.9 shows the studies on the relationship between organisational climate and knowledge sharing.

Table 2.9: Empirical Studies on the Relationship between Organisational Climate and Knowledge Sharing.

Author, Year	Methodology	Findings
Al-Kurdi, El-Haddadeh, & Eldabi (2020)	United Kingdom - 257 academic staff at higher academic institutions in UK and different universities in the Gulf Cooperation Council	• Organisational climate, trust and leadership have a positive and significant relationship with the intention to share knowledge • Organisational climate has the strongest impact on academics' subjective norm
Batool (2019)	Pakistan - 201 teachers of public and private colleges in Islamabad	• Organisational climate (role clarity, innovation, commitment & morale) significantly related with employees' KS

Table 2.9 continued

Author, Year	Methodology	Findings
Curado & Vieira (2019)	Portugal – 582 top exporting Portuguese SMEs	• Organisational climate (trust) positively and significantly influences KS
Han (2018)	Korea - 223 R&D engineers at Korean ITcompanies	• Organisational climate (including support and identity) is positively associated to knowledge sharing • Organisational climate (reward) has negative relationship with knowledge sharing • Organisational climate structure (consisting of responsibility, risk, warmth, standards, conflict) have no association with knowledge sharing
Balozi (2017)	Tanzania - 439 Healthcare professionals from five Tanzanian public hospitals	• Perceived organisational climate is significantly and positively related to knowledge sharing behaviour • Subjective norms have moderate the relationship between perceived organisational climate and knowledge sharing behaviour
Matić et al. (2017)	Serbia - 873 employees from public and private sector organizations from Serbia's province of Vojvodina	• Organisational climate (fairness, innovativeness and affiliation, empowering leadership, sense of self-worth, and altruism) significantlyinfluence individuals' knowledge sharing attitude, intention, and behaviour
Razzaq et al. (2017)	Pakistan – 450 health care professionals in Punjab	• Organisational climate has significantly and positively related to knowledge sharing (knowledge collecting and knowledge donating)
Lashari et al. (2016)	Pakistan – 210 employees from banking sector	• Organisational climate highly effect on knowledge management • Innovative climate has positive impact on KS • Coorporative climate has positive impact on KS

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Table 2.9 continued

Author, Year	Methodology	Findings
Rodriguez et al. (2016)	Brazil – 44 blue collar workers in an auto part plant inserted in a Truck Factory	• Organisational climate significantly correlated with knowledge management • The positive social interaction among members within organization can preserve knowledge sharing even when there are weaknesses in the organisational climate
Jain, Sandhu, & Goh (2015)	Malaysia – 231 senior and minddle manager from 25 MNCs	• Organisational climate dimension (affiliation) is positively related to both KD and KC • Organisational climate dimension (fairness) is not positively related to both KD and KC
Khodabakhshi & Ebrahimmi (2015)	Iran - 130 staff at Gilan Province Court	• Team climate has positive and significant relationship with KS
Erfan, Ali Siadat, & Erfan (2014)	Iran - 60 employees working at Isfahan medical science university	• There is a positive and significant relationship between organisational climate and knowledge sharing behaviour • There is a positive relationship between the variables of structure, award, risk-taking, friendship, support, standard, contact and identity of organisational climate and employees' knowledge sharing behaviour • There is no significant relation between responsibility and employees' knowledge sharing behaviour
Villamizar Reyes & Castaneda Zapata (2014)	Colombia – 100 employees from private and public organization	• Organisational climate showed significant positive correlations with KS
Wang et. al (2014)	Taiwan – 340 employees from the top 100 technology firms	• Trust is positively related to KS ($\beta=0.18$, $p<0.05$) • Trust mediates the relationship between institutional norms and KS
Wu (2013)	Taiwan – 348 employees of 22 well-known restaurants	• Leisure participation has no significant mediating effect on the relationship between working overtime and knowledge sharing

Table 2.9 continued

Author, Year	Methodology	Findings
Boh & Wong (2013)	Asia - 1036 employees from five subsidiaries of an Alpha Inc. organization	• Warm and cooperative climate has a positive influence on individuals' perceptions of all knowledge sharing mechanisms (informal personalization, formal codification KSMs, and formal personalization)
Teh & Sun (2012)	Malaysia – 116 Information Systems personnel	• Job involvement is positively related to KS (β = 0.711, p<0.001) • Job satisfaction is positively related to KS (β = 0.297, p<0.01) • Organisational commitment is negatively related to KS (β =-0.370, p<0.05) • OCB is positively related to KS (β = 0.403, p<0.001)
Chen et. al (2012)	Taiwan – 134 employees from electrical manufacturing firms	• Organisational climate positively influenced employees' attitudes towards KS (path coefficient = 0.215, p < 0.001) • Organisational climate positively influenced the intention to engage in KS (path coefficient = 0.211, p < 0.001)
Mooghali (2012)	Iran – 214 employees from Fars Regional Power Distribution Company (FRPDC)	• There is a significant relationship between dimensions of collaborative work climate (work group support, immediate supervisor support, business unit culture and employee attitude) and knowledge sharing intention
Tsai & Cheng (2010)	Taiwan - 225 programmers and software workers	• Organisational climate affects the intentions to share knowledge • Management incentive is positively encouraging knowledge sharing behaviour
Li, Zhu, & Luo (2010)	China - 142 developers of IT companies	• Three organisational climate factors (friendly relation, innovation and fairness) are significantly contributed to employees' knowledge sharing behaviour

H2: *There is significant relationship between organisational creative climate and*

knowledge sharing.

2.9.3 The Relationship between Knowledge Sharing and Innovative Work Behaviour

Knowledge is a key component for creativity (Amabile, 1996). The ability to manage knowledge and develop human capital is has given birth to new challenges in an organization in achieving a competitive advantage. Naturally, the knowledge possessed by individuals should be transferred to others for the high value purposes.

Knowledge sharing is seen important in enhancing innovative organizations. The sharing and exchange of knowledge among organisational's members is the essential phenomenon for the creation process of knowledge that directly contribute to innovation. Accordingly, knowledge sharing and skill transformation are important for the development of innovation systems and have greater implication on management outcomes such as productivity, organisational learning and innovativeness. Indeed, knowledge-based activities are considered to have a greater implication on innovation (Qammach, 2016; Rasiah and Yap, 2015). Besides knowledge, personal innovation is also affected by cognitive ability, character, inner motives, and social network (Kuo, Kuo & Ho, 2014).

Several studies have shown that knowledge sharing is significantly associated with a number of important outcomes at the individual or organisational level, such as performance (Tyagi & Dhar, 2016; Ting et al., 2016; Hsu, 2008; Du, Ai, & Ren, 2007) as well as can increase innovativeness in the firm (Yang, Nguyen & Le, 2018; Hassan et al., 2018; Tsai, 2001).

Additionally, according to Wang and Noe (2010), knowledge sharing can help individuals create and innovate new ideas and knowledge. This is proven by Howell

and Boies (2004), who found that strategic and relational knowledge is positively related to idea promotion. Knowledge sharing is clearly present when individuals are willing to help each other create new ideas and develop new capabilities. This condition forsters innovative behaviours among employees. This is supported by Liu and Phillips (2011) who found that knowledge sharing promotes the recipient's innovativeness.

A study done at Palliative Care Organizations in Italy found that employees who share their knowledge are more likely to engage in IWBs particularly in creating, promoting and implementing innovations (Radaelli et al., 2014). An established result in the past research manifests that sharing best practices is likely to promote the creation and implementation of new ideas in knowledge recipients (Mura et al., 2013).

Knowledge sharing can also be viewed as an organisational innovation that has the potential to generate new ideas and develop new business opportunities through socialization and learning process of knowledgeable workers (Ngah & Ibrahim, 2011). The effectiveness of knowledge sharing among entrepreneurial team or members in the organization is likely to ensure innovativeness (Chen et al., 2010). Many SMEs may therefore see knowledge sharing as a low cost solution that could "increase innovation and customer satisfaction, while improving the retention of expertise and strengthening a sense of community" (Love et *al.* 2005, p.16). When knowledge is shared and exchanged among the members, it can stimulate their thinking process which in turn, produce more novel and creative ideas. Thus, knowledge sharing has been recognized as a valid concept in the field of entrepreneurship because it is an efficient tool for supporting an entrepreneurial action.

Although current research has enhanced the understanding of knowledge sharing in promoting creativity and innovation, very few studies have examined on how they actively affect human capital aspect particularly employees' innovative behaviour. For example, Hsu (2008) posited that integration between knowledge sharing practices and human capital, which in turn will enhance organisational performance. Observably, empirical studies on how knowledge sharing affects employee creativity and innovation in the workplace are limited.

Indeed, numerious studies solely focused on the relationship between knowledge sharing determinants and behaviours (Akhavan et al., 2015; Mura et al., 2013; Amayah, 2013; Sanjaghi et al., 2013; Chen & Hung, 2010; Bock et al., 2005). In line with previous findings, this study seeks to determine the importance of organisational creative climate towards knowledge sharing.

Recently, there has been an increasing interest in examining the relationships between knowledge sharing and innovative work behaviour (Hassan et al., 2018; Kang & Lee, 2017; Akhavan et al., 2015; Mura et al., 2013). For instance, a recent study by Nguyen, Nguyen, Do, and Nguyen (2019) conducted in Vietnam telecommunication enterprises, have explored the link of knolwedge sharing enablers, processes and innovative work behaviour. A total of 396 employees were participated in the study. The results indicated that knowledg donation and knowledge collection process have positive influence to improve employees' innovative work behaviour. This implied that when employees are willing to donate and collect knowledge, it will enable themselves to enhance innovative work behaviour. Therefore, it is important for organization to emphasize on the strategies in encourging knowledge sharing process that can foster innovative work behaviour of employees within organization.

Another similar study by Akram, et al. (2018) examined the relations of two different knowledge sharing dimensions namely knowledge collecting and knowledge donating on innovative work behaviour. The survey was carried on a sample of 200 employees from telecommunication sector in China. The results revealed that both knowledge donating and knowledge collecting have a positive and significant impact on the employees' innovative work behaviour. In-depth analysis clarified that knowledge collecting contributes more in facilatating innovative work behaviour rather than knowledge donating. This study highlighted that employees' participation in knowledge sharing activities leads to new idea generation, idea promotion and idea realization within the organization.

A study by Wah et al. (2018) that investigated the influence of tacit knowledge sharing in predicting innovative behaviour was conducted among 339 nurse and nurse supervisor employed in a Malaysian public teaching hospital. The results explained that tacit knowledge sharing has a positive direct effect on innovative behaviour. Specifically, the results suggest that if nurses engaged in tacit knowledge sharing and exchange activities, it can stimulate thier innovative behaviour in operating the hospitals' products and services.

Referring to a study conducted at the Besat hospital in Hamedan, Iran found that knowledge sharing consisting of knowledge availability and knowledge sharing willingness has significant relationship with innovative behaviour (Jaberi, 2016). The results also clarified that knowledge availability and knowledge sharing willingness variables have a significant role in predicting innovative behaviour. Therefore, it can be concluded that employees who are able to share a greater amount of knowledge and

willingly to participate in knowledge sharing activities are more likely to engage in innovative behaviour.

Radaelli et al. (2014) conducted a study to investigate how employees' knowledge sharing affects their own innovative work behaviours (IWBs) through knowledge reciprocation (Figure 2.1). In conducting this study, the authors employed the motivation-opportunity-ability (MOA) framework as antecedents of knowledge sharing. The questionnaires were distributed to 226 professionals at four palliative care organizations (PCOs) in Italy. Of all the returned questionnaires, 150 were considered usable, resulting in 66 percent response rate. Structural equation modelling – partial least squares (SEM-PLS) was employed to analyze the data. The results of the study indicate that knowledge sharing is positively related to innovative work behaviours. However, reciprocation does not affect innovative behaviour. Besides, all three MOA variables namely motivation, opportunity, and ability positively affect knowledge sharing. Finally, the relationship between opportunity which comprises of workload and climate and innovative behaviour is positive and statistically significant. Figure 2.4 illustrates the conceptual model of MOA Framework and Innovative Work Behaviour.

Figure 2.4: Conceptual model of MOA Framework and Innovative Work Behaviour
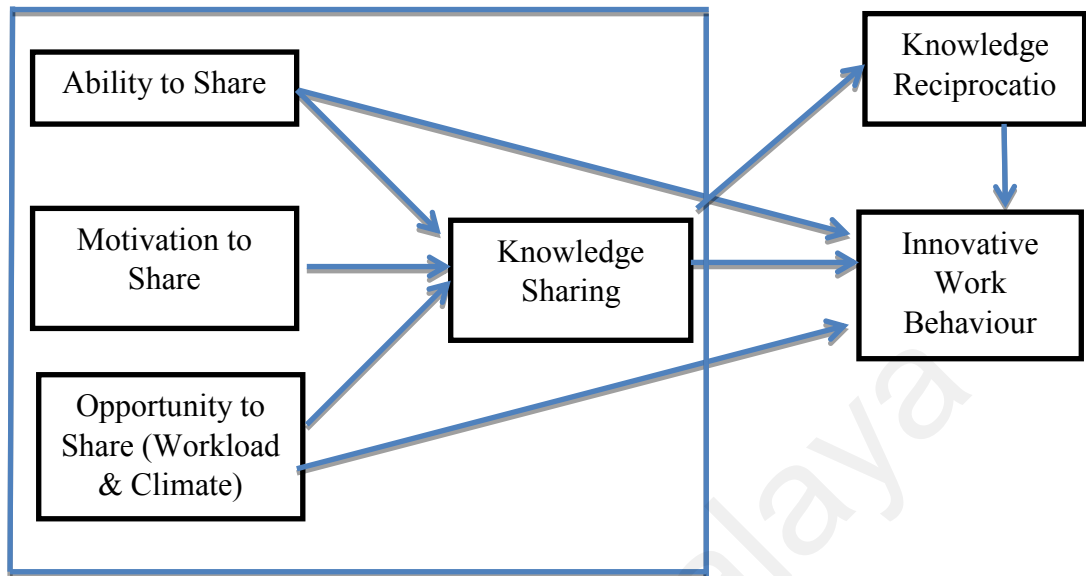
In another investigation, Kim and Lee (2013) conducted a study on hospitality employee knowledge-sharing behaviours in the relationship between goal orientations and service innovative behaviour. A total of 418 employees working in five star hotels in Busan, Korea participated in the study. The results indicate a positive relationship between knowledge collecting and knowledge donating, and employee service innovative behaviour. The findings also reveal that the relationship between knowledge collecting and employee service innovative behaviour is stronger than the relationship between knowledge donating and employee service innovative behaviour.

Individuals who practice innovative work behaviour should consistently manage their knowledge from the process of elaboration, recombination, translation until dissemination of tacit knowledge (Radaelli et al., 2014). Through this process, knowledge sharers can enhance their own capicity to innovate.

According to Popadiuk and Choo (2006), knowledge creation process which involves recombination of internal and external knowledge into new forms will take place in idea generation activity. During idea promotion activity, individual do not only transmit and translate the proposed ideas, but must also ensure that the ideas are understandable and acceptable for other individuals (Caniels, De Stobbeleir & De Clippeleer, 2014).

Meanwhile, the idea application is a process of coordinating and integrating different sets of knowledge among individuals to ensure the implementation of the idea (Radaelli et al., 2014). Table 2.10 shows the studies on the relationship between knowledge sharing and innovative work behaviour. Therefore, the previous studies discussed above leads to the formulation of Hypothesis 3 (H_3).

Table 2.10: Empirical Studies on the Relationship between Knowledge Sharing and Innovative Work Behaviour.

Author, Year	Methodology	Finding
Bos-Nehles & Veenendaal (2019)	Netherlands - 463 employees in four Dutch manufacturing companies	• Information sharing and supportive supervision are positively related to IWB • Compensation system is negatively related to IWB
Nguyen et al. (2019)	Vietnam – 396 employees at telecommunication enterprises	• KC and KD have positive impacts on employees' IWB
Akram et al. (2018)	China – 200 employees from telecommunication sector	• KC and KD are positively and significantly affect the IWB
Hassan et al. (2018)	Pakistan – 557 employees working in any organization	• KC and KD both having a significant effect on the employees' IWB

Table 2.10 continued

Author, Year	Methodology	Finding
Lee (2018)	Korea – 204 students at Korea Advanced Institute of Science and Technology (KAIST)	• An individual's perceived intensity of knowledge sharing has no association with individual creativity • An individual's perceived quality of knowledge sharing has positive association with individual creativity
Kim & Park (2017)	Korea – 400 employees in South Korean organizations	• Positive and direct effect of employee knowledge sharing on IWB
Kang & Lee (2017)	China – 138 R&D employees of a multinational electronics company	• Knowledge sharing's effect on IWB is indirect through realized absorptive capacity
Phung et al. (2017)	Vietnam – 248 acadmeic staff at Hanoi University	• Individual willingness to share knowledge enable the organization to promote IWB
Jaberi (2016)	Iran – 279 employees of Besat hospital	• KS has a positive and meaningful effect on IB • Knowledge availability and knowledge sharing willingness have a significant role in predicting IB
Akhavan et al. (2015)	Iran – 257 employees from 22 high tech companies	• KS behaviours are significantly associated with employees' IWB
Ologbo, Nor, & Okyere-Kwakye (2015)	Malaysia – 204 engineers of manufacturing firms	• There is strong and high significant relationship between knowledge sharing and employee innovation capabilities
Lee & Hong (2014)	Korea – 779 employees (nurses, administrative staffs, medical technicians) from four universtity hospitals	• KS has a significant relationship with innovation behaviour • The higher the respondents' age, education level, position, and work experience, the stronger their innovative behaviour

Table 2.10 continued

Author, Year	Methodology	Finding
Radaelli et al. (2014)	Italy – 155 professionals at four palliative care organizations (PCOs)	• Direct effect of KS on IB (β =0.303, p <0.01)
Kim and Lee (2013)	Korea – 418 employees working in five star hotels	• Positive association between knowledge collecting and employee service innovative behaviour • Positive association between knowledge donating and employee service innovative behaviour
Mura et al. (2013)	Italy – 198 employees of four hospices and palliative care organizations for dying cancer patients	• Positive relationship between sharing best practices and promotion of new ideas • Positive relationship between sharing best practices and implementation of new ideas • Negative relationship between sharing mistakes and promotion of new ideas • Positive relationship between sharing mistakes and implementation of new ideas
Yu, Yu, & Yu (2013)	Taiwan - Employees of public corporations in the finance and insurance industries	• Positive relationship between knowledge sharing and innovative behaviour • Organisational innovation climate did not act as a moderator on the association between knowledge sharing and innovative behaviour

H3: *There is significant relationship between knowledge sharing and innovative work*

behaviour

2.9.4 Mediating Effects of Knowledge Sharing on Organisational Creative Climate and Innovative Work Behaviour

In today's economy, internal resources such as knowledge and intellectual capitals have been seen as a vital contribution to the success of an organization. Despite a number of growing literature on knowledge sharing and performance, Hsu (2008) claimed the importance of human capital as an intermediate outcome that leads to the improvement of organisational performance. In the context of this study, individual innovative work behaviour is recognized as the valuable human resources, relating to employees' skills, knowledge and capabilities in creating new novel ideas and thus making differences in the organization. According to Parnes (1984, p. 32; as cited by Hsu, 2008) human capital is defined as "…embracing the abilities and know-how of men and women that have been acquired at some cost and that can command a price in the labor market because they are useful in the productive process." In a nutshell, the practice of knowledge sharing and the development of human capital will ultimately lead to various positive outcomes relating to organisational performance (Hsu, 2008) and innovativeness (Subramaniam & Youndt, 2005).

Recently, the issues of knowledge exchange, transfer, and sharing have been widely discussed among academic researchers and business practitioners (Al-Kurdi, El-Haddadeh, & Eldabi, 2020; Rabbiosi, Makela, & Rabbiosi, 2009). The effective of knowledge sharing has been associated in previous research with innovation (Qammach, 2016; Liu & Phillips, 2011; Tsai, 2001) , improved work process (Radaelli et al., 2014; Mura et al., 2013) and better performance (Ting et al., 2016). Further, the understanding of what factors have been linked to knowledge sharing such as personality, job characteristics, motivation are determined (Rehman, Mahmood, Salleh, & Amin, 2014). However, Razi, Habibullah, and Hussin (2019) highlighted that more

studies on knowledge management including knolwedge sharing activities are still needed further investigation. In addition, the role of knowledge sharing as a mediator has not been tested sufficiently (Munir & Beh, 2019a; Qammach, 2016; Luoh et al., 2014).

Organisational climate has an important role in shaping employees' behaviour, and influencing the perceptions of knowledge management (Chen et al., 2010). Most of the previous scholars posited that organisational climate is important for creative and innovative behaviour. Hunter et al. (2007) argued that the relationship of both constructs might vary as they function in contextual conditions such as job, group, organisational and environmental. Due to the increased pressure to innovate, organizations have become more interested in exploring new creative ideas and realizing creative actions (Ystorm, Aspenberg, & Kumlin, 2015). It is necessary to identify the prerequisite aspects for enhancing individual creativity and innovative behaviour. As per knowledge of researcher, there is no previous studies investigated the connection among OCC, KS and IWB particularly in the startups context in Malaysia. Moreover, Munir & Beh (2019a), Qammach (2016) and Luoh et al. (2014) suggested that KS can be explored as a mediating effect. According to Butler and Murphy (2007), knowing that knowledge sharing is recognized as an important enabler for organisational efficiency and improved performance, they stressed out that it can also be a strong mediator.

A recent study conducted by Yang, Nguyen and Le (2018) also mentioned about the mediating role of knowledge sharing in their study. The study which focuses on the 77 Chinese firms in China shows that knowledge sharing plays significant mediating effect between collaborative culture and innovation; product innovation as well as

process innovation in the organizations. Wang and Wang (2012) also explained that the innovative initiatives in the organization is largely depends on the workers' knowledge, experience and skill and the way they disseminate those things.

Another study by Tyagi and Dhar (2017) highlighted the importance of knowledge sharing as mediator is a crucial component in explaining the organization culture and police-investigation performance. The findings from 675 police officials in the tourist destinations of Uttarakhand in India highlighted that, knowledge sharing mediates the relationship between organisational culture as well as investigation performance. Additionally, other benefit on the culture of sharing knowledge about the nature of this tourist destination area such as crime rate also increases the percentage of revisitation of tourists (Seabra et al. (2013).

Qammach (2016) investigated the mediating role of knowlegde sharing on the association between IT Capability and IT Support to predict innovative performance. A total of 276 employees from four mobile communication companies in Iraq were participated in this study. The results revealed that knowledge sharing mediate the relationship between both IT capability and IT support towards innovation performance. As well as, ther results also showed a positive association between IT capability and IT support and innovation performance. Therefore, it is important for organization to encourage knowledge sharing activities among members of organization and to organize strategies that lead to improve innovation performance.

Other than that, Kuo, Kuo and Ho (2014) conducted a study among 851 engineers in Taipei, Hsinchu and Tainan found that, knowledge sharing significantly encourages job satisfaction and workplace friendship on service innovation. This is in line with the

study previously done by Kim and Lee (2013) where they believed knowledge sharing is actually improving the job performance and people's ability in solving problem in an organization. Another study that sought to explore the relations of authentic leadership with the employee knowledge sharing behaviour and intervening processes (Edu-Valsania, Moriano and Molero, 2015) added that, there was a positive association among the variables. This study which involved 562 workers from various organizations in Spain indicated that the tendency of sharing knowledge among and between workers is depends on how the employees are identifying the leaders, whether their leaders being authentic or not. Through the literature, knowledge sharing is an important component in the organisational studies. It helps explain the social and organisational structure of particular organization as a whole.

Another study done by Kim and Lee (2013) found that mediating roles of knowledge collecting and knowledge donating between performance goal orientation and employee service innovative behaviour are substantial. Several studies have also used KS as mediator such as organisational social factors and employee performance (Park et al., 2015) functional diversity and team innovation (Cheung et al., 2016).

Challenges and innovation work behaviour cannot be isolated due to unpredicted conditions and circumtances occured in the organization. In order to face the challenges, there is a need for high involvement among employees in the job or task. When employees are highly involved in the job, they are more likely to prepare to reciprocate the organisational benefits, support each others and are willing to exert extra efforts to ensure that organisational goals are achieved (Cohen 1999).

Pertaining to the context above, Chen and Chiu (2009) mentioned that in order to confront with challenges in facing innovation, there is a need for a high involvement and engagement of employees to share their experience, task identity, task significance and job autonomy in order to polish and develop their expertise, skills, talent and experience. With this justification, employees are willing to give thier commitment, effort and involve to share knowledge with others and integrate various creative ideas and innovation into their work context (Jayawardana, O'Donnell & Jayakody, 2013).

In order to nurture and promote innovation work behaviour, employees always search for freedom to share thier ideas with others. One study highlighted that, an organization may practice a formalization which requires employees to obey instruction, policy or standard operation written by the management (Bidault & Cummings, 1994). A minimal formalization gives freedom to employees because they are tied to the regulation which hinders them from coming up with creative ideas. Bidault and Cummings (1994) claimed by giving freedom to employees to share knowledge with others, it will influence the employees' innovative work behaviour.

The studied supported by Robbins and Decenzo (2001) agreed that formalization or standardization might be a constraint to employees which limits them from engaging with other members to share knowledge and experience. This results in a lack of creativity and innovation among the employees (Robbins & Decenzo, 2001). On the other hand, Sivadas and Dwyer (2000), revealed that centralization practices in the organization tend to create a non-participatory environment that reduces freedom to communicate, commit, and be involved with others. As a result, the environment limits innovation among employees.

However, the study supported the practice of low formalization whereby, employees enjoy knoweldge sharing, the act which encourages them to be creative and innovative in dealing with the demands of their tasks (Sivadas & Dwyer, 2000). If individuals have freedom, independence, and discretion to determine what actions are required and how best to execute them (Janz et al., 1997), they will accept the decision because they have the opportunity to provide inputs and further communicate their ideas during decision- making process (Yap, Foo, Wong, & Singh, 1998). The more autonomy the organisational members possess, the more responsibility they will have in terms of work role and context (Janz et al., 1997; Spreitzer, 1995).

Having trust in an idea is challenging for an organization to promote innovation work behaviour. Initially, trust is based on the expectations set within a particular situation (Lewicki & Bunker, 1996). It relates to an uncertain future course of action, whereby an outcome depends on the behaviour of others (Deutsch, 1960). Trust is viewed as confidence and positive expectations towards other's motives with respect to oneself in a circumstance that entails a risk (Boon & Holmes, 1991). Therefore, trust is an extent to which a person is confident and willing to act on the basis of the words, actions, and decisions of others (Goh & Sandhu, 2013). Fukuyama (1995) defined trust as honest and cooperative behaviours that basically exist among the members of the community which have some common shared norms.

In the innovation context, trust is a key to knowledge sharing which can promote and encourage people to be creative and innovative. It can justify when trust is needed between whom hold and recieve knowledge (Cumming, 2003). According to Cumming (2003), a knowledge creator has the ability to trust his or her recipient in using approriate knowledge and experience shared by them. Whilst in recipients' context,

they have to trust the capability and ability of the knowledge creator who shares his knowledge and helps others to the best of his abilities. Through this cross relationship, work environment incorporated with trust may stimulate knowledge sharing among employees and give opportunity to them to create various ideas and solutions.

Further findings by Ruef (2002) reveal that knowledge sharing acquires trust from knowledge creator and knowledge recipient leading to feedbacks and responds through mutual exchange between them. Trust results from confidence and willingness to engage in a strong relationship with another person. If one has confidence and willingness to strengthen the relationship with another person, then he or she is more ready to contribute to knowledge sharing with those he or she trusts. Consequently, study done by Zarraga (2005) concerted that work and innovation which support a good relationship among members allow them to share knowledge among each other. They are willing to share ideas and experience with others leading to idea exploration, idea generation, idea championing, and idea implementation. Hence, the role of knowledge sharing mediates trust and innovative work behaviour.

Idea time initially refers to the amount of time people can use for elaborating new ideas. It refers the time taken to explore and develop new ideas. At this point, the role of knowledge sharing mediates idea time by sharing idea through various ways of communication process enables idea exploration, idea generation, idea championing, and idea implementation (De Jong & Den Hartog, 2010).

One of the studies done by Athanassiou and Nigh (2000) found that top management team is more likely to be addressed in face-to-face meetings. It requires less time for discussion and get fast feedback as well as solution. Brainstorming

creative idea face-to-face is more preferabble rather than exchanging documents, manuals, and correspondences (Cummings, 2003). More studies support that sometimes knowledge sharing can only work if various parties are brought together physically (Davenport & Prusak, 1998). Cumming (2003) added that face-to-face meeting saves time, and gives benefit to emotional and financial resources associated with traveling to, and from different locations.

In a face-to-face meeting, it becomes apparent that existing knowledge is not simply transferred, but is regenerated in a new context. New creative and innovative ideas may be created when direct conversations between people represent a major means of how people interact and engage in knowing, and sense making (Kurtz & Snowden, 2003). Thus, face-to-face knowledge mediates idea time and innovative work behaviour.

Playfulness is a relaxing atmosphere where good-natured jokes and frequent laughters occur in organisational climate. This commonly occurs to those who have informal relationship with others, as well as similarity and proximity. At this point, it implies the practical aspect of knowledge as people are willing to share their knowledge with whom they share intimacy and have a close relationship (Laila, 2007). A study done by Smith and Shalley (2003) found that a formal relationship to exchange ideas that has an influence on creativity. The study clearly describes some protocols, barriers and constraints to knowledge sharing through a formal relationship.

Additionally, Chow, Deng and Ho (2000) found that knowledge sharing is easier to be facilitated in the Chinese organisational climate because of high collectivism. The study justified that Chinese employees might have a significantly different attitude

towards people from the out-group and the in-group. For instance, they are likely to have a hostile attitude towards out-group members and intend not to share knowledge with them. This clearly state that the formal treat in organization did not allow the opportunity for people to share knowledge.

With regard to informal relationship, they prefer to exchange ideas in an informal discussion or relaxing atmosphere such as meeting during lunch or after working hours. For instance, Azudin, Ismail and Taherali (2009) found that 60% of employees perceived that having a conversation after office hours allows them to have more free flow of information. Further, more findings explained that people do share their knowledge with their friends or colleagues and exchange ideas and thoughts with people who they have lunch with. Additionally, Hurmelinna-Laukkanen et al. (2016) highlighted that agressive humour that is related to critising, manipulating and putting down others may block knowledge sharing activities and subsequently affects innovative behaviour. Conversely, the presence of affiliative humour effectively influences people to share knowledge and ideas, which in turn, enhances the innovative work behaviour.

In a study done by Rauf (2002), it is agreed that people might confront with conflicts when other elements are introduced that deviate from or clash with their own ways of doing things. In this context, people may argue positively to an idea, and thus this situation faciliates knowledge sharing that leads to innovativeness. A study conducted by Hoegl et al., (2003) claims promoting innovative climate requires the team members to encounter with certain conflicts and anticipate aggressively in their team in order to find out appropriate solutions. This explains that people in a group are

more inclined to having conflicts that will result in an increase interaction towards creative thoughts (Edmondson, 1999).

Moreover, when conflict occurs, idea generation may boost throughout sharing session among the team members. People cooperatively work to creative ideas, and solution (Jaw & Liu, 2003; Sveiby & Simons, 2002). Several studies have established positive effects of conflicts such as better decision-making (Amason, 1996), improved performance (de Dreu et al., 1999; Tjosvold, 1998; Jehn, 1995), and creativity (de Dreu, 2006) through knowledge sharing practices. The justification is that conflicts may be reduced, and this leads to innovativeness by bringing about new information, an increase in communication, shared information, and group problem solving (Jehn and Bendersky, 2003). Moreover, conflicts and knowledge sharing can help identify task problems, and create as well as accept solutions (Tjosvold, 1991).

In the context of idea support, knowledge sharing plays a significant mediating role in creating opportunities to generate creative and innovative ideas through a network which is linked to the members of the group whereby they can share their personal ideas and experience-based knowledge (Carr, Castleman & Mason, 2010; Hughes et al., 2009; Fuller-Love & Thomas, 2004). The support from members further integrates broadest varieties of knowledge, ideas from various parties, and different views. Their participation and support lead to the suggestions of a new ideas for work and problem solving (Miller et al., 2007; Chipika & Wilson, 2006).

In the organisational climate context, knowledge sharing allows people to learn from their colleagues (Cheng & Huang, 2007) by providing idea exploration, idea generation, idea championing, and idea implementation (De Jong & Den Hartog, 2010).

Moreover, a study done by Shane (1994) asserts that anyone who supports creative ideas may help others realize their new ideas, facilitate them to make decision, find solution and solve problems. In innovation literature, Liu and Tsai (2009) found that the new product development strategy requires comprehensive knowledge integration to achieve effectiveness. Everyone in the group needs to support the sharing of ideas and knowledge. This is agreed by Teece et al. (1997) and Harrison and Samaon (2002) who emphasized the importance of knowledge integration as a critical element to maintain sustainable innovation in organizations. At this point, relationship orientation is considered as a cultural character which has been found to have a significant impact on knowledge sharing (Huang et al., 2008). It has also been indicated that anticipated reciprocal relationship has a positive impact on attitude towards knowledge sharing which further impacts the intentions to share knowledge (Bock, Zmud, Kim, & Lee, 2005).

In creating and nurturing innovation work behaviour, the role of knowledge sharing as mediating variable might lead to increasing debates and arguments among employees. This may occur when people are interacting with each other. They build up interaction network to share and gather knowledge and ultimately create an opportunuity to nurture and expose to innovative ideas and work behaviour (Chen & Huang, 2007). Ideally, employees interact not to only share but allow and provide an opportunity to them to debate among themselves about the best ideas, solution or problem solving. A study done by Chen and Huang (2007) also supports that the relatively weak or inexistent of interaction, and debates among employees would perceive lack of innovation work behaviour.

In another study, Carr et. al, (2010) claim that members who are more active in a network gain more value because there is an association between network activity and network share. In fact, those who are active in their network also tend to share knowledge, and are more likely to gain more values through debates, arguments or suggestions of new ideas.

In nurturing innovation work behaviour, difficulties may emerge under conditions of rapid and uncertain organisational changes, or unpredicted contingency conditions. People in organizations feel cautious, have a hesitant mentality, and are curious and insecure to make decision or solution on isssues that arise (Cohen & Lsevinthal, 1990). In relation to innovation, Armenakis and Harris (2002) and Armenakis et al. (2007) clearly explain that change in implementation such as organisational strategy, structure or system, requires the shift in behaviours of the recipients gives risks to the changes.

In the innovation context, innovativeness and adaptability of the changes affect the individual level. Individuals' innovativeness portrays employee creativity in dealing with organisational challenges arising from the changes (Holt et al., 2007a, Holt et al., 2007b; Hurt et al., 1977). Innovative employees will be more receptive to new ideas, and are therefore expected to demonstrate higher readiness to cooperate in change initiatives. More discussions of the studies mentioned that an individual with the ability to take a risk or cope with changing conditions is believed to be more receptive to trying new ideas and learning new procedures (Lehman et al., 2002). In addition to that, Rusly, Corner and Sun (2012) studied the organisational changes and practices of knowledge sharing that give an opportunity to employees to learn and take risks to explore new ideas, and new procedures in their work context.

At this point, the practices of knowledge sharing facilitate the ability to influence employees to generate new ideas of change, idea exploration and implementation in order to prepare themselves to face up to the risks of changes (Rusly et al., 2012). Additionally, the study done by Sun (2010) suggests that knowledge utilization and sharing could be combined since the value of knowledge utilized by individuals will enhance only if it is being shared as an organisational strategy to face the risks of change. Furthermore, Rusly et al. (2012) clearly describe the identification of new knowledge via sharing session as part of an acquisition process that involves the recognition of valuable knowledge from people in organizations. Considering the above-mentioned researchs, the following hypothesis is proposed:

H4: Knowledge Sharing mediates the relationship between Organisational Creative Climate and Innovative Work Behaviour

2.10 Proposed Research Framework
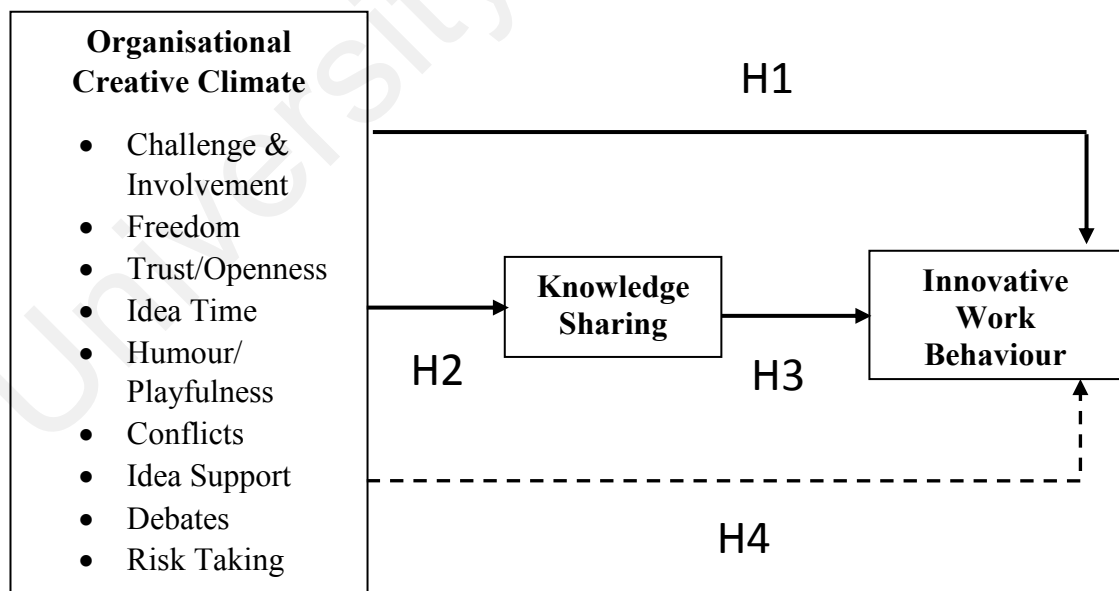
Figure 2.5: Proposed Research Framework

2.11 Gaps of Study

Employees' creativity and innovation capabilities have seldom been studied *(Wu & Lin, 2018; Hughes et al., 2018; Subramaniam, 2012)* in services based SME employees *(Yusof et al., 2018; Xerri & Brunetto (2011)*

Study on the interconnection of OCC, KS and IWB is yet to receive adequate attention as empirical studies focused mainly on direct relationship *(Munir & Beh, 2019b)*

A scarcity of empirically tested the pivotal role of knowledge sharing as a mediator *(Munir & Beh, 2019a; Qammach, 2016; Luoh et al., 2014)*

Lack of extensive and in-depth studies that investigate the impact of organisational creative/innovative climate on IWB *(Liu et al., 2019; Shanker et al., 2017; Bammens, 2016)*

GAPS

Study on knowledge sharing need further investigation *(Razi, Habibullah, and Hussin, 2019; Wah et al., 2018; Razzaq et al., 2017)* particularly in regards to OC and KS *(Andretto et al., 2019; Han, 2018; Jain, Sandhu & Goh, 2015)*

Limited studies in determining importance factors that potentially stimulate IWB *(Qi et al., 2019; Riaz, Xu, & Hussain, 2018; Akram et al. 2018; Zhou & Velamuri., 2018; Haq, Usman, & Hussain, 2017)*

Lack of studies measure IWB from multiple informants *(Bos-Nehles & Veenendaal, 2019; Raja & Madhavi, 2018; DeSpiegelaere et. al, 2015; Hanif & Bukhari, 2015)*

The link between employees' knowledge sharing and innovative behaviour is remain unexplored *(Akram et al., 2018; Lee 2018; Wah et al., 2018; Phung et al., 2017; Radaelli et. al, 2014)* in eastern countries *(Nguyen et al., 2019)*

Figure 2.6: Summary of Gaps in the Literature Review

After reviewing the literature, a few main gaps in this study were illustrated in Figure 2.11. The gap is shown in sector, industry and variables of this study. Keeping in view the importance of small and medium enterprises (SMEs), as concerns Startups contribution to Malaysia, the present study focused on the Malaysian Startups as subject to explore. The importance of Startups growth and their sustainability has been notified by many researchers worldwide regardless of the nation (De Bernardi & Azucar, 2020; Munir & Beh, 2019b; Centobelli, Cerchione, & Esposito, 2017). In particular, startups are pivotal to the Malaysia due to its contribution to Malaysian gross domestic product (GDP). In 2018, the SMEs contribute RM521.7 billion with 38.3% to the nation' GDP (Department of Statistic Malaysia, 31 July 2019). According to SME Report, a total 192,297 (21.2 %) of business establishments in Malaysia is derived from the micro and small enterprises. As a newly emerged business, startups are very risky in which the survival rates are quite low (De Bernardi & Azucar, 2020). These statement reveal the significant and relevant to investigate the issues in startups context. However, there is minimal study in the context of Startups in developing countries especially in Malaysia (Munir & Beh, 2019b).

In Malaysia, the services sector is imperative because of its contribution to overall Malaysian GDP and performance. At the end of 2018, the services were contributed 62.4% to the percentage share of SMEs GDP (Department of Statistic Malaysia, 31 July 2019). In the fourth quarter of 2019, the production of services sector is the main thrust to the Malaysia's economy with the growth rate 6.1% (RM216.7billion) (Department of Statistic Malaysia, 12 February 2020). Morever, the establishment of startups offers greater job opportunities which indirectly reduce the unemployement rate in Malaysia. For example, in the fourth quarter of 2019, a total of 3.8 million persons engaged in the services sector (Department of Statistic Malaysia, 10 February 2020). The above-

mentioned statements reveal that the services sector has the potential to grow. Besides that, empirical studies on the SMEs services sector have received minimal attention particularly in an innovative behaviour studies (Yusof et al., 2018; Xerri, & Brunetto, 2011) as well as knowledge sharing studies (Cyril Eze et al., 2013).

The innovative work behaviour has become a crucial topic that need further investigation. Even though, this topic has been discussed widely but it is remaining insufficient and still at the infancy stage especially in a Startups context in Malaysia (Awang et al., 2019; Munir & Beh, 2019b; Yusof et al., 2018). Previous researchers investigated various determinants of innovative work behaviour such as social factors and physical factors. However, recent researchers highlighted to further examine the important factors in stimulating innovative work behaviour (Qi et al., 2019; Akram et al., 2018; Riaz, Xu, & Hussain, 2018; Zhou & Velamuri, 2018; Haq, Usman, & Hussain, 2017). Moreover, a study on employees' creativity and innovation capabilities have not been paid sufficiently (Wu & Lin, 2018; Subramaniam, 2012) which need to consider the individual's journey of innovation behaviour (Hughes et al., 2018; Yusof et al., 2018).

According to Li and Mahadevan (2017), there is limited studies on organisational climate in Malaysia. Specifically, Liu et al. (2019) and Shanker et al. (2017) identified that empirical studies in examining the link between organisational creative climate and innovative work behaviour have received minimal attention. Further, Awang et al. (2019) claimed that existing studies offer limited knowledge on both variables particularly in micro enterprises. Thus, this present study aims to fill the gaps by investigating the relationship between organisational creative climate and innovative work behaviour in the context of Malaysian Startups.

Razi, Habibullah, and Hussin (2019) and Wah et al. (2018), recommended that more studies on knowledge management are still needed especially in the area of knowledge sharing. As highlighted by Centobelli, Cerchione, and Esposito (2017) in their review, the topic of knowledge management in startups context has getting attention among reseaerchers only in recent years. Moreover, Razzaq et al. (2017) highlighted that the issues of knowledge sharing has received little attention, particularly among small businesses in Malaysia (Xu, Quaddus, & Gao, 2014; Cyril Eze et al., 2013). Further, Akram et al. (2018), Lee (2018), Wah et al. (2018), and Radaelli et al. (2014) posited that a study on knowledge sharing and innovative work behaviour are still under theorized and empirically unexplored, particularly in a eastern countries (Nguyen et al., 2019). Other than that, there is also paucity study that need to address the importance of organisational climate towards knowledge sharing (Andretto et al., 2019; Jain, Sandhu, & Goh, 2015).

There are some empirical studies identifying the relationship on organisational creative climate and knowledge sharing (Batool, 2019; Han, 2018; Matić et al., 2017; Lashari et al., 2016; Jain, Sandhu, & Goh, 2015; Villamizar Reyes & Castaneda Zapata, 2014), organisational climate and innovative work behaviour (Awang et al., 2019; Izzati, 2018; Liu et al., 2017; Yeoh & Mahmood, 2016; Balkar, 2015) as well as the relationship between knowledge sharing and innovative work behaviour (Hassan et al., 2018; Kang & Lee, 2017; and Jaberi, 2016). However, these studies were conducted in a direct relationship and tended to focus on various sector and large organization. Nevertheless, there is still lack of empirical evidence on mediating effect of knowledge sharing (Munir & Beh, 2019a; Qammach, 2016; Luoh et al., 2014), in which this study investigates the mediating role of knowledge sharing in a relationship between organisational creative climate and innovative work behaviour.

Concerning to the perspective of methodological, the assessement of both independent and dependent variables by respondents' judgment will led to the common method variance (CMV) issue (Ahmad, Jasimuddin, & Kee, 2018). The issue of common method bias could be avoided by assessing the employee innovative work behaviour at the supervisor level (Podsakoff et al., 2003). Parallel to this, recent authors (Bos-Nehles & Veenendaal, 2019; Raja & Madhavi, 2018; DeSpiegelaere et. al, 2015; Hanif & Bukhari, 2015) suggested to measure the innovative work behaviour form multiple sources as it received little attention in literatures.

As for research related to the organisational creative climate and knowledge sharing in fostering innovative work behaviour has never been done particularly in Malaysian Startups. Therefore, this study attemps to fulfil the research gaps in a related field of studies.

2.12 Chapter Summary

In summary, chapter two reviews existing literature on the three set of variables (organisational creative climate, knolwedge sharing, and innovative work behaviour) involved in this study and the relationships between them. Besides, a few gaps were identified in the field of organisational climate, knolwedge sharing and innovative work behaviour. The theoretical structure is created in view of the solid proof from the writing, taking into account the above discussion supporting the hypothesis. At that point, the four fundamental hypotheses that will be utilized as a part of testing the relationship that exist in the structure by the past discoveries.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter explains the methodology and data analysis used for this study. Basically, the research used a quantitative approach to investigate the effects of organisational creative climate and knowledge sharing on the innovative work behaviour among startups in Malaysia. The aim is to elaborate the activities conducted before, during, and after the empirical work. It is specifically to describe how and why the research was conducted in such particular way.

This chapter begins with the explanation of the research paradigm and research approach in this study. Next, the research design and sampling process are elaborated as well as the reasons for such decision. Then, a description of the unit of analysis in this study and the development of survey questionnaire are discussed in detail. Further, explanations about pilot test and the reliability of the questionnaire are presented. Following thereafter, the preparation and procedure of data collection are elaborated. Finally, the data analysis in this research is explained along with the summary of the chapter.

3.2 Research Paradigm

In any research especially in social sciences study, having a paradigm is very important as it works as a guideline throughout the research process. According to Saunders, Lewis, and Thornhill (2009), Creswell (2003), and Denzin and Lincoln (2000) research paradigm provides a firm knowledge in choosing a research paradigm, selecting instruments and appropriate methods so that credibility and confidence of one's research work would be enhanced and preserved. A paradigm can be

operationally understood as primary beliefs, a set of assumption which we are willing to make, which use as touch's point in steering our research activities (Guba & Lincoln, 1989). Additionally, Saunders et al. (2009) pointing out in their study that, paradigm is a way of exploring social phenomena from which researchers gain understanding and explain respectively. Any explanations made, normally based on the paradigm that researchers have abide to. As stated by Guba and Lincoln (1994), paradigm is consisting of three fundamental sets of beliefs; ontology, epistemology and methodology. Ontology concerns about the basic questions about the reality to be known. Epistemology focuses on the relationship between the inquirer and the known. Whereas methodology discusses about the way we obtain knowledge on something. The technique that we shall apply and believed it is appropriate to collect empirical evidences.

The Positivism, post-positivism, critical theory as well as constructivism are the prominent paradigms that normally used to design research (Guba & Lincoln, 1994). As for this study, it is employing positivism approach of paradigm. Positivism is considered as a useful approach when the issues that researchers dealing with are known and can be counted as objects and facts (Onwuegbuzie, 2002; Smith, 1983). Cacioppo, Semin and Berntson (2004) even added that, this positivism approach comprises of observation or explanation of theory, involved with statistical methods in hypothesis testing and present the result based on the existing theory. Furthermore, the selection of the research paradigm for this study could be based on the research questions raise. As this study is specifically dealing with cause and effect relationship between variables, positivism is perhaps a best way to go. The decision of choosing this paradigm is also based on the past literature. Remenyi et al. (1998), suggested that, the development of a methodological framework could be acquired from a review of past relevant literature

which it provides the researchers with a clearer and better picture and explanation of how a certain phenomenon works. Other than that, this research paradigm requires a scientific and systematic approach of research that demands to the use of quantitative methods. And even, Sale, Lohfeld and Brazil (2002) also agreed that quantitative research is actually derived from positivism. Consequently, the positivist approach offers new setting in Malaysian context in getting a better understanding of the innovative work behaviour among startup's employees based on the determined factors. Hence, the positivism paradigm is applied in this study.

3.3 Research Approach

This study aims to measure the underlying variables in the theoretical model, it is relevant to use the quantitative method as the research approach. The quantitative approach is employed in this study as it provides data from larger and more representative samples. Quantitative approach is defined as empirical observation s of individual behaviour, and analyses statistical procedure to determine the direction of relationships when combined with theory and literature (Neuman, 1997; Creswell, 1994).

According to Amaratunga et al. (2002) quantitative research provides a statistical evidence in determining the directions of relationships and strengths between one variable and other variables. Furthermore, Johnson and Onwuegbuzie (2004) suggested that quantitative methods can be utilized to verify the theory or hypothesis testing, focus on confirmation, explaination and prediction, and provide standardized data collection and statistical analysis. In addition, the measurement of the variables in the theoritical framework is an integral part of research and pivotal in quantitative research design

(Cavana et al., 2001). Additionally, this study also using deductive approach because the hypotheses is developed based on existing theory and empirical hypotheses.

3.4 Research Process

Research is defined as *"an organized, systematic, data based, critical, objective, scientific inquiry or investigation into a specific problem undertaken with the purpose of finding answers or solutions to it"* (Sekaran, 2006, p. 5). As supported by Amaratunga et al. (2002), research also increases knowledge and understanding of a particular topic. Basically, the information obtained serves as the guidelines in overcoming the problems successfully. This fundamental research which is also called "pure research" was conducted with the purpose to understand the problems occur in startups' setting, and to find the solutions.

A non-experimental design was employed in this study as it involves the selection of sample from the population from which the finding can be generalised. Basically, there are three categories of non-experimental research designs namely: correlational design, causal-comparative design, and longitudinal design (Chua, 2016). This research however applied correlational design with the aim to describe the relationship between the variables. Therefore, this survey research was conducted to predict the influence of organisational creative climate and knowledge sharing in fostering employees' innovative work behaviour among startups in Malaysia.

For this study, the research procesess are started by understanding the background and issues on the context of study. After reviewing previous literatures of the particular constructs in this study, then the statement of problems is constructed. Next, the research objectives, theoretical framework and research hypotheses are developed. This

study employed self-administered questionnaires as method to collect data form startups in Malaysia. The survey approach enables the researcher to collect a sizeable amount of informatio from a relatively large sample (L'Engle, 2018). The sampling techniques of this study involve two different techniques. The startups selection is based on the stratified random sampling, meanwhile the employee selection is choosen by using the purposive sampling technique. The key informants in this survey were the entrepreneur and employees of the startups. Notably, employees have been determined as assets in an organization, and vital resources for entreprenurial firms particularly startups. In this context of study, employees refer to individuals involved in the creative and innovative aspects of work. Those people are considered the most knowledgeable about the business process, operations, and management style. Referring to a study done by Aman, Rahman, and Feisal (2012), core staff is seen as one of the important roles in enhancing the creativity and innovation in the organization. In addition, the finding of the study also indicated that the core employees have a significantly different perception on strategy, structure, support mechanism, and behaviour that encourages innovation in the organization.

The questionnaire is adapted from the established items in the previous studies, whilst, the instruments of organisational creative climate is obtained after signing an agreement with the Creative Problem Solving Group, Inc. (CPSB) as shown in Appendix C. Meanwhile, the instruments of innovative work behaviour is obtained the approval from the author as shown in Appendix D. Afterward, the data collected from the survey were analyzed using partical least squares structural equation modeling (SEM-PLS) to examine association relationships among the three main constructs: (1) organisational creative climate; (2) knowledge sharing; and (3) innovative work

behaviour. The Figure 3.1 presents the research process of this study starting from the develop research objective until the the interpreting and reporting data.
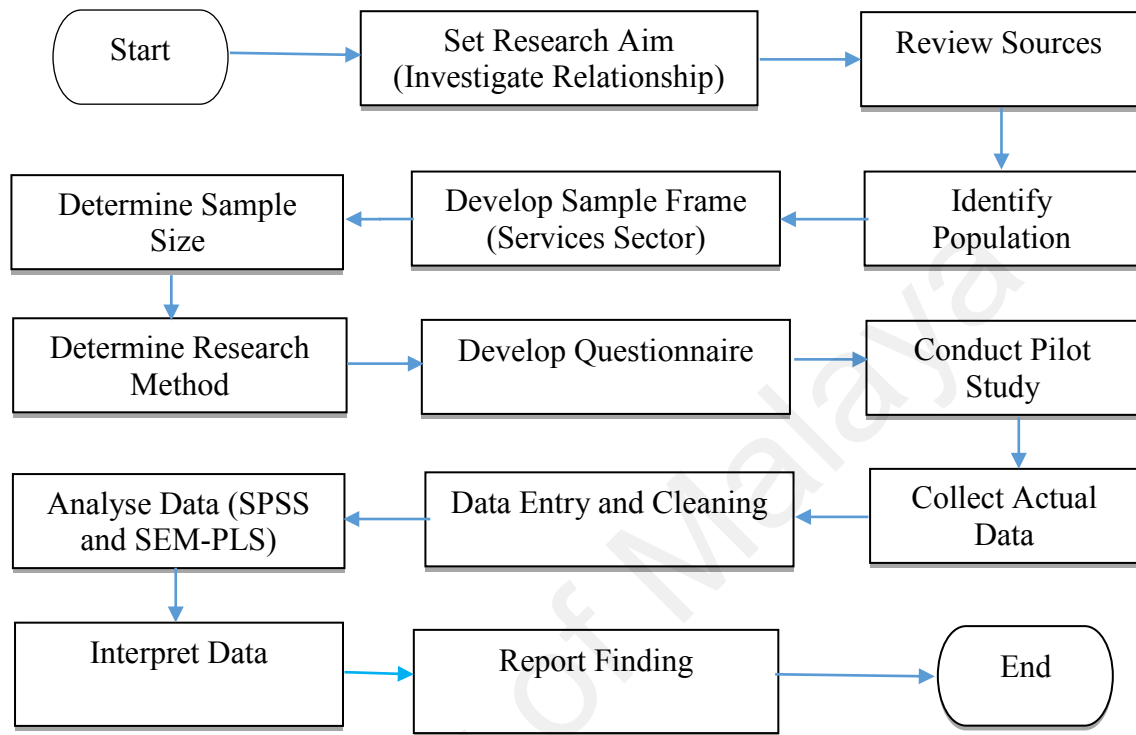
Figure 3.1 The Overview of Research Process

3.5 Sampling Process

According to Sekaran (2006), sampling is the process of selecting a sufficient number of elements from the population so that a study of the sample and an understanding of its properties or characteristics make it possible for the researchers to generalize such properties or characteristics to the population elements (p. 266).

Sekaran and Bougie (2016) further elaborated that the representative samples are normally obtained by pursuing a set of well-defined procedures including defining the target population; determining the sampling frame; selecting a sampling design; and determining the appropriate sample size. Thus, this study employed the above-

mentioned steps for selecting the representative sample as recommended by Sekaran and Bougie (2016).

3.5.1 Target Population

Population refers to the entire group of people, events or things of interest that the researcher wishes to investigate (Sekaran & Bougie, 2016; Sekaran, 2006). Thus the target population of this study are the entrepreneurs and employees of startups in Malaysia. This research explores the services sector with various business-related function services such as food and beverages, beauty and fashion, education, wholesale and retails, financial, information-communication technology and multimedia, and so forth.

Services sector was chosen as the context of this study because of its contribution to the Malaysian economy and nation in terms of Gross Domestic Product (GDP), employment rate, and revenue. According to the Department of Statistics Malaysia (24 July 2019), the total GDP of services sector in 2018 was 61.6 percent as compared to the previous year 60.8 percent. Besides that, Services sector contributes the highest percentage share to SMEs GDP with 62.4% in 2018 (Department of Statistic Malaysia, 31 July 2019). Services sector also gave the biggest percentage share to the economic activity in all states in Malaysia for first quarter 2018 with 54.8 percent, followed by manufacturing (22.8%), agriculture (7.6%), mining (8.5%) and construction (4.8%) sectors (Department of Statistics Malaysia, 17 May 2018). For the revenue, services sector contributes RM1,673.8 billion in 2018 as compared to RM1,544.4 billion in 2017 (Department of Statistic Malaysia, 20 February 2019). In fact, this sector is believed to be contributing more to the nation's income in the future.

According to the labor force, employed person and unemployment by industry, the employed person in the services sector increased from 2010 to 2016 (Department of Statistics Malaysia, 2017a). In addition, in the employment statistics fourth quarter 2019 reveals that a total of 4.48 thousand jobs were dominated in the services sector (Department of Statistics Malaysia, 13 February 2020). It can be concluded that, the growth of services sector leads to greater job opportunities which in turn reduces the unemployment rate in Malaysia. Below is the Table 3.1 indicating the total number of employed persons in the services sector mainly the sub-sectors services.

Table 3.1: Total Number of Employed Persons in the Services Sector

Sub-sectors	2010	2011	2012	2013	2014	2015	2016
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,887.8	2,005.4	2,125.6	2,261.4	2,324.4	2,361.4	2,428.5
Transport and Storage	554.7	604.0	624.3	626.5	598.2	615.0	630.4
Accomodation and Food Service Activities	856.7	951.1	965.1	1,041.5	1,149.3	1,150.8	1,260.7
Information and Communication	178.9	206.5	208.8	194.1	213.2	214.2	208.7
Financial and Insurance/Takaful Activities	323.4	319.3	322.1	318.9	329.1	354.4	346.9
Professional, Scientific and Technical Activities	285.6	328.4	307.3	306.8	328.8	359.3	361.8
Education	779.3	782.3	784.9	816.6	871.4	899.0	928.7
Human Health and Social Work Activities	280.0	384.1	414.3	490.0	532.9	573.1	570.3
Other Services	182.9	181.8	190.5	192.4	199.1	233.1	230.8

Source: Department of Statistics Malaysia (19 December 2017a)

This study covers a wide range of geographical areas in Malaysia. All the four regions in Peninsular Malaysia, including Sabah and Sarawak were selected in this study. Overall, there are 12 states in Peninsular Malaysia, followed by Sabah and Sarawak. Below is the grouping of states according to the regions in Peninsular Malaysia:

1.   Northern Region: Perlis, Kedah, Penang, Perak

2.   East Coast Region: Kelantan, Terengganu, Pahang

3.   Central Region: Selangor, federal territories of Kuala Lumpur and Putrajaya

4.   Southern Region: Negeri Sembilan, Malacca, Johor

All states in Malaysia including Sabah and Sarawak were considered in this study due to the following reasons:

1.   Relatively, the central region is a "more active cluster" in Malaysia. According to the National GDP in 2018, Selangor carried the large percentage shares (23.7%) followed by Wilayah Persekutuan (16.1%). In Southern region, Johor was the main contributor with a share of 9.6 percent. Meanwhile, Sarawak contributed 9.7 percent and Sabah contributed 6.2 percent to the total GDP. In northern region, Penang and Perak contributed 6.7 percent and 5.4 percent respectively. In the East Coast region, the economic growth and percentage contribution is relatively low with Pahang (3%), Terengganu (2.6%), and Kelantan (1.8%) (Department of Statistics Malaysia, 24 July 2019).

2.   Referring to the percentage share of GDP by economic activities according state in 2017, the central region are the biggest percentage contributors to the services sector whereby Kuala Lumpur contributed 87.1 percent, and Selangor, 60.0 percent. In the east coast region, Kelantan became the main contributor with 66.5 percent, followed by Terengganu with 49.6 percent, and Pahang with 48.3 percent. In the northern region,

Perlis carried the biggest percentage with 65.3 percent, followed by Perak, Kedah, and Penang with the percentage share of 60.9 percent, 54.8 percent, and 49.3 percent respectively. In the southern region, Johor contributed 47.4 percent, followed by Melaka with 44.8 percent, and Negeri Sembilan, 44.3 percent (Department of Statistics Malaysia, 20 February 2019).

3.   Sabah and Sarawak topped the list of states that contributed to the national economy in 2018 with a share of 6.2 percent, and of 9.7 percent respectively. (Department of Statistics Malaysia, 24 July 2019).   Moreover, based on the percentage share of economic activity (services sector), Sabah contributed 39.9 percent and Sarawak contributed 34.9 percent (Department of Statistics Malaysia, 20 February 2019).

Overall, the total population of startups in Malaysia is 828 encompassing two agencies namely SME Corp and Permodalan Usahawan Nasional Berhad (PUNB) as presented in Table 3.2 below.

Table 3.2: Population of Startups in Malaysia

Item	State	SME Corp	PUNB	Total Startups
1	Selangor	48	83	131
2	Kuala Lumpur, Putrajaya	46	32	78
3	Negeri Sembilan	35	14	49
4	Melaka	40	18	58
5	Johor	38	37	75
6	Perak	48	17	65
7	Penang	13	9	22
8	Kedah	46	25	71
9	Perlis	7	4	11
10	Pahang	29	15	44
11	Terengganu	45	23	68
12	Kelantan	23	29	52
13	Sabah	48	6	54
14	Sarawak	46	4	50
	Total Startups	512	316	828

3.5.2 Sampling Frame

Sekaran and Bougie (2016) stated that the population frame or sampling frame is a (physical) representation of all the elements in the population from which the sample is drawn. Similarly, according to Zikmund (2003), sampling frame is a list of elements from which the sample will be drawn. The list of startups was obtained from both public and private agencies in Malaysia that conducted programs to educate and monitor the startups especially startup ecosystem. This study used two main comprehensive sources of directories as presented in Table 3.3. The sampling from of this study was obtained from a directory of Prosper Usahawan Muda taken from PUNB official website at http://www.punb.com.my/index.php/en/business-directory. Another list was obtained from SME Corp after signing an agreement namely Declaration of Non-Disclosure Information as shown in Appendix E.

Table 3.3: Sources of Sample

Item	Agency	Programme
1.	SME Corp	Tunas Usahawan Bumiputera (TUBE)
2.	Permodalan Usahawan Nasional Berhad	Prosper Usahawan Muda (PUMA)

3.5.3 Sampling Design

This research study used two major types of sampling design: probability sampling and nonprobability sampling. In the first phase, a probability technique, i.e. stratified random sampling was applied as a means for sample selection. Stratified random sampling is a process of stratification or segregation, which is followed by a random selection of subjects from each stratum (Sekaran & Bougie, 2016). Stratified random sampling is the most efficient technique as compared to other probability designs due to its capacity in ensuring the homogeneity within each stratum and

heterogeneity between strata. In this context of study, the selection of startups according to the region and states.

At the second phase, the nonprobability sampling which is purposive sampling was employed to determine the specific predefined groups (sample of employees). According to Malhotra, Agarwal, and Peterson (1996) purposive sampling could be defined as "a form of convenience sampling in which the population elements are purposely selected based on the judgment of the researcher". A study done by Polit and Beck (2010) suggested that purposive sampling is more appropriate to be used in quantitative studies because the technique can enhance the representative and generalization of the population.

Furthermore, this technique was chosen in this study to obtain the desired information from a specific target groups based on the criteria needed. Using a purposive sample, this study decided to have at least one employee to become a representative of the employees due to the inability to get a response from all employees, and a limitation of creative and innovative employees in startups. Importantly, the selection of one employee is derived on the basis of their expertise in the subject investigated particularly the innovative work behaviour variable. Moreover, as done by Salome, Damilola, and Sunday (2013) employed purposive sampling was based on one employee to sample the respondents among 500 SMEs in Nigeria.

3.5.4 Sample Size

Sample can be defined as a subset of the population (Sekaran & Bougie, 2016). Since, sample is referred as potion of elements in the population selected to represent the population of this study, the findings from a sample can be generalized for the whole

population. The determination in considering the sample size is prohibited by cost, time, and variability of elements in the population. Moreover, the act of focusing on the possible sample rather than the entire population is likely to produce more reliable results in terms of confidence interval and confidence level (Sekaran and Bougie, 2016, Hair et al., 2007).

Various reseachers have discussed the possible amount of sample size. For instance, Roscoe (1975) suggested that sample sizes larger than 30 and less than 500 are appropriate for most research. According to Tabachnick and Fidell (2007) the sample size higher than 300 cases is considered 'comfortable' to be analyzed using Structural Equation Modelling (SEM). The sufficient number of sample would assist the researcher in getting more accurate and significant results.

At this stage, the sample was divided accordingly to the states in Malaysia. The total population of this study is 828. Krejcie and Morgan (1970) established the appropriate sample size corresponding to the number of population. Based on the table in determining sample size by Krejcie and Morgan (1970), a population of 828 needs 260 sample as shown in Appendix N.

Additionally, this study used G-Power analysis to determine the sample size. Based on an initial power calculation for statistical power of 95 percent, medium effect size 0.15 with 1 percent of error using the G-Power application, the minimum of sample size required for this study is 143 sample. The Appendix M shows G-Power statistical analysis to determine the total sample size. Ideally, G-power computes the effect size based on the number of parameters defined in a study (Erdfelder, Faul, & Buchner, 1996). Based on a specified number of parameters (dependent and independent

variables), the system calculates the minimum number of participates needed in order to ensure that the results from the study are not a result of chance. Thus, this study employed a minimum sample size of 143 entrepreneurs and 143 employees of startups in Malaysia which is considered sufficient for a successful quantitative analysis.

The formula of calculation in determining the total sample size required of startups for each state is as follows:

Population of Startups in Selangor x Minimum Sample Size
Population of Startups in Malaysia

For example: 131 x 143

828

= 23

Further, the total sample needed for each agency of each states was determined based on the following calculation:

Population of Startups in SME Corp, Selangor x Total Sample Size in Selangor
        Population of Startups in Selangor

For example: 48_ x 23

131

= 8

Source: Awang Besar (2015)

Table 3.4.: List of Sample Size

Item	States	Total Startups	Total Sample Size of Startups Needed	Minimum Sample Size Needed	
				SME Corp	PUNB
1	Selangor	131	23	8/48	15/83
2	Kuala Lumpur, Putrajaya	78	13	8/46	5/32
3	Negeri Sembilan	49	8	6/35	2/14
4	Melaka	58	10	7/40	3/18
5	Johor	75	13	7/38	6/37
6	Perak	65	11	8/48	3/17
7	Penang	22	4	2/13	2/9
8	Kedah	71	12	8/46	4/25
9	Perlis	11	2	1/7	1/4
10	Pahang	44	8	5/29	3/15
11	Terengganu	68	12	8/45	4/23
12	Kelantan	52	9	4/23	5/29
13	Sabah	54	9	8/48	1/6
14	Sarawak	50	9	8/46	1/4
	Total Startups	828	143	88/512	55/316

3.6   Unit of Analysis

The unit of analysis for this study is focusing on the organisational level which involved startups in Malaysia. The respondents of this study comprise of entrepreneur (owner) and entrepreneurial team (employees).   For the employee selection, only one reprsentative of the startups that match to the context of this study was selected as a sample in which this selection process has been implemented in Hilmi, et al.'s study (2010) and Xerri and Brunetto's study (2011).   Notably, employees have been determined as assets and vital resources for entreprenurial firms. Furthermore, they also necessitate a closer examination as a unit of analysis in entrepreneurship research.

In this research, the criteria for selecting the representatives of employees was based on the ones who performed creative and innovative work activities, or in other words, those who performed non-routine works and activities. For example, the work

scope that involves creative and innovative activities such as, mechanics, designers, cooks, tailors, beautician, engineers, programmers, and so forth according to the business-related functions of services sector. In addition, De Jong and Den Hartog (2007) mentioned that the innovative work behaviour is not restricted and mainly applicable for individuals who perform scientific or technological work. Thus, the participation of employees in this study was not limited to specific employees and functions. Besides, determination of employees was also taken into account considering that those individuals have worked actively during the early phase of the business development (Khan et al., 2015). This group of people is assumed to be the most relevant or right subjects due to their knowledge and experience relating to the business operations which are under investigation in the context of this study.

3.7 Questionnaire Design

The main objective of questionnaire design is to obtain accurate information for the survey. Basically, survey is the method to collect information from the target population. Thus, a proper questionnaire design would enhance the number of response rate and reduce biases in the study. This section discusses the process of developing the questionnaire including instruments used, measurement assessment, types of questions, and format of the questionnaire. Details of the procedure are elaborated further in the following sub-sections. Besides, instrument translation processes, followed by validity of the questionnaire is also reported.

3.7.1 Questionnaire Development

The concept of survey research is the most popular non-experimental research method and is frequently used in the social sciences studies. Questionnaire is considered as the suitable method in collecting quantitative data.

Questionnaire is a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternative (Sekaran, 2006). An advantage of using questionnaire is to save time because individuals can complete the questionnaire without any direct assistance or intervention from the researcher as compared to interview method (Salkind, 2006). In this study, the self-administered questionnaire was employed as the main questionnaire administration. The benefit of using self-administered questionnaire is that, the data collection process can be completed within a short period of time due to face-to-face explanation of any doubt and confusion regarding the research questionnaire. Besides, this concept can cover large sample sizes, and then, generalized to the target population (Chua, 2016).

Another method in administering questionnaire was applied using electronic media whereby the respondents can answer online questionnaire. The advantage of online questionnaire is that it covers wide geographical areas including Sabah, Sarawak and all regions in Malaysia. This method also gave freedom and convenience to the respondents in responding to the questionnaire at their own preferences. Typically, some researchers claimed that the return rates of mail questionniare are low. Nonetheless, Sekaran (2006) highlighted that 30 percent of the response rate by mail questionnaire is acceptable. In this study, there is no issue of low response rate due to the early notification about the forthcoming survey.

In order to gather quantitative data for the organisational creative climate, knowledge sharing, and innovative work behaviour among startups' entrepreneurs and employees, a set of questionnaire was developed and adopted from the established instruments. For the dependent variable, the instrument of innovative work behaviour was adopted from De Jong and Den Hartog (2010), while the organisational creative

climate was adopted from Isaksen and Ekvall (2015). The Situational Outlook Questionnaire (SOQ) was consistently applied in measuring climate in the organization due to an adequate levels of internal reliability with the range of cronbach's alpha value from 0.69 to 0.92, validity and stability in various studies (Isaksen, Lauer, & Ekvall, 1999; Isaksen & Ekvall, 2010; 2007). The SOQ is the established instruments under the control of the Creative Problem Solving Group, Inc. (CPSB) in New York. Therefore, in order to apply the SOQ as the instruments for this study, ethic approval was given after the researcher and the researcher's supervisor signed the agreement form called Confidentiality, Non-Disclosure, Ownership Agreement and Requirements for use of the Situational Outlook Questionnaire (SOQ) for Qualified Research Project. Hence, due to the above-mentioned agreement, researcher only listed certain sample questions as shown in Table 3.5 and Table 3.6. The instrument of knowledge sharing was developed based on a number of research. The item for knowledge collecting was adopted from Kim and Lee (2013), while knowledge donating was adopted from Wang, Tseng, and Yen (2014) with the cronbach's alpha value 0.901 and 0.939, respectively.

A different set of questionnaire was designed because of the multisource of informants involved in this study. A set of questionnaire was answered by both employees and entrepreneurs. In this study, there are two sets of questionnaire classified as employee set and entrepreneur set. Table 3.5 shows the items measurement of organisational creative climate and innovative work behaviour for the entrepreneur set, while Table 3.6 presents the items measurement of organisational creative climate, knowledge sharing, and innovative work behaviour for the employee set.

Table 3.5: Item Measurement for Entrepreneurs

Variables		Item Measurement	References
Organisatio-nal Creative Climate	Challenge and Involvement	CH01 Most people here strive to do a good job	Isaksen and Ekvall (2015)
	Freedom	FR06 People here make their own choices about their daily work	
	Trust/ Openess	TR34 People here do not talk behind each other's backs	
	Idea Time	IT3 Most people have time to think through new ideas here	
	Humour/ Playfulness	HP07 People here exhibit a sense of humour	
	Conflict	CF24 It is common here to have people plot against each other	
	Idea Support	IS09 People here receive support and encouragement when presenting new ideas	
	Debate	DB05 Many different points of views are shared during discussion	
	Risk Taking	RT15 People here can move forward even in face of uncertainty	
Innovative Work Behaviour		IWB57 My employees pay attention to issues that are part of their daily work	De Jong and Den Hartog (2010)
		IWB58 My employees wonder how things can be improved	
		IWB59 My employees search out new working methods, techniques or instruments	
		IWB60 My employees generate original solutions for task related problems	
		IWB61 My employees find new approaches to execute tasks	
		IWB62 My employees make important company members feel enthusiastic about innovative ideas	
		IWB63 My employees attempt to convince people to support innovative ideas	
		IWB64 My employees systematically introduce innovative ideas into work practices	
		IWB65 My employees contribute to the implementation of new ideas	
		IWB66 My employees put effort in the development of new things	

Table 3.6: Item Measurement for Employees

Variables		Item Measurement	References
Organisati-onal Creative Climate	Challenge and Involvement	CH01 Most people here strive to do a good job	Isaksen and Ekvall (2015)
	Freedom	FR06 People here make their own choices about their daily work	
	Trust/ Openess	TR34 People here do not talk behind each other's backs	
	Idea Time	IT3 Most people have time to think through new ideas here	
	Humour/ Playfulness	HP07 People here exhibit a sense of humour	
	Conflict	CF24 It is common here to have people plot against each other	
	Idea Support	IS09 People here receive support and encouragement when presenting new ideas	
	Debate	DB05 Many different points of views are shared during discussion	
	Risk Taking	RT15 People here can move forward even in face of uncertainty	
Knowledge Sharing		KS57 When I need certain knowledge, my colleagues tell me what they know	Kim and Lee (2013)
		KS58 When my colleagues are good at something, I ask him to teach me how to do it	Wang, Tseng, and Yen (2014)
		KS59 When I need to learn something, I ask my colleagues about their skills and abilities	
		KS60 I like to be informed of what my colleagues know	
		KS61 I would share my knowledge with others if it is beneficial to the organizations	
		KS62 I would share my knowledge with others if they would do so	
		KS63 I would share my knowledge to others if they need it	
		KS64 I always share new knowledge with others	
		KS65 I will demonstrate something which is hard to explain to others	
		KS66 I will keep information in record for others' reference	

Table 3.6 continued

Variables	Item Measurement	References
Innovative Work Behaviour	IWB67 I pay attention to issues that are part of my daily work IWB68 I wonder how things can be improved IWB69 I search out new working methods, techniques or instruments IWB70 I generate original solutions for task- related problems IWB71 I find new approaches to execute tasks IWB72 I make important company members feel enthusiastic about innovative ideas IWB73 I attempt to convince people to support innovative ideas IWB74 I systematically introduce innovative ideas into work practices IWB75 I contribute to the implementation of new ideas IWB76 I put effort in the development of new things	De Jong and Den Hartog (2010)

As this study involved two different types of informants, the designs of the questionnaire were slightly different for both sets. In the entreprenur set, the entrepreneurs were asked about their perspective of organisational creative climate (Section A), and to evaluate their employees' innovative work behaviour (Section B). In the employee set, the employees were required to answer questions about organisational creative climate (Section A), knowledge sharing (Section B), and innovative work behaviour (Section C) that represent their agreement or disagreement on those constructs.

As recommended by Boh-Nehles and Veenendal (2019), Raja and Madhavi (2018), Ali Chugtai (2016), DeSpiegelaere et al. (2015), in order to minimize the common method bias, it is suggested that the data for innovative work behaviour should

be accessed from multiple informants through the supervisory rating and employee rating. Therefore, in this context of study, the entrepreneurs evaluated their employees' level of innovative work behaviour, whilst the employees evaluated their own level of innovative work behaviour.

Both sets of questionnaire were developed and divided into four sections containing questions for related constructs. These sections were marked using headings and instructions to make it easy for the respondents to follow and answer the questions. For the entrepreneur set, Section A comprised question about the perception regarding immediate work environment in terms of challenge and involvement (7 items), freedom (7items), trust/openness (5 items), idea time (6 items), humour/playfulness (6 items), conflict (6 items), idea support (5 items), debate (6 items), and risk taking (5 items). The total number of question is 56 including three additional open-ended questions asking the respondents about their perception of the aspects that help and hinder their creativity, and the action taken to improve the creative climate in their working environment. Section B comprised questions about employees' innovative work behaviour in terms of creativity-oriented behaviour (5 items) and implementation-oriented behaviour (5 items). The information of the business profile such as sub-sector of the business, year of establihment, and number of creative and innovative employees was added in Section C. The classification of sub-sectors of services was designed according to the Table 3 that indicates Industrial Classifaction developed by the Department of Occupational Safety and Health Malaysia as shown in Appendix O. Section D required the respondents to provide their demographic information in terms of gender, age, race, highest education, the current functions, and years of working experience as entrepreneurs. Regarding the demographic profile, age was categorized into six classes (ranging from 18 – 24, and to 65 and above years old) as recommended

in the Business Registration Act 1956 and by the Companies Commission of Malaysia. The classification of functions was developed based on the Malaysia Standard Classification of Occupations (MASCO) under the Ministry of Human Resources Malaysia as shown in Appendix P. Table 3.7 shows the summary of the questionnaire design for entrepreneur set.

Table 3.7: Questionnaire Design for Entrepreneurs

Section	Variables	No of Item	Scale
A	Organisational Creative Climate	56	Interval
	• Challenge	7	
	• Freedom	7	
	• Trust	5	
	• Idea Time	6	
	• Humour/Playfullness	6	
	• Conflict	6	
	• Idea Support	6	
	• Debate	6	
	• Risk Taking	5	
	• Open-ended questions	3	
B	Innovative Work Behaviour	10	Interval
C	Company Profile	3	
	• Year of Establishment		Ratio
	• Sub-sector of Business		Nominal
	• Number of creative and innovative employee		Ratio
D	Demographic Profile	5	
	• Gender		Nominal
	• Age		Ordinal
	• Highest Education		Nominal
	• Current Function		Nominal
	• Work Experience		Ordinal
	Total Items	74	-

For the employee set, section A comprised question about the perception of immediate work environment in terms of challenge and involvement (7 items), freedom (7 items), trust/openness (5 items), idea time (6 items), humour/playfulness (6 items), conflict (6 items), idea support (5 items), debate (6 items), and risk taking (5 items).

Three additional open-ended questions were asked to the respondents about their perception of work setting that is most helpful and most impeding in supporting creativity, and the most important action would be taken to improve the creative climate in their working environment. Overall, the number of organisational creative climate question is 56.

Section B required the respondents to assess the extent of their practice of sharing knowledge in the organization which consist of 10 items. Section C comprised questions about individuals' innovative work behaviour in terms of creativity-oriented behaviour (5 items) and implementation-oriented behaviour (5 items).

The last secion (Section D) required the respondents to provide their demographic profile such as gender, age, race, highest education, current function, years employed in the organizaiton and years of work experience. Regarding the demographic profile, age was categorized into six classes (ranging from 24 years old and below to 65 years old and above) as stipulated in the Employement Act, 1966. According to the Department of Statistic Malaysia (2016), working age is defined as *those who are between 15 to 64 years age group (in completed years at last birthday) during the reference week, who are either in labor force or outside labor forced*. The classification of education level was classified into six levels (ranging from SPM to Others) as stipulated by the Department of Statistic Malaysia. The categorisation of working experience was designed based on the previous study on the field of social sciences in Malaysia (Chen, Jaafar, & Noor, 2012; Sim & Idrus, 2004). Table 3.8 shows the summary of the questionnaire design for employee set.

Table 3.8: Questionnaire Design for Employees

Section	Variables	No of Item	Scale
A	Organisational Creative Climate	56	Interval
	• Challenge	7	
	• Freedom	7	
	• Trust	5	
	• Idea Time	6	
	• Humour/Playfullness	6	
	• Conflict	6	
	• Idea Support	6	
	• Debate	6	
	• Risk Taking	5	
	• Open-ended questions	3	
B	Knowledge Sharing	10	Interval
C	Innovative Work Behaviour	10	Interval
D	Demographic Profile	7	
	• Gender		Nominal
	• Age		Ordinal
	• Highest Education		Nominal
	• Current Function		Nominal
	• Duration in Current Function		Ordinal
	• Duration Employed		Ordinal
	• Work Experience		Ordinal
Total Items		**83**	**-**

These sets of questionnaire used open-ended and closed format items. For the entrepreneur set, the type of question for section A and B was closed questions. In section C and D, open-ended items and single-choice items were used. For the employee set, all items in a questionnaire for section A, B, and C use closed format items, while section D used a single-choice item. However, there are three open-ended items in Section A (organisational creative climate) for both sets of questionnaire. The open-ended questions might provide some opportunities to the respondents in commenting more points which were not covered sufficiently. It is practicable to use a mixture of format in getting more overview on the perception of work environment particularly in startups setting.

The open-ended items provided opportunity for the respondents to express their opinion freely (Chua, 2016). Meanwhile, closed questions would ask the respondents to make choices among a set of alternatives given by the researcher. There are several benefits of using closed questions for instance, it assists the respondents in making a quick decision to choose from among several alternatives, ensures that the coding process can be done easily for subsequent analysis (Sekaran, 2006) and eases the researcher in interpreting the results.

The Likert scale, categorized as closed format, was used in this study. The Likert scale is most suitable for the context of this research because it is a "subject-centered" scale specially designed to scale the respondents (Sekaran, 2006), whereby the respondents would be specifying their degree of agreement or disagreement to each statement in the questionnaire. Furthermore, Likert scale produces most information by reducing the amount of leniency (Meric, 1994) and obtaining attitudinal information (Fishbein and Ajzen, 1975). The use of Likert scale would help to ease the process of constructing the questionnaire, understanding the questions clearly and conducting the administration process effectively (Malhotra, 2007).

A number of researchers concerning the optimal number of scale points, the effects of the number of scale points, and the scales' reliability and validity were conducted in the past (Cicchetti et al., 1985; Lissitz and Green, 1975; Ramsay, 1973). According to Leung (2016), the Likert scale is one of the most widely used instruments for measuring opinion, preference, and behaviour. Leung (2016) added that there is no exact point to be used depending on the categories. However, some studies used five to seven points or even extended to ten points. Referring to the study done by Chomeya (2010), the findings indicated that the six-point Likert scale score higher value than the

five-point Likert scale in terms of discrimination and reliability value. Further, the researcher mentioned that a six-point Likert scale is suitable to be used in a research which has several variables because it will treat the test as a whole with the less numbers of items, which in turns reduces the burden of the respondents. Moreover, some researchers argued that a six-or seven-point Likert scale performs best (Green and Rao, 1970; Ramsay, 1973), whilst others suggested that a three-point Likert scale was sufficient (Jacoby and Matell, 1971).

For the purpose of this study, the four-point and six-point Likert scales were used to measure each construct of the study. For the organisational creative climate construct, the four-point likert scale was used as initiated by CPSB with the scale of 1 (Not at all applicable), 2 (Applicable to some extent), 3 (Fairly applicable), and 4 (Applicable to a high degree). The items for knowledge sharing and innovative work behaviour constructs used six-point scale response categories ranged from 1 (strongly disagree) to 6 (strongly agree). The use of four-point and six-point Likert scales provided a shorter scale to assist the respondents to complete the questionnaire and avoid a midpoint and neutral answers. The ignorance of the middle neutral point would force the respondents to either agree or disagree to a statement (Chua, 2016). Besides, the respondents who were "on the fence" were required to think deeper about the statement. For example, a study conducted by Ali and Buang (2016) and Xerri and Brunetto (2011) used a six-point scale to assess the innovative behaviour instruments. Meanwhile, Ahmad, Jasimuddin, and Kee (2018) used a four-point Likert scale to measure the employees' perception about their work environments.

The use of a five-point Likert scale tends to influence the respondents to be bias towards the centre point as they assume that the centre point is neutral or the average

answer. This practice fits in the Malaysian culture whereby Malaysians prefer to favor a middle path as they believe it is the easiest and fastest way in completing the questionnaire. Therefore, the four-point and six-point (even point) Likert scales were used in the questionnaire in order to ensure that the respondents would give specific opinions. As survey research among startups in Malaysia is still new especially with regard to creative and innovative perspective, fewer Likert scale categories would most likely help the respondents understand the information required, and this in turn will increase the response rate.

In order to establish the legitimacy of the research activity and gain the respondents' trust, the logo of University of Malaya was presented on the questionnaire's cover page. As highlighted by Greer aand Lothia (1994), presenting the university logo can convince the respondents to participate in the study and ultimately increase the response rate. In addition, Chua (2016) highlighted that the attached questionnaire's cover page should be presentable in a professional format.

3.7.2 Validity of the Questionnaire

According to Chua (2016), validity is defined as "the correlation value between measurement and the true value of a variable. If a measurement accurately reflects the true value of the variable, the value of correlation will be high and the research will have high validity" (p. 290). In this study, content validity of the questionnaire was conducted to measure an adequate and become a set of items that represents the concept. Even though this study used established measurement, it is advisable to test for the acceptableness and satisfactoriness of the validity and reliability (Sekaran, 2006).

In order to validate the content of the instrument and obtain more valuable information from the industry particularly startup setting, interview sessions were conducted with experts including academic experts, entrepreneurs, and the entrepreneurial teams. The academic experts are the professor and senior lecturers in the field of management from the Public University in Malaysia, while the entreprenuerial teams include the individuals who hold share in a business, work actively in the venture and contribute to decision-making with regard to the venture's development (Khan et al., 2015). The academic experts were chosen based on their knowledge and academic background. However, the selection of the experts from the industry was based on the referral obtained from startups agency.

The experts were asked to evaluate the instruments to be used and identify if any misleading is present. The outputs of their feedback were crucial and had served as a guideline in improvising the questionnaire before the actual study was carried out. In addition, all the comments and feedbacks from them were considered to ensure that the questionnaire was aligned with the research objectives and research questions.

3.7.3 Translation Process

As noted, the questionnaire used established english instrument but the modification and act of rephrasing the wording were conducted to suit the context of this study as well as the environment setting. Notably, Bahasa Melayu has been recognized as the national language for Malaysia as stipulated in the Article 152 of the Constitution of Malaysia. In addition, Malaysia has been known as a multi-ethnic society and multi-lingual society. Therefore, Ng (2006) suggested that translating the questionnaire into different languages is a "standard procedure" particularly in an Asian country like Malaysia. Given the justifications, the questionnaire in this study was

developed into two versions, English and Bahasa Melayu. Previous researchers recommended the use of multiple languages in the questionnaire as a method to attract the respondents especially native respondents to give their response (Harzing, 2006; Bond and Yang, 1982).

The translation process was conducted with the assistance of expert translators from the Faculty of Languages and Linguistics, University of Malaya. The objective of the translation is to ensure that the Bahasa Melayu version correctly reflects the meaning of the English instrument. After the translation process had been done, the backward translation was conducted by the academician and experts from the above-mentioned faculty in order to retain similar meanings and the right interpretation of the original English instrument. Finally, after going through the attentive translation process, the Bahasa Melayu version has been confirmed to have an equal standard to the English version.

3.7.4 Dependent, Independent, and Intervening Variables

The cause and effect of research was tested in this study. To establish causal and effect relationships, the association of dependent variable and independent varible was framed into one model. In essence, dependent variable is the main interest of the study, which acts as the ultimate outcome of the research findings. An independent variable serves as a predictor that either positively or negatively influences the dependent variable. In other words, the variance in dependent variable depends on the independent variable. The variance in the dependent variable was also accounted for by the intervening variable. Sekaran (2006) described intervening variable as *"one that surfaces between the time the independent variables start operating to influence the dependent variable and the time their impact is felt on it"* (p. 94). She elaborated that

intervening variable surfaces as a function of the independent variable operating in any situation, and helps to conceptualize the relationship between independent variable and dependent variable.

The independent variable in this study is organisational creative climate. There are nine dimensions of the independent variable which refer to the determinants of organisational creative climate comprising challenge and involvement, freedom, trust/opennes, idea time, humour/playfulness, conflict, idea support, debate, and risk taking. Knowledge sharing was treated as an intervening variable or mediating variable with two dimensions comprising knowledge collecting and knowledge donating.

The dependent varaible in this study is innovative work behaviour. There are two determinants of innovative work behaviour namely creativity-oriented behaviour and implementation-oriented behaviour. Creativity-oriented behaviour has two dimensions namely idea exploration and idea generation, while implementation-oriented behaviour has two dimensions which are, idea promotion and idea implementation.

3.8 Pilot Test

A pilot test was implemented before conducting the actual data collection. It is also known as "mini research" or "feasibility study". The reason for conducting pilot study is primarily to ensure the validity and reliability of the survey instrument (Chua, 2016). According to Salome, Damilola and Sunday (2013), a pilot study is conducted to identify the weaknesses in the questionnaire such as to detect any ambiguities and poor-constructed items that are irrelevant to the probability sample. The subjects of the pilot test were drawn from the target population and the test was conducted in the same methodology as planned for the actual study. The respondents for the pilot study do not

have to be statistically selected. Thus, the respondents of this pilot study involved entrepreneurs and employees of startups in Klang Valley area.

Various thoughts of the minimum sample of pilot test have been discussed in previous literature. For instance, Chua (2014, 2016) suggested 30 to 40 subjects to be a sufficient number to conduct the pilot study. Further, Hair et al. (2011) mentioned the total number of 30-50 respondents is adequate to run a statistical testing procedure for pilot test. This study conducted a pilot test using a sample of 105 startups in Klang Valley area. In total, 105 entrerepreneurs and 105 employees from among startups participated in the pilot test. The sample was randomly selected from among MARA entrepreneurs and other startups in Klang Valley area. The finding of the pilot study served as a guide and reference in determining the level of feasibility and suitability of an actual study that will be carried out (Chua, 2016).   Besides, the purpose of conducting the pilot test was to evaluate the suitability of the research questions and designs, estimate the cost and time needed, and identify any problems that may occur while completing the questionnaire. All comments and remarks with regard to the pilot study were refined and improved to control the shortcomings and enhance data collection process in the actual study.

The reliability of the measures was assessed based on the Cronbach's apha coefficient. The assumption of Cronbach's alpha is, the closer Cronbach's alpha to 1, the higher the internal consistency reliability (Sekaran, 2006). In Social Science study, if the Cronbach's alpha value is 0.60 and above, it is considered as an acceptable value (Hair, Black, Babin, & Anderson, 2010; Sekaran, 2006). Accroding to Sousa et al. (2006), if the value is above 0.70, the scale is reliable. However, the lower value might be acceptable depending on the research objectives (Hair et al., 2007). As suggested by

Nunally (1978), the alpha coefficients range between 0.50 to 0.60 is acceptable for the exploratory research.

The result of reliability test as shown in Table 3.9 indicates that overall Cronbach's alpha value of the items used are satisfactory for entreprenuers and employees set. Further, the reliability of each constructs for the entrepreneurs' pilot test value range from .643 to .929, whilst the reliability of each constructs for the employees' pilot test range from .518 to .924 which indicates good and acceptable.

Table 3.9 Reliability Results for Pilot Test

Construct	Entrepreneur		Employee	
	Number of Items	Cronbach's Alpha	Number of Items	Cronbach's Alpha
Organisational Creative Climate	53	.929	53	.924
Challenge and Involvement	7	.819	7	.782
Freedom	7	.771	7	.691
Trust/Openness	5	.643	5	.518
Idea Time	6	.680	6	.730
Humour/Playfulness	6	.746	6	.700
Conflict	6	.814	6	.817
Idea Support	5	.739	5	.779
Debate	6	.747	6	.725
Risk Taking	5	.705	5	.618
Knowlege Sharing	Not Applicable	-	10	.867
Innovative Work Behaviour	10	.929	10	.868
Overall	63	-	73	-

3.9   Data Collection Procedures

Sources of data can be divided into two namely: primary source and secondary source. A primary source is the information obtained "firsthand" by the researcher, for instance questionnaire and interview session with focus groups and panels. Secondary

sources can be gathered from reports, government publications, archives and so forth. In this study, the primary data collection method was employed. The main method used questionnaire survey to collect data on a large scale. Self-administered questionnaire was used to collect data from the startups in Malaysia. In this study, the procedures of data collection involved two different process namely: (1) face to face was mainly conducted in Peninsular Malaysia and (2) non-face to face was applied for startups in Sabah and Sarawak. The following Figure 3.2 and Figure 3.3 present the work flow of the data collection process implemented in Peninsular of Malaysia, and Sabah and Sarawak respectively.

The questionnaire was personally administered through appointments with the entrepreneurs in all states in Peninsular Malaysia. To ensure a high response rate, several processes were employed. A telephone call has been made with the entrepreneurs to request their cooperation and participation in this study. After a brief introduction as well as an explanation of the objectives of this study via phone calls to the respective respondents, a brief information and sample questionnaire, student's confirmation information, letter of approval from agencies were emailed and messaged to their phone for their reference immediately after the telephone conversation. Upon approval and getting permission to distribute the questionnaire to the company, appointment has been made with the entrepreneurs and employees two weeks before the meeting. A follow-up call was made three days before the appointment as a reminder to the entrepreneurs and employees.

However, the alternative methods were also used including online questionnaire which was developed due to the difficulties to set up an appointment with the entrepreneurs and employees of the startups. For Sabah and Sarawak, online

questionnaire was the solely method applied in obtaining the participation of startups in both states. Moreover, online questionnaire also served as a backup in getting more participation from startups in Peninsular Malaysia, Sabah and Sarawak.

In order to ensure high involvement and return rate of the online questionnaire particularly in Sabah and Sarawak, a systematic follow-up procedure with the respondents was planned. A telephone call has been made with the entrepreneurs to request for their cooperation and participation in this study. After a brief introduction and an explanation of objectives of this study by phone calls to the respective respondents, a brief information, pictures of sample questionnaire, student's confirmation information, and letter of approval from agencies were messaged to their phone. The link to the online questionnaire was also forwarded through message and Whatsapp medium to the startups that were willing to participate in this study. After three days, a first follow-up call was made to those who still did not respond to the online form. Those who still did not complete the questionnaire were given another five days to answer. Another phone call as well as message was given on the fourth day as a reminder for the particular subjects. This process was employed to increase the participation from the respondents, and maximize the response rate. The data collection process was carried out from July 2017 to December 2017.

As a token of appreciation, incentive to encourage participation was offered, which was, in a form of RM5 KFC Voucher once the respondents completed answering the questionnaire. For the respondents in Sabah, Sarawak, and other states who were not met personally, the KFC Voucher was posted to them. Besides, this process was designed to increase participation from among the respondents, and maximize the response rate.
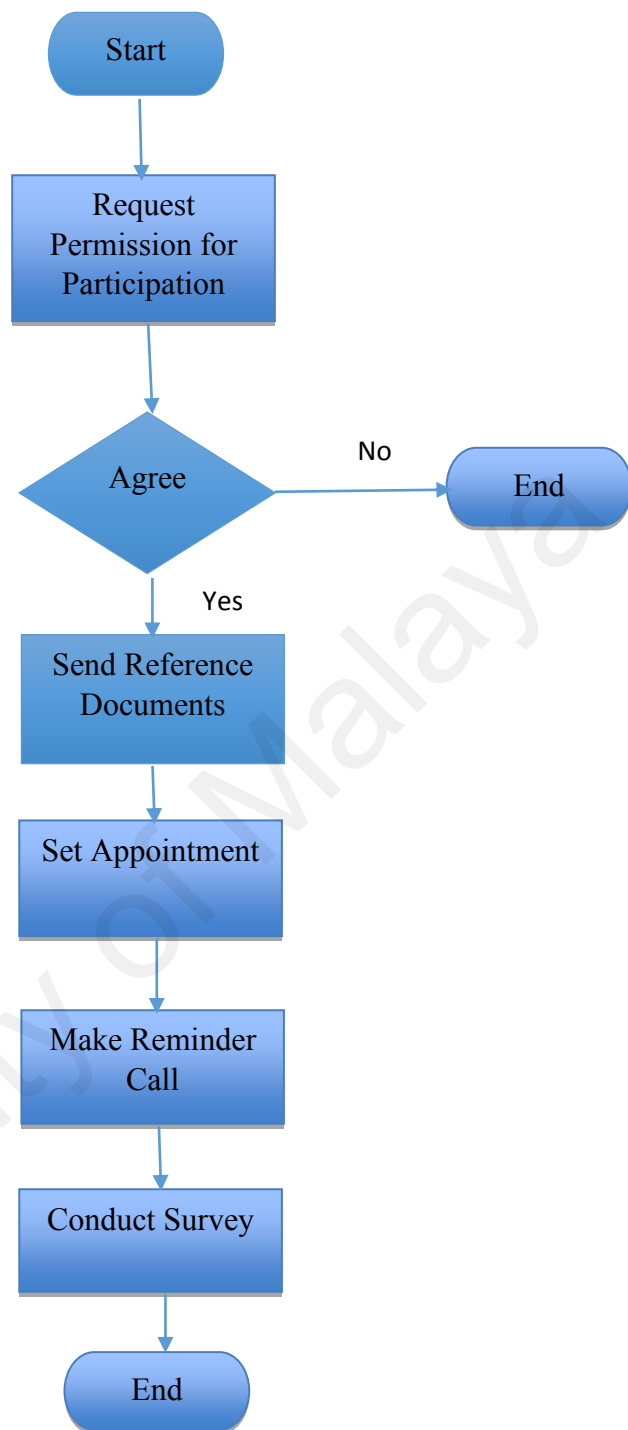
Figure 3.2: Flow Chart of Face to Face Data Collection Process
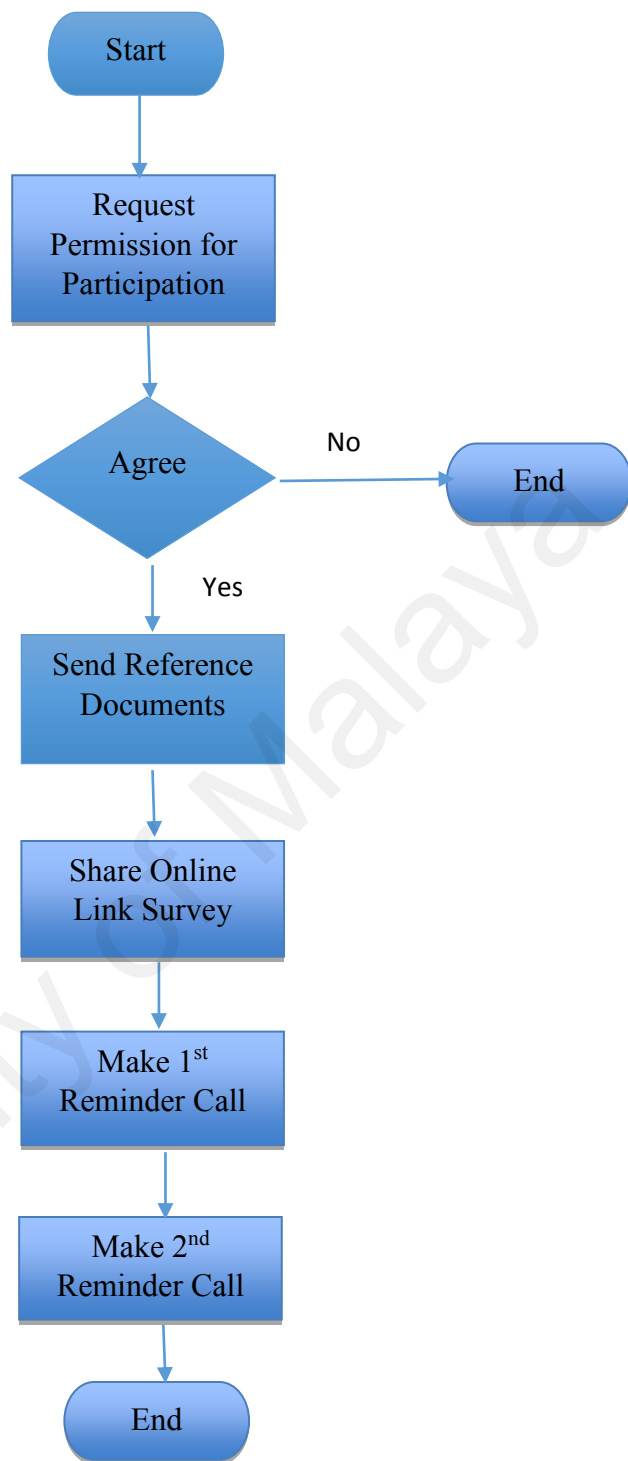
Figure 3.3: Flow Chart of Non-Face to Face Data Collection Process

3.10 Method of Data Analysis

The process of analysing the data is mainly to determine the relationship between both exogeneous and endogenous constructs, and obtain more extensive and deep information about the variables under investigation in the research study (Amaratunga et al., 2002).

The purpose of this sub-section is specifically to explain comprehensively the statistical analysis used to analyse the data and results of the actual findings. There are three stages involved in a process of data analysis which are preliminary analysis, hypothesis testing and conclusion of the final finding. This research applied the Statistical Package for Social Science (SPSS) software version 23 as this software is widely used in analysing data. For the preliminary analysis, SPSS was used to code the data, check the outliers, and examine the normality. Additionally, the software facilitated in calculating the frequencies, means, standard deviations, besides performing the non-response bias and common method tests. Further, Structural Equation Model-Partial Least Square (SEM-PLS) was applied in testing the hypothesis of this research study.

3.10.1 Preliminary Analysis

The preliminary analysis was purposely conducted to ensure that the data are clean and the quality of the data is reliable and valid for further analysis. It is important to determine that the data are free from outliers, multicollinearity and non-response bias issues. Besides, it was employed to ensure there is no missing value and the normality of the data. The following sub-sections elaborate the detail descriptions and assumptions of the analysis.

i.   Assessment of Outliers

A common error identified in most of the studies is error outliers. Error outliers refer to data points that lie at a distance from other data points because they are the result of inaccuracies (Aguinis, Gottfredson & Joo, 2013). The possibility of an error outlier may arise when the population not being a part of the study is calculated along with the actual population. Moreover, there are a possible range of values which is not aligned to the actual values, errors in observation, errors in recording, errors in preparing data, errors in computation, errors in coding, or errors in data manipulation (Tabachnick & Fidell, 2007).

Therefore, in order to minimize the error outliers, this study determined the values of Mahalanobis distance aligned to multiple constructs as in the model. Mahalanobis distance is the distance of a case from the centroid of the remaining cases where the centroid is the point created at the intersection of the means of all the variables (Tabachnick & Fidell, 2007). The values can be evaluated for each case using the Chi Square values (x^2) distribution with the degrees of freedom equal to the number of variables and the p values less than 0.001.

ii.   Assessment of Normality

Normality of data is defined as the mean, median and mode values that are equal as the data curve is symmetric. Standard normal data are set by the mean value equal to zero and standard deviation equal to one. To test the normality of data, the results may be interpreted visually by plotting or identifying the significance test using SPSS software. Visual plotting, the histogram, stem-and-leaf plot, boxplot, P-P plot (probability-probability plot), and Q-Q plot (quantile-quantile plot) were used in this study for checking normality visually, while a common significance test used

Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests. Basically, the Kolmogorov-Smirnov test is used to test large data sets while the Shapiro-Wilk test is more appropriate for a smaller sample, such as 50 in numbers or less. This assesses the normality of the distribution of the scores with the result of non-significant (significant values more than 0.05) indicating normality of the data. Conversely, the result with a significant value less than 0.05 indicates non-normal status of the data presented.

iii. Assessment of Multi-collinearity

Multicollinearity is ideally found to produce unstable and unreliable estimates between two or more constructs in the model. This may happen when the regression analysis results from high correlations between the constructs. The assessment of Tolerance values and Variance Inflation Factor based on a linear regression is purposely observed to identify whether high or low multicollinearity. A tolerance is a statistic used to determine how much the exogenous constructs are linearly related to one another which is called as multicollinearity. A tolerance is the proposition of a variable variance not accounted for by other exogenous constructs in the model and the values of tolerance is calculated by 1- R^2 and the values must be more than 0.1. Meanwhile, the Variance Inflation Factor (VIF), it is a reciprocal of the tolerance idea that VIF value should be less than 10.

iv. Non Response Bias

Non-response bias occurs when sample elements from the data gathered are different on the measured variables in non-negligible ways from those that are sampled but from which data are not gathered. Essentially, all surveys are likely to have some degree of non-response bias (Lavrakas, 2004). The independent sample t-test analysis was purposely conducted in this study to measure non-response bias by dividing the

respondents into two groups namely, early response and late response. There are two assumptions of the independent sample t-test derived from Pallant (2010) namely: Levene's test for equality of variances and T-test for equality of means. Firstly, the result of Levene's test for equality of variances is required to test whether the variance of scores for the two groups is the same. The interpretation is if the significance value for Levene's test is greater than 0.05, the result refers to equal variance is assumed, which interprets the two groups are the same. However, if the significance value for Levene's test is equal to or lesser than 0.05, the result referring to equal variance is not assumed, which interprets the two groups are not the same.

Secondly, further analysis was done to confirm the significant difference of the two groups by referring to the Sig. (2 tailed) under the T-test for Equality of Means. There are two interpretations of the significance value in assessing the differences between the groups. If the significance value is equal to or less than 0.05, the result indicates there is a significant difference in the mean scores, while, if the significance values is above 0.05, the result indicates there is no significant difference between the two groups.

v.   Reliability

Reliability is defined as "the capability of all items in the research instrument to consistently measure the concept" (Chua, 2016, p. 293). Another concept of reliability as proposed by Simon and Burstein (1985) is that, "...reliability is essentially repeateability - a measurement procduce is highly reliable, if it comes up with the same result in the same circumstances time after time, even employed by different people".

The reliability of the measures was assessed based on the Cronbach's alpha coefficient value as it indicates the items that are positively correlated to one another. The assumption of Cronbach's alpha is, the closer Cronbach's alpha to 1, the higher the internal consistency reliability (Sekaran, 2006). As a rule of thumb, Hussein (2015) provides an interpretation as follows: a = 0.90 (excellent); a = 0.7 - 0.89 (good); a = 0.60 - 0.69 (acceptable); a = 0.5 - 0.59 (poor); a < 0.50 (unacceptable).

3.10.2 Structural Equation Model

Strutural Equation Model (SEM) is a group of multivariate measurable procedures used to examine connections between one or more latent variables and one or more dependent. Utilizing SEM effectively offers better favourable circumstances over the original of examination systems (e.g. main segment investigation, element examination, or different relapse) where it permits adaptability for analysts to interchange amongst hypothesis and information (Chin, 1998).

According by Chin (1998), SEM permits to: 1) model connections among various indicators and standard variables; b) develop inconspicuous latent variables; 3) model mistakes in estimation for watched variables; and 4) measurably test from the earlier hypothetical and estimation presumptions against exact data. Essentially, there are two best-know fundamental methodologies inside SEM: partial least square (SEM-PLS) and a co-variance approach (CB-SEM) (Wetzels, Odekerken-Schroder & Van Oppen, 2009; Fornell and Bookstein, 1982).

As indicated by Hair et al. (2011), the determination between CB-SEM and SEM-PLS can be made in light of a couple elements, for example, research objective, sorts of estimation model detail, the demonstrating of basic model, information attributes and

model assessment. These creators propose five valuable dependable guidelines, which can be utilized as direction when selecting between SEM-PLS and CB-SEM. The following Table 3.10 illustrates the criteria for selection of appropriate approach for this study.

Table 3.10 Rules of Thumb between Selecting CB-SEM and SEM-PLS

Criteria to Evaluate	CB-SEM	SEM-PLS
1. Research goal		
i. Predicting key target constructs	√	
ii. Theory testing, theory confirmation or comparison of alternatives theories		√
iii. Exploratory of an extension of an existing structural theory		√
2. Measurement model specification		
i. If formative constructs are part of the structural model	√	
ii. If error terms require additional specification such as co-variation		√
3. Structural Model		
i. If a structural model is complex	√	
ii. If a structural model is non-recursive		√
4. Data characteristics and algorithm		
i. Data meet distributional assumptions	√	√
ii. Data did not meet distributional assumptions	√	√
iii. Small sample size consideration	√	√
iv. Large sample size consideration		√
v. Non-normal distribution		√
vi. Normal distribution		
5. Model evaluation		
i. Use latent variable scores in subsequent analyses	√	
ii. Requires global goodness of fit criterion	√	
iii. Need to test for measurement model invariance		√

Source: Hair et al. (2013), Urbach & Ahlemann (2010), Henseler et al. (2009)

Based on the above dependable guidelines, this study embraces SEM-PLS as the strategy statistical method to assess the exploration model in light of the accompanying reasons:

1. The focus of the investigation in this study does not involve the measuring of model invariance. The focus of this study is on expectation components identified with innovative work behaviour aim. Thus, the utilization of latent variable scores is essential to examine the underlying relationship between the latent variable.

2. This study utilizes a large number of latent variables and complex displaying of an exploration model. As per Henseler (2009), PLS is suitable for extensive complex models with numerous latent variables.

3. The focus of this study is to test the connections as per earlier hypothetical information. The ability of SEM-PLS to estimate the connections between the residuals and assess their effects on the model makes this technique the proper methodology.

3.10.3 Mann Whitney U Test Analysis

The main objective of this study is to look at the relationships between variables. Besides determining the relationship between the variables, this study is particularly interested in identifying the differences between two groups of respondents. Ideally, this test evaluates the median values of the test variables for one group differs significantly from the median value of the test variable for the second group.

Thus, a mann whitney u test was employed to determine the significant differences between two sets of scores (Coakes & Ong, 2011) between entrepreneurs and employees with regard to innovative work behaviour and organisational creative

climate. Specifically, this present study used a mann whitney u test to compare the innovative work behaviour level of employees from the perspective of employees themselves as well as the entrepreneurs' perspective. In addition, a mann whitney u test was also used to compare dimensions of organisational creative climate namely, challenge and involvement, freedom, trust/openness, idea time, humour/playfulness, conflict, idea support, debate, and risk taking.

Further, the effect size statistics for mann-whitney u test was calculated in order to indicate the value of the differences between two groups. Pallant (2010) introduced the procedure for calculating the effect size (r value).

The value of r can be calculated using the following formula:

$$r = z / \text{square root of N}$$

$$N = \text{total number of cases}$$

As recommended by Cohen (1988), the threshold for assessing the values for effect size (r value) is shown in Table 3.11 below.

Table 3.11: The Threshold for Assessing R Value

Value	Effect Size
.1	Small effect
.3	Medium effect
.5	Large effect

Source: Cohen (1988)

3.11 Structural Equation Model-Partial Least Square

The Partial Least Squares (PLS) is flexbile approach which facilitates the investigation of complex path models. As per Henseler et al. (2009), its ways models

are characterized utilizing two arrangements of linear equaitons known as the estimation model (inner) and auxiliarty model (outer). The inner and outer model are once in a while otherwise called the structural and measurement model. The measurement model determines the connections between the latent variables and their observed indicators, while the structural model indicates the connections between the independent and dependent variables. The essential PLS calculation includes the accompanying guidelines:

Table 3.12 Guidelines on PLS Application

Topic	Suggestion	Reference
Measurement scale	Avoid using a categorical scale in endogenous constructs	Hair et al., 2010
Value for outer weight	Use a uniform value of 1 as starting weight for the approximation of the latent variable score	Henseler, 2010
Maximum number of iterations	300	Ringle et al., 2005
Bootstrapping	Number of bootstrap "samples" should be 5000 and number of bootstrap "cases" should be the same as the number of valid observations	Hair et al., 2017
Inner model evaluation	Do not use goodness-of-fit (GoF) Index [9]	Henseler and Sarstedt, 2013
Outer model evaluation (reflective)	Report indicator loadings. Do not use Cronbach's alpha for internal consistency reliability	Bagozzi and Yi, 1988
Outer model evaluation (formative)	Report indicator weights. To test the outer model's significance, report t-values, p-values and standard errors	Hair et al., 2017

Source: Hair et al. (2019), Ramayah et al. (2018)

3.11.1 Reflective and Formative Constructs

For the measurement model, it is compulsory to determine at the outset either the constructs are formative or reflective in a path model before testing the reliability and validity. In a formative construct, Petter et al. (2007) characterized as construct that have formative indicators, which are combined to expand the significance of the latent variable. Conversely, for reflective construct, the gathering of indicators is together determining theoretical and exact meaning of the construct.

For reflective construct, the causality arrow is from the latent variable (Y) to the measured indicators (Y1, Y2, Y3). In contrast, the causality flow of formative construct from indicators to the latent variables (Jarvis, 2003). The following Figure 3.4 illustrates the reflective and formative measurement models.

Figure 3.4: The Diagrams of Reflective and Formative Constructs
(Source: Petter et al., 2007)

For measuring reflective measures, it is proper to examine the loadings as thye represent to the connection between the indicators and components scores (Hair et al., 2017). Whilst, for the formative measures, the translation of formative indicators to be based on weight, as it gives data with respect to the significance of every indicator in the formation of the components. For this study, all latent variables are demonstrated as

reflective measures.   Thusly, the causality streams of each latent variable depend on the prior knowledge taken from the literature review.

3.11.2 Evaluating Measurement Model

The assessment of the measurement model can be conducted to determine the internal consistency reliability (Cronbach's alpha and reliability), convergent validity (factor loading and average variance extracted), and discriminant validity (fornell and lacker, cross loading, and heterotrait-monotrait ration of correlation) (Hair et al. 2017).

i.   Internal Consistency Reliabiltiy: Composite Reliability

Traditionally, a measurement items relating to the internal consistency of data was measured utilizing Cronbach's alpha (CA). Basically, the high CA value indicates that the items within the construct have the same range and significance (Cronbach, 1971). In PLS, it is more suitable to assess the inward consistency reliability using the composite reliability (CR) values (Gefen, Straub, & Boudreau, 2000). Knowing the fact that both CA and CR are predominantly used to measure the internal consistency reliability, yet there are still deficiencies of using CA due to the assumption that all indicators are equal weighted (Werts, Linn, & Joreskog, 1974) and it gives a serious underestimation of the internal consistency reliability (Hair, Hult, Ringle, & Sarstedt, 2017).   Conversely, CR typically overestimates the internal consistency reliability which is regarded as an upper boundary to the reliability (Hair et al., 2017).

Ramayah et al. (2018, pg 82) proposed three acceptable values of composite reliability (CR) as follows:

i.   CR > 0.90 (Not Desirable)
ii.   CR > 0.7 – 0.9 (Satisfactory)
iii. CR > 0.6 (for exploratory research)

In a nutshell, if the assumption meets one of the above criteria, the result indicates that the items of the model tested has a high internal consistency reliability.

ii.   Convergent Validity: Factor Loading

The aim of assessing outer loadings is to evaluate the degree to which an indicator is reliable and consistent with what it plans to gauge (Urbach & Ahlemann, 2010). At the point when factor loading indicates the proportion of indicator variance that is explained by the latent variable. Several researchers recommended the acceptable values for indicator reliablity (factor loading) as following:

i.   Loading values equal to and greater than 0.4 are acceptable, if the summation of loadings results in high loading scores, contributing the average variance extracted (AVE) scores of greater than 0.5 (Hulland, 1999).

ii.   Loading values equal to and greater than 0.5 are acceptable, if the summation of loadings results in high loading scores, contributing the average variance extracted (AVE) scores of greater than 0.5 (Byrne, 2016).

iii.   Loading values equal to and greater than 0.6 are acceptable, if the summation of loadings results in high loading scores, contributing the average variance extracted (AVE) scores of greater than 0.6 (Byrne, 2016).

iv.   Loading values equal to and greater than 0.7 (Hair et al., 2010).

v.   Loading values equal to and greater than 0.708, indicating a latent variable is able to explain at least 50 percent of indicator's variance (Hair, Black, Babin, & Anderson, 2017).

It is important to consider the elimination of indicators that carry low indicator reliability because the deletion of indicators subsequently influences the value of Average Variance Extracted (AVE) and CR (Henseler, Ringle, & Sinkovics, 2009).

iii.   Convergent Validity: Average Variance Extracted (AVE)

Convergent validity implies the extent to which singular indicators mirror a construct converging in contrast with indicators measuring other constructs (Urbach & Ahlemann, 2010). Convergent validity is assessed utilizing Average Variance Extracted (AVE) (Hair, Gabriel, & Patel, 2014) as it involves the degree to which a latent construct explains the variance of its indicators (Hair et al., 2017, p. 114).   As indicated by Bagozzi and Yi (1998), Fornell and Larcker (1981), and Hair et al. (2017), the convergent validity is accomplished when the AVE meets the assumption which each construct accounts for at least 50 percent of the assigned indicators' variance (AVE $\geq$ 0.50).   Hence, if the AVE value is equal to or greater than 0.5, the value indicates that the latent variable has a convergent validity.

iv.   Discriminant Validity: Fornell & Larcker's Criterion

Alternatively, discriminant validity explains that a construct has some differences from other constructs (Chang & Pai, 2013). A traditional Fornell and Larcker criterion assessment is basically used to calculate the cross-loadings between other constructs (Fornell & Larcker, 1981). Utilizing Fornell and Larcker's criterion (1981) requires imparting more difference to its allocated indicators than with some other latent variables. To measure the discriminant validity, the value of square root of respective AVE on the diagonal should be greater than the correlation on the off-diagonal. In other words, the assumption underlying discriminant validity is, if the single loading of the indicator is greater for its own latent variable than for the other latent variables in the model, the result interprets that the model is well-differentiated with respect to the other constructs.

v.   Discriminant Validity: Cross Loading

Cross loading offers another alternative in examining discriminant validity. According to Chin (1998), the loading of each item is higher on its own assigned construct than the loading of other latent constructs. The assumption of the cross loading is, if an indicator of its respective latent variable has a higher correlation compared with other constructs, then it can be surmised that the indicators of different constructs are not exchangeable.

vi.   Discriminant Validity: Heterotrait-Monotrait Ratio of Correlations (HTMT)

Henseler, Ringle, and Sarstedt (2015) suggested the application of the Heterotrait-Monotrait Ratio of Correlations (HTMT) as a new approach in assessing discriminant validity due to criticism on the Fornell and Larker's (1981) criterion. Thus, in the PLS, the use of Fornell and Larker's assesment needs to be supported with the HTMT in assessing the discriminant validity. HTMT is defined as the ratio of correlations within the constructs to the correlations between the constructs.

There are two criteria in determing discriminant validity in which the value of HTMT should be less than 0.85 (Kline, 2011) or less than 0.90 (Gold, Malhotra, & Segars, 2001). If the HTMT value is greater than 0.85 or 0.90, it indicates there is a problem of discriminant validity.

3.11.3 Evaluating Structural Model

The structural model indicates the relationship between latent variables of exogenous (independent) variable and endogenous (dependent) variable. The purpose of validating the structural model is to observe whether the hypotheses of the model are

supported by calculating the path coefficients' directions and significance levels (Chin 1998; Urbach & Ahlemann, 2010).

In SEM-PLS, there are five assessments in examining the structural model that comprises of:

i. Assessment of Structural Model for Collinearity issues

ii. Assessment of the Level of Coefficient Determination (R^2)

iii. Assessment of the significance and relevance of the structural model relationship

iv. Assessment of the Effect Size (f^2)

v. Assessment of the Predictive Relevance (Q^2)

Furthermore, in this study, the evaluation of the mediation relationship was tested using the new procedure called bootsrapping of the indirect effect as propagated by Preacher and Hayes (2004; 2008). In addition, Hair et al. (2013) highlighted the application of bootstrapping for mediation analysis which they noted that *"when testing mediating effects, researchers should rather follow Preacher and Hayes (2004, 2008) and bootstrap the sampling distribution of the indirect effect, which works for simple and multiple mediator models" (p. 223).*

i. Assessment the Level of Coefficient Determination (R^2)

The R2 value determines the amount of variance in the endogenous (dependent variable) explained by the latent variables of exogenous (independent variables). The analysis of R^2 was purposely conducted to measure the model's predictive accuracy. The R^2 value between 0 to 1 indicates a higher level of predictive accuracy. Moreover, Falk and Miller (1992) supported that the R^2 that is equal to or greater than 0.10 is considered adequate to show the variance of a particular endogenous construct.

Additionally, in order to achieve a minimum level of explanatory power, a higher R value for the model is better (Urbach & Ahlemann, 2010). Hence, various different rules of thumbs for acceptable R^2 are proposed as below:

a.   Where 0.26 - substantial; 0.13 – moderate; 0.02 – weak (Cohen, 1989)

b.   Where 0.67 – substantial; 0.33 – moderate; 0.19 – weak (Chin, 1998)

c.   Where 0.75 – substantial; 0.50 – moderate; 0.25 – weak (Hair et al., 2017)

ii.   Path Coefficients and Significance Values

In the structural model, each path is linking two latent variables to represent a hypothesis. The examination of path coefficient value is basically done to confirm the hypothesis proposed and provide the understanding of the strength relationship between dependent and independent variables. The path coefficients of the PLS structural model can be interpreted as standardized beta coefficients, t-statistic value, and standard error (Ringle & Sinkovics, 2004). The path coefficients present algebraic sign, magnitude, and significance of the relationship (Urbach & Ahlemann, 2010). As mentioned by Hair et al. (2017), the path coefficients have standardized values between -1 and + 1. Estimated path coefficients close to +1 represent strong positive relationships, and coefficients close to -1 represent strong negative relationships. The closer the estimated coefficients are to 0, the weaker the relationships. Meanwhile, the low values close to 0 are usually non-significant.

In order to obtain the t-values for the significance testing of the structural path, a bootstrap technique ought to be used to estimate the shape, spread, and bias of the sampling distribution. Bootstrapping is defined as redrawing samples randomly from the original sample with replacement (Zhu, 2013). The importance of bootstrapping lies in the determination of the number of resample that needs to be re-drawn generally from

50 to 200 bootstrap samples (Efron & Tibshirani, 1986). Meanwhile other studies mentioned at least 1,000 bootstrap samples should be generated (Efron, 1988) to build bootstrap confidence intervals. However, Ramayah et al. (2018) suggested the use of a large number of bootstrap subsamples ie. 5000 subsamples for the final results. In addtion, the more bootstrap subsamples are taken, the better the estimation (Zhu, 2013). This indicates the approximate t-values for significance testing of the structural path (Wong, 2013).

The use of bootstrap procedure also aims to construct the confidence interval bias for parameter. The confidence interval is computed using the percentile method (Hayes & Scharkow, 2013). A 95% percentile-based construct by finding the two bootstrap estimates in the sample of 5,000 is defined as 2.5th and 97.5th percentiles of the distribution (MacKinnon, 2008; Preacher and Selig, 2012; Hayes & Scharkow, 2013).

Notably, the significance value of each relationship is measured based on the t-statistic values of the result. In this study, the bootstrap was conducted to determine the standard error in order to test for significance (Hair et al., 2017). Further, Hair et al. (2017) hightlighted the path coefficients should be at least at the 0.05 level of significance. The following presents the level of acceptance for path coefficient as proposed by Hair et al. (2017).

a. p value < 0.01; t value > 2.58 (two-tailed) and t value > 2.33 (one-tailed)

b. p value < 0.05; t value > 1.96 (two-tailed) and t value > 1.645 (one-tailed)

c. p value < 0.10; t value > 1.645 (two-tailed) and t value > 1.28 (one-tailed)

iii.   Effect Size (f^2)

Effect size can be defined as "the difference of the R^2 values for estimating the model with and without predecessor construct" (Ramayah, 2018, p. 146).   The assessment of f^2 is to determine the effect of exogenous contruct built on an endogenous construct. The effect size f^2 is calculated as the increase in R^2 relative to the proportion of variance of the endogenous latent variable that remains unexplained (Ringle & Sinkovics, 2004).

According to Cohen (1988), the treshold for assessing the f value can be categorized into three levels which are small, medium and large scale.   Each of the effect size presents the value of small is 0.2, medium is 0.15 and large, 0.35. The 0.0 value indicates non-effect size to R^2.

iv.   Assessment of the Predictive Relevance (Q2)

The predominant measure of predictive relevance is Stone-Geisser's Q2 (Stone, 1974; Geisser, 1975).   In PLS software, the blindfolding procedure is calculated to asesses the predective relevance.   According to Ramayah et al. (2018, p. 146), blindfolding process involves a resampling technique that systematically deletes and predicts every data point of the indicators in the model of endogenous contruct. Further, the comparison of original values with the predicted values is determined utilizing this procedure.   This procedure is applicable to endogenous latent variables that have a reflective measurement model operationalization as well as to endogenous single-item construct.

In this study, the blindfolding procedure was calculated using the cross validated redundancy (CVR) instead of the cross-validated communality (CVM) which interprets

the fits of the PLS path modelling as recommended by Hair et al. (2017). This is because CVR method uses the key elements of structrual model (scores of the antecedent constructs) and the measurement model (target endogenous construct) to predict eliminated data points. The cross-validated redundancy of the construct required to obtain an omission distance (D) to meet the values between the range of 5 to 12 (Chin, 2010). In order to determine the right D values to be used, the number of sample size was divided with the D. After the calculation, the output should produce a round number and not an interger number as a requirement in assessing the predictive relevance. The assumption of the predictive relevance is, the prediction of observables or potential observables is much greater relevance than the estimator of what are often artificial construct-parameters (Chin, 1998). According to Geisser (1974); Stone (1974); and Hair et al. (2017), if the value of certain endogenous variable(Q^2) is larger than 0, it can be interpreted that the exogenous variables have predictive relevance to the endogenous variable.

vi.   Assessment for Collinearity Issue

In a structural model, the lateral collinearity issues (predictor-criterion collinearity) ought to be addressed even though the discriminant validity (vertical collinearity) have fulfilled the requirement due to the fact that the finding sometimes might be misrepresented in the model. The collinearity issues exist when two different exogenous variables measure the same construct. Supposedly, each set of predictor constructs should be accessed separately for each subset of the whole structural model. Hence, every arrangement of exogenous variables in the internal model needs to be checked for the likelihood of the collinearity issue to be happened.

In the evaluation of collinearity issues, two different rules of thumb can be applied. According to Hair et al. (2017), the Variance Inflation Factor (VIF) value of equal to or more than 5.0 indicates a potential collinearity issue. Meanwhile, Diamantopoulos and Sigouw (2006) set the criteria of VIF value of 3.3 or higher as collinearity problem that potentially exists in the model.

3.11.4 Mediating Relationship

The direct and indirect effect relationships between exogenous and endogenous constructs could change the impact of the basic model (Henseler et al., 2009). In order to test direct or indirect relationship, mediating or moderating is taking place. The change represents as an intervening variable between both constructs with regard to how and why the relationship exists (Baron & Kenny, 1986). According to Baron and Kenny (1986), mediation is defined as "*the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest.... (and) mediation is best done in the case of a strong relation between the predictor and criterion variable*" (p. 1173).

The technique in testing for mediation effect called causal procedure method was initiated by Judd and Kenny (1981) and Baron and Kenny (1986). The Baron and Kenny's method provides a straightforward three causal relationship steps in confirming the mediation effect. For instance, if there is a significant relationship of X and Y, X and M, M and Y, then mediation can be accepted. However, if the relationship is insignificant, it can be considered that there is not mediation.

Unfortunately, the Baron and Kenny's method has been reprimanded due to its deficiency as indicated by Preacher and Hayes (2004; 2008) and Hayes (2009).

According to Baron and Kenny (1998), all steps must be significant for the mediation to be concluded. Additionally, Rungtusanatham et al., (2014) claimed that this method has a very low power and the multiple steps might lead to false conclusion of the existence of mediation though there is no mediation effect. Furthermore, several scholars suggested the analysis of the mediation whereby it is not compulsory to have a significant relationship pertaining the direct effect (Zhao, Lynch, & Chen, 2010; Shrout & Bolger, 2002).

The indirect effect is the key to exploring mediation effect (Hair et al., 2017; Hayes & Rockwood, 2016; Preacher & Hayes, 2012). Thus, Preacher and Hayes (2008; 2004) introduced the new directions in mediation analysis called "bootstrapping the indirect effect". This nonparametric resampling method (bootstrapping) is the most standout amongst the most thorough and capable strategies for testing the mediating impacts (Zhao et al., 2010; Hayes, 2009; Shrout & Bolger, 2002). The utilization of Sobel test will prompt a wrong conclusion as it offers impact to the standard mistakes. Further, bootstrapping the roundabout impact method is said to be impeccably fitting and appropriate for PLS- SEM due to no suspicions about the state of the variables' conveyance or the dissemination of the measurement, and it fit for smaller sample sizes (Hair et al., 2017; Preacher & Hayes, 2008).

The following Figure 3.5 illustrates the simple mediator model, whereby P_3 is the direct effect, P_1*P_2 is the indirect effect and the total effect of direct effect (P_3) + the indirect effect (P_1*P_2).
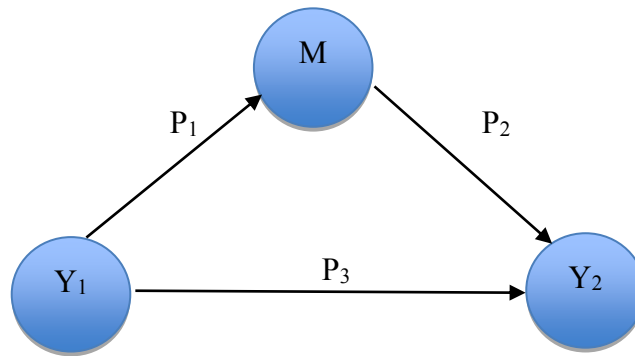
Figure 3.5: Mediation Model

3.12   Chapter Summary

This chapter discussed the methodology and approach used for data collection and analysis.   Firstly, before the data collection process, several requirements were considered such as population, sampling frame, sample size, unit of analysis, and techniques used for data collection. In addition, this section discussed the measurement items to be adapted from the existing studies, and established items of the construct. The discussion further extended to the question design and data collection procedures. Finally, this section elaborated the techniques used in analyzing the data, in particular, the SPSS software for preliminary analysis and PLS software for further data analysis.

CHAPTER 4: RESULTS

4.1   Introduction

This chapter elaborates data analysis that involves data screening during preliminary stages, followed by several analyses including descriptive analysis of each variable tested in this study.   Subsequently, the data collected were further analyzed based on the measurement and structural model by applying Structural Equation Model using Partial Least Square (SEM-PLS).   This was done to test the hypotheses of the study including the effect size and predictive relevance as presented in the model. Following this, a Mann-Whitney U Test was conducted to investigate the differences existed between employees and entrepreneurs in relation to organisational creative climate and innovative work behaviour.

4.2   Survey of Response Rate

The data distribution was based on the calculation of the number of startups involved for this study.   218 of SME Corp startups and 137 of PUNB startups agreed to participate in the questionnaire. Hence, a total number of 355 entrepreneurs and 355 employees from both agencies responded to the survey.   Furthermore, the response rate for this study was 100 percent and all questionnaires were completely answered by the respondents and were usable for analysis.   The details of the rate of the returned survey in the actual study are shown in Table 4.1.

Table 4.1: Rate of Survey Return in Actual Study

State	Number of Questionnaires Distributed		Number of Questionnaires Collected	
	SME Corp	PUNB	SME Corp	PUNB
Selangor	25	37	25	37
Kuala Lumpur, Putrajaya	16, 5	18, 1	16, 5	18, 1
Negeri Sembilan	14	4	14	4
Melaka	14	9	14	9
Johor	13	11	13	11
Perak	21	10	21	10
Penang	6	4	6	4
Kedah	18	16	18	16
Perlis	5	0	5	0
Pahang	11	8	11	8
Terengganu	19	7	19	7
Kelantan	13	12	13	12
Sabah	20	0	20	0
Sarawak	18	0	18	0
Total	218	137	218	137
		355		355

4.3   Preliminary Analysis

This section discusses the analysis which was conducted to verify data characteristics besides highlighting the missing data and other possible inconsistencies of the data. It is important to ensure that the data used in the advanced analysis is valid. Hence, the screening and cleaning analyses were conducted using SPSS statistical software. The purposes of the analyses are to identify any missing value, assess the outliers and multicollinearity, verify the normality of the data, and ensure non-response bias issue.

4.3.1 Missing Value Analysis

The analysis of the missing data is required to ensure that all items in the questionnaires are answered and to avoid any zero corresponding value in the data sheet. Cohen and Cohen (1983) suggest that missing data of up to 10 percent are not large and unlikely to be problematic in the interpretation of the results of a study. There

are several possible reasons that lead to omission of data. First, lack of understanding of the questions asked in the survey might affect responses given by the respondents. Besides, the missing value probably happens during data entry process (Sekaran & Bougie, 2010). Finally, the systematic data collection process itself might influence the issue of missing value. In this study, only complete responses from the entrepreneurs and the employees of startups' representatives were counted for further analysis.

Based on Table 4.2 and Table 4.3, no missing value identified for the data set from the entrepreneurs and employees. Therefore, all the items tested and data keyed-in in the system were completely answered and did not have any missing value.

Table 4.2: Missing Value Analysis for Entrepreneurs

Variables	Indicators	Mean	Standard Deviation	Analysis N	Missing Value
Challenge and Involvement	CH01	3.30	.662	355	0
	CH02	3.31	.672	355	0
	CH11	3.24	.687	355	0
	CH16	3.32	.678	355	0
	CH18	3.23	.673	355	0
	CH23	3.28	.691	355	0
	CH39	3.32	.659	355	0
Freedom	FR06	2.61	.939	355	0
	FR17	3.09	.792	355	0
	FR22	2.32	.885	355	0
	FR27	3.28	.684	355	0
	FR33	2.89	.804	355	0
	FR40	2.82	.827	355	0
	FR42	2.85	.827	355	0
Trust/Openness	TR34	2.61	.933	355	0
	TR45	3.19	.740	355	0
	TR48	2.83	.988	355	0
	TR51	3.26	.660	355	0
	TR53	3.28	.674	355	0
Idea Time	IT03	2.92	.744	355	0
	IT12	2.97	.775	355	0
	IT19	3.04	.775	355	0
	IT28	3.01	.742	355	0
	IT35	2.96	.769	355	0
	IT50	3.07	.705	355	0

Table 4.2 continued

Variables	Indicators	Mean	Standard Deviation	Analysis N	Missing Value
Humour/Playful ness	HP07	2.78	.869	355	0
	HP13	3.27	.728	355	0
	HP20	2.91	.854	355	0
	HP29	3.16	.756	355	0
	HP36	3.11	.709	355	0
	HP43	3.40	.636	355	0
Conflict	CF04	1.77	.822	355	0
	CF08	1.68	.826	355	0
	CF24	1.56	.739	355	0
	CF30	1.74	.823	355	0
	CF44	1.55	.752	355	0
	CF46	1.35	.625	355	0
Idea Support	IS09	3.30	.697	355	0
	IS14	3.31	.680	355	0
	IS26	3.27	.684	355	0
	IS37	3.28	.644	355	0
	IS47	3.17	.676	355	0
Debate	DB05	3.11	.795	355	0
	DB10	2.26	.967	355	0
	DB21	3.13	.707	355	0
	DB31	2.84	.813	355	0
	DB38	3.08	.736	355	0
	DB49	3.05	.755	355	0
Risk Taking	RT15	2.86	.818	355	0
	RT25	2.36	.911	355	0
	RT32	2.48	.878	355	0
	RT41	2.96	.730	355	0
	RT52	2.57	.822	355	0
Innovative Work Behaviour	IWB57	4.99	.679	355	0
	IWB58	4.88	.792	355	0
	IWB59	4.92	.812	355	0
	IWB60	4.82	.736	355	0
	IWB61	4.90	.773	355	0
	IWB62	4.80	.798	355	0
	IWB63	4.81	.809	355	0
	IWB64	4.75	.816	355	0
	IWB65	4.92	.784	355	0
	IWB66	4.99	.783	355	0
Demographic	Sector	8.00	5.110	355	0
	Gender	1.354	.479	355	0
	Age	2.262	.621	355	0
	Education	3.005	1.218	355	0
	Work Experience	2.062	.986	355	0

Table 4.3: Missing Value Analysis for Employees

Variables	Indicators	Mean	Standard Deviation	Analysis N	Missing Value
Challenge and Involvement	CH01	3.39	.656	355	0
	CH02	3.34	.679	355	0
	CH11	3.26	.704	355	0
	CH16	3.37	.666	355	0
	CH18	3.16	.713	355	0
	CH23	3.38	.641	355	0
	CH39	3.40	.657	355	0
Freedom	FR06	2.82	.689	355	0
	FR17	3.15	.647	355	0
	FR22	2.47	.800	355	0
	FR27	3.36	.602	355	0
	FR33	2.96	.749	355	0
	FR40	2.92	.740	355	0
	FR42	2.79	.749	355	0
Trust/Openness	TR34	2.74	.781	355	0
	TR45	3.24	.710	355	0
	TR48	2.84	.869	355	0
	TR51	3.31	.600	355	0
	TR53	3.23	.619	355	0
Idea Time	IT03	3.00	.717	355	0
	IT12	2.90	.760	355	0
	IT19	2.88	.789	355	0
	IT28	2.83	.737	355	0
	IT35	2.86	.766	355	0
	IT50	2.89	.790	355	0
Humour/Playfulness	HP07	2.87	.866	355	0
	HP13	3.21	.744	355	0
	HP20	2.95	.875	355	0
	HP29	3.11	.779	355	0
	HP36	3.08	.766	355	0
	HP43	3.37	.671	355	0
Conflict	CF04	1.89	.865	355	0
	CF08	1.80	.879	355	0
	CF24	1.73	.853	355	0
	CF30	1.82	.857	355	0
	CF44	1.61	.783	355	0
	CF46	1.36	.610	355	0
Idea Support	IS09	3.27	.615	355	0
	IS14	3.19	.662	355	0
	IS26	3.25	.635	355	0
	IS37	3.25	.639	355	0
	IS47	3.13	.644	355	0

Table 4.3 continued

Variables	Indicators	Mean	Standard Deviation	Analysis N	Missing Value
Debate	DB05	3.20	.679	355	0
	DB10	1.88	.737	355	0
	DB21	3.17	.643	355	0
	DB31	2.97	.688	355	0
	DB38	3.01	.742	355	0
	DB49	3.00	.761	355	0
Risk Taking	RT15	2.91	.697	355	0
	RT25	2.47	.745	355	0
	RT32	2.76	.768	355	0
	RT41	2.93	.745	355	0
	RT52	2.71	.695	355	0
Knowledge Sharing	KS57	5.03	.744	355	0
	KS58	5.24	.695	355	0
	KS59	5.06	.768	355	0
	KS60	4.56	.809	355	0
	KS61	5.40	.662	355	0
	KS62	4.78	.991	355	0
	KS63	5.26	.766	355	0
	KS64	5.25	.714	355	0
	KS65	4.98	.899	355	0
	KS66	4.61	.896	355	0
Innovative Work Behaviour	IWB67	5.10	.673	355	0
	IWB68	5.07	.702	355	0
	IWB69	5.02	.732	355	0
	IWB70	4.90	.758	355	0
	IWB71	5.06	.711	355	0
	IWB72	4.83	.776	355	0
	IWB73	4.85	.786	355	0
	IWB74	4.77	.741	355	0
	IWB75	4.83	.772	355	0
	IWB76	5.01	.695	355	0
Demographic	Sector	7.994	5.102	355	0
	Gender	1.563	.496	355	0
	Age	1.825	.723	355	0
	Education	2.557	1.211	355	0
	Current Function	7.743	2.582	355	0
	Amount Current Function	2.738	.854	355	0
	Amount of time Employed	2.749	.831	355	0
	Work Experience	1.540	.833	355	0

4.3.2 Assessment of Outliers

The assessment of outliers takes place to ensure that all the selected and rightful respondents have properly answered the questionnaire. In this context of study, two different respondents involved namely; entrepreneurs and employees. Tabachnick and Fidell (2013) recommend to refer to the table of Critical Values of Chi Square (x^2) in order to identify the value of Mahalanobis Distance as shown in Appendix Q.

For the entrepreneurs, there are nine constructs altogether namely: challenge, freedom, trust, idea time, humour/playfulness, conflict, idea support, debate, and risk taking. In reference to the proposed value of Mahalanobis Distance, if the value is greater than 27.877, then it can be considered as a multivariate outlier. As shown in Table 4.4, it is found that the minimum value of Mahalanobis distance is 0.725 and the maximum value is 42.610. Assessment of D2 values for all cases indicated the case of 209, 257, and 333 presences as multivariate outliers, thus three data have been deleted and 352 of cases were retained for further analysis. Hence, the maximum Mahalanobis values dropped from 42.610 to 27.180. This indicates, there was no outlier and no more cases deleted. All 352 cases were used for further analysis.

Table 4.4: Assessment of Outliers for Entrepreneurs

No of cases	No of cases deleted	Minimum Values	Maximum Values	Mean	Standard Deviation
355	0	0.725	42.610	8.975	5.336
352	3 (case no 209, 257, 333)	0.744	27.180	8.974	4.913

For the employee, there are ten exogenous constructs altogehter namely: challenge, freedom, trust, idea time, humour/playfulness, conflict, idea support, debate, risk taking and knowledge sharing. In reference to the value of Mahalanobis Distance, if the value is greater than 29.588, then it can be considered as a multivariate outlier.

Table 4.5 provides the result of the minimum value of Mahalanobis distance which is 1.677 and the maximum value is 26.831. Even though there is no issue of multivariate outliers, the three data (209, 257, and 333) still have to be deleted in the employee set due to the paired respondents involve in this study. After the deletion, the maximum Mahalanobis values shifted from 26.831 to 26.924. This indicates there was no outlier. Therefore, the remaining 352 cases were used for further analysis.

Table 4.5: Assessment of Outliers for Employees

No of cases	No of cases deleted	Minimum Values	Maximum Values	Mean	Standard Deviation
355	0	1.677	26.831	9.972	5.190
352	3(case no 209, 257, 333)	1.661	26.924	9.972	5.162

4.3.3 Test of Normality

The purpose of assessing the normality of data is to identify the shape of data distribution. According to Coakes and Ong (2011), the normal distribution makes a probability plot when the data are distributed at a straight diagonal line. The normality of data was tested using the Kolomogrov-Smirnov and Shapiro-Wilk.

Based on the results shown in Table 4.6 and Table 4.7, all the items for entrepreneur set and employee set were significant. This indicates that the data distribution is significantly different from a normal distribution. This interpretes that the data are non-normal as the significant values are less than 0.05.

Table 4.6: Normality Testing for Entrepreneurs

Variables	Indicators	Kolmogrov-Smirnov		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
Challenge and Involvement	CH01	.269	.000	.773	.000
	CH02	.275	.000	.774	.000
	CH11	.260	.000	.793	.000
	CH16	.281	.000	.772	.000
	CH18	.273	.000	.791	.000
	CH23	.259	.000	.787	.000
	CH39	.276	.000	.772	.000
Freedom	FR06	.236	.000	.876	.000
	FR17	.251	.000	.827	.000
	FR22	.214	.000	.874	.000
	FR27	.262	.000	.786	.000
	FR33	.255	.000	.853	.000
	FR40	.259	.000	.860	.000
	FR42	.253	.000	.859	.000
Trust/Openness	TR34	.206	.000	.879	.000
	TR45	.245	.000	.803	.000
	TR48	.207	.000	.860	.000
	TR51	.278	.000	.783	.000
	TR53	.260	.000	.784	.000
Idea Time	IT03	.251	.000	.835	.000
	IT12	.270	.000	.839	.000
	IT19	.249	.000	.834	.000
	IT28	.276	.000	.828	.000
	IT35	.278	.000	.835	.000
	IT50	.269	.000	.814	.000
Humour/Playfulness	HP07	.209	.000	.865	.000
	HP13	.270	.000	.792	.000
	HP20	.243	.000	.856	.000
	HP29	.235	.000	.814	.000
	HP36	.261	.000	.814	.000
	HP43	.310	.000	.748	.000
Conflict	CF04	.269	.000	.798	.000
	CF08	.319	.000	.762	.000
	CF24	.344	.000	.725	.000
	CF30	.289	.000	.790	.000
	CF44	.355	.000	.714	.000
	CF46	.436	.000	.597	.000
Idea Support	IS09	.266	.000	.786	.000
	IS14	.270	.000	.781	.000
	IS26	.255	.000	.789	.000
	IS37	.285	.000	.777	.000
	IS47	.279	.000	.791	.000

Table 4.6 continued

Variables	Indicators	Kolmogrov-Smirnov		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
Debate	DB05	.225	.000	.826	.000
	DB10	.207	.000	.872	.000
	DB21	.263	.000	.811	.000
	DB31	.225	.000	.851	.000
	DB38	.259	.000	.823	.000
	DB49	.260	.000	.829	.000
Risk Taking	RT15	.266	.000	.855	.000
	RT25	.218	.000	.878	.000
	RT32	.223	.000	.877	.000
	RT41	.259	.000	.829	.000
	RT52	.234	.000	.867	.000
Innovative Work Behaviour	IWB57	.278	.000	.808	.000
	IWB58	.249	.000	.851	.000
	IWB59	.260	.000	.851	.000
	IWB60	.256	.000	.834	.000
	IWB61	.270	.000	.846	.000
	IWB62	.250	.000	.856	.000
	IWB63	.245	.000	.858	.000
	IWB64	.261	.000	.864	.000
	IWB65	.252	.000	.848	.000
	IWB66	.247	.000	.842	.000

Table 4.7: Normality Testing for Employees

Variables	Indicators	Kolmogrov-Smirnov		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
Challenge and Involvement	CH01	.307	.000	.756	.000
	CH02	.287	.000	.776	.000
	CH11	.256	.000	.794	.000
	CH16	.298	.000	.766	.000
	CH18	.245	.000	.811	.000
	CH23	.297	.000	.757	.000
	CH39	.309	.000	.756	.000
Freedom	FR06	.257	.000	.869	.000
	FR17	.273	.000	.834	.000
	FR22	.215	.000	.874	.000
	FR27	.260	.000	.789	.000
	FR33	.279	.000	.840	.000
	FR40	.262	.000	.856	.000
	FR42	.250	.000	.869	.000
Trust/Openness	TR34	.221	.000	.879	.000
	TR45	.249	.000	.808	.000
	TR48	.213	.000	.870	.000
	TR51	.296	.000	.768	.000
	TR53	.291	.000	.787	.000

Table 4.7 continued

Variables	Indicators	Kolmogrov-Smirnov		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
Idea Time	IT03	.256	.000	.821	.000
	IT12	.271	.000	.846	.000
	IT19	.256	.000	.853	.000
	IT28	.274	.000	.843	.000
	IT35	.262	.000	.847	.000
	IT50	.224	.000	.847	.000
Humour/ Playfulness	HP07	.215	.000	.859	.000
	HP13	.245	.000	.806	.000
	HP20	.221	.000	.853	.000
	HP29	.228	.000	.825	.000
	HP36	.227	.000	.826	.000
	HP43	.303	.000	.762	.000
Conflict	CF04	.244	.000	.825	.000
	CF08	.279	.000	.797	.000
	CF24	.309	.000	.775	.000
	CF30	.247	.000	.804	.000
	CF44	.335	.000	.739	.000
	CF46	.430	.000	.618	.000
Idea Support	IS09	.267	.000	.789	.000
	IS14	.259	.000	.811	.000
	IS26	.289	.000	.778	.000
	IS37	.266	.000	.790	.000
	IS47	.255	.000	.817	.000
Debate	DB05	.244	.000	.813	.000
	DB10	.231	.000	.874	.000
	DB21	.264	.000	.813	.000
	DB31	.247	.000	.854	.000
	DB38	.263	.000	.835	.000
	DB49	.257	.000	.837	.000
Risk Taking	RT15	.263	.000	.847	.000
	RT25	.266	.000	.865	.000
	RT32	.238	.000	.876	.000
	RT41	.249	.000	.847	.000
	RT52	.236	.000	.865	.000
Knowledge Sharing	KS57	.241	.000	.827	.000
	KS58	.249	.000	.795	.000
	KS59	.237	.000	.834	.000
	KS60	.251	.000	.860	.000
	KS61	.314	.000	.751	.000
	KS62	.246	.000	.868	.000
	KS63	.261	.000	.787	.000
	KS64	.259	.000	.795	.000
	KS65	.219	.000	.851	.000
	KS66	.210	.000	.895	.000

Table 4.7 continued

Variables	Indicators	Kolmogrov-Smirnov		Shapiro-Wilk	
		Statistic	Sig.	Statistic	Sig.
Innovative Work Behaviour	IWB67	.284	.000	.804	.000
	IWB68	.264	.000	.815	.000
	IWB69	.261	.000	.829	.000
	IWB70	.247	.000	.838	.000
	IWB71	.257	.000	.818	.000
	IWB72	.249	.000	.849	.000
	IWB73	.251	.000	.851	.000
	IWB74	.253	.000	.837	.000
	IWB75	.255	.000	.848	.000
	IWB76	.272	.000	.815	.000

4.3.4 Assessment of Multicollinearity

Multicollinearity is ideally found to produce unstability and unreliability estimated between two or more constructs in the model. It occurs when the regression analysis results indicated high correlations between the constructs. Hence, to examine the high or low multicollinearity value, the assessment of Tolerance values and Variance Inflection Factor (VIF) based on a linear regression was applied. A tolerance is a statistic used to determine how much the exogenous constructs are linearly related to one another which is referred to as multicollinearity. A tolerance is the proposition of a variable variance not accounted for by other exogenous constructs in the model and the values of tolerance is calculated by 1- R2 and the values must be more than 0.1. For Variance Inflection Factor (VIF), it is a reciprocal of the tolerance idea that VIF values should be less than 10.

Referring to the Table 4.8, the tolerance and variance inflection factor values for entrepreneur set indicated that all the tolerance values are greater than 0.1 with the range from 0.308 to 0.629. The tolerance value of nine exogenous constructs as follows: challenge and involvement (tolerance = 0.338), freedom (tolerance = 0.436), trust/openness (tolerance = 0.471), idea time (tolerance = 0.369), humour/playfulness

(tolerance = 0.511), conflict (tolerance = 0.629), idea support (tolerance = 0.308), debate (tolerance = 0.394), and risk taking (tolerance = 0.475). Meanwhile the analysis of Variance Inflection Factor (VIF) shows the values of nine exogenous, in particular, challenge and involvement (VIF = 2.958), freedom (VIF = 2.295), trust/openness (VIF = 2.122), idea time (VIF = 2.712), humour/playfulness (VIF = 1.956), conflict (VIF = 1.589), idea support (VIF = 3.242), debate (VIF = 2.539), and risk taking (VIF = 2.107) meet the cut-off value of VIF.

Table 4.8: Tolerance and Variance Inflection Factor Values for Entrepreneurs

Construct	Tolerance	VIF
Challenge and Involvement	.338	2.958
Freedom	.436	2.295
Trust/Openness	.471	2.122
Idea Time	.369	2.712
Humour/Playfulness	.511	1.956
Conflict	.629	1.589
Idea Support	.308	3.242
Debate	.394	2.539
Risk Taking	.475	2.107

For the employee set, the tolerance and variance inflection factor values as shown in Table 4.9 indicates that the tolerance value of ten exogenous constructs namely: challenge and involvement (tolerance = 0.371), freedom (tolerance = 0.531), trust/openness (tolerance = 0.536), idea time (tolerance = 0.427), humour/playfulness (tolerance = 0.547), conflict (tolerance = 0.715), idea support (tolerance = 0.310), debate (tolerance = 0.400), risk taking (tolerance = 0.475) and knowledge sharing (tolerance = 0.773) achieve the cut-off value with greater than 0.1.

A further analysis of Variance Inflection Factor (VIF) also reports that the values of ten exogenous namely challenge and involvement (VIF = 2.698), freedom (VIF = 1.882), trust/openness (VIF = 1.864), idea time (VIF = 2.341), humour/playfulness (VIF

= 1.827), conflict (VIF = 1.398), idea support (VIF = 3.225), debate (VIF = 2.497), risk taking (VIF = 2.103) and knowledge sharing (VIF = 1.294) fulfill the requirement of VIF value with less than 10.

Table 4.9: Tolerance and Variance Inflection Factor Values for Employees

Construct	Tolerance	VIF
Challenge and Involvement	.371	2.698
Freedom	.531	1.882
Trust/Openness	.536	1.864
Idea Time	.427	2.341
Humour/Playfulness	.547	1.827
Conflict	.715	1.398
Idea Support	.310	3.225
Debate	.400	2.497
Risk Taking	.475	2.103
Knowledge Sharing	.773	1.294

Overall, the tolerance and VIF values for both entrepreneurs set and employee set meet the cut-off values whereby the tolerance values must be more than 0.1 and the VIF values should be less than 10. This indicates that all the exogenous constructs were not affected by multicollinearity issues. Therefore, the scatter plot and the normal P-P plot as shown in Appendix and Appendix x, confirm no issue of multicollinearity in this study.

4.3.5 Non-Response Bias

Non-response bias occurs when sample elements from the data gathered are different for the measured variables in non-negligible ways from those that are sampled but from which data are not gathered. Essentially, all surveys are likely to have some degree of non-response bias (Lavrakas, 2004). The independent sample t-test was conducted to measure non-response bias issues. In this study, the respondents were divided into two groups namely early respondents and late respondents. The data collection process was carried out from July 2017 to December 2017. Those who are

responding between July to October 2017 are classified as early responses, meanwhile those who are responding in November and December 2017 are categorized as late responses.

According to Pallant (2010), there are two assumptions of the independent sample t-test which involve Levene's test for equality of variances and T-test for equality of means. Firstly, the result of Levene's test for equality of variances was required to test whether the variance of scores for the two groups is the same. The interpretation is if the significance value for Levene's test is more than 0.05, the result refers to equal variance assumed which interpret the two groups are the same. However, if the significance value for Levene's test is less than 0.05, the result refers to equal variance not assumed which interprets the two groups are not the same. Secondly, the assessment of significant differences under the t-test for equality of means was referred to in order to confirm the differences between the two groups. In this further interpretation, there are two assumptions of the significance values (2-tailed) used. If the significance value is equal to or less than 0.05, the result indicates a significant difference in the mean scores, whilst, if the significance value is above 0.05, the result indicates no significant difference between the two groups.

Based on the result of Independent T-Test for Entrepreneurs as depicted in Table 4.10, the results of Levene's test show the significance values of organisational creative climate (p = 0.613), and innovative work behaviour (p = 0.571). The following dimensions of organisational creatvie climate: challenge and involvement (p = 0.980), freedom (p = 0.463), trust/openness (p = 0.452), idea time (p = 0.690), humour/playfulness (p = 0.204), conflict (p = 463), idea support (p = 0.813), debate (p = 0.621), risk taking (p = 0.179) are greater than 0.05 and indicates that the variances of

the two groups (early and late response) are same. Further, the difference between the

two groups was identified, and the result of the t-test for equality of means indicate the

significance values greater than 0.05. The results indicate that all the constructs are

significant with the value larger than 0.05: challenge and involvement (p = 0.796),

freedom (p = 0.541), trust/openness (p = 0.099), idea time (p = 0.179),

humour/playfulness (p = 0.843), conflict (p = 0.777), idea support (p = 0.459), debate (p

= 0.269), risk taking (p = 0.613), organisational creative climate (p = .531), and

innovative work behaviour (p = 0.099). Thus, the result confirms no significant

difference between the two groups.

Table 4.10: Independent T-Test for Entrepreneurs

Const-ruct	Category of Respond-ents	N	Mean	Std. Dev	Std. Error Mean	Levene Test		T-Test For Equality Mean	
						F-Value	Sig. Value	T-Value	Sig. Value
Organis-ational Creative Climate	Early Response	294	2.850	.373	.021	.256	.613	-.627	.531
	Late Response	58	2.884	.396	.052				
Challe-nge & Involve-ment	Early Response	294	3.290	.518	.030	.001	.980	.258	.796
	Late Response	58	3.270	.505	.066				
Free-dom	Early Response	294	2.846	.523	.030	.541	.463	.612	.541
	Late Response	58	2.800	.549	.072				
Trust/ Open-ness	Early Response	294	3.013	.542	.031	.568	.452	-1.654	.099
	Late Response	58	3.141	.513	.067				
Idea Time	Early Response	294	2.985	.518	.030	.160	.690	-1.347	.179
	Late Response	58	3.086	.536	.070				
Humour / Playful-ness	Early Response	294	3.110	.521	.030	1.620	.204	.198	.843
	Late Response	58	3.094	.587	.077				
Conflict	Early Response	294	1.611	.563	.032	.539	.463	.284	.777
	Late Response	58	1.589	.500	.065				

Table 4.10 continued

Const-ruct	Category of Respond-ents	N	Mean	Std. Dev	Std. Error Mean	Levene Test		T-Test For Equality Mean	
						F-Value	Sig. Value	T-Value	Sig. Value
Idea Support	Early Response	294	3.252	.513	.029	.056	.813	-.741	.459
	Late Response	58	3.306	.505	.066				
Debate	Early Response	294	2.901	.532	.031	.246	.621	-1.106	.269
	Late Response	58	2.985	.518	.068				
Risk Taking	Early Response	294	2.640	.561	.032	1.815	.179	-.506	.613
	Late Response	58	2.682	.653	.085				
Innova-tive Work Beha-viour	Early Response	294	4.856	.612	.035	.322	.571	-1.652	.099
	Late Response	58	5.000	.551	.072				

Based on the result of Independent T-Test for Employees as presented in Table 4.11, the results of Levene's test show the significance values of challenge and involvement (p = 0.620), freedom (p = 0.935), trust/openness (p = 0.237), idea time (p = 0.210), humour/playfulness (p = 0.738), conflict (p = 0.166), idea support (p = 0.208), debate (p = 0.423), risk taking (p = 0.803), organisational creative climate (p = 0.168), and innovative work behaviour (p = 0.053) are greater than 0.05 and indicates that the variances of the two groups (early and late response) are same. This interprets that the assumption of equal variances has not been violated. Nevertheless, the result Levene's test assumption for knowledge sharing is p = 0.039 with the significance value is less than 0.05. Additional to T-test for equality of means, the results indicate that all the constructs are significant with the value larger than 0.05: challenge and involvement (p = 0.993), freedom (p = 0.791), trust/openness (p = 0.669), idea time (p = 0.095), humour/playfulness (p = 0.945), conflict (p = 0.319), idea support (p = 0.168), debate (p

= 0.063), risk taking (p = 0.180), organisational creative climate (p = 226), knowledge

sharing (p = 0.265), and innovative work behaviour (p = 0.347).

Therefore, the results prove that there is not a statistically significant difference in

the mean of all constructs for early response and late response. Since there is no issue

of response bias, the data are eligible for further analysis.

Table 4.11: Independent T-Test for Employees

Const-ruct	Category of Respond-ents	N	Mean	Std. Dev.	Std. Error Mean	Levene Test		T-Test For Equality Mean	
						F-Value	Sig. Value	T-Value	Sig. Value
Organis-ational Creative Climate	Early Response	294	2.866	.342	.019	1.908	.168	-1.214	.226
	Late Response	58	2.928	.399	.052				
Challenge & Involve-ment	Early Response	294	3.327	.474	.027	.246	.620	-.008	.993
	Late Response	58	3.327	.504	.066				
Freedom	Early Response	294	2.922	.474	.027	.007	.935	-.266	.791
	Late Response	58	2.940	.480	.063				
Trust/ Open-ness	Early Response	294	3.065	.498	.029	1.403	.237	-.428	.669
	Late Response	58	3.096	.557	.073				
Idea Time	Early Response	294	2.877	.510	.029	1.576	.210	-1.676	.095
	Late Response	58	3.002	.581	0.76				
Humour / Playful-ness	Early Response	294	3.103	.549	.032	.112	.738	.069	.945
	Late Response	58	3.097	.549	.072				
Conflict	Early Response	294	1.689	.590	.034	1.929	.166	-.998	.319
	Late Response	58	1.775	.643	.084				
Idea Support	Early Response	294	3.201	.471	.027	1.590	.208	-1. 382	.168
	Late Response	58	3.296	.518	.068				

Table 4.11 continued

Const-ruct	Category of Respond-ents	N	Mean	Std. Dev.	Std. Error Mean	Levene Test		T-Test For Equality Mean	
						F-Value	Sig. Value	T-Value	Sig. Value
Debate	Early Response	294	2.854	.462	.027	.644	.423	-1.863	.063
	Late Response	58	2.979	.500	.065				
Risk Taking	Early Response	294	2.741	.515	.030	.062	.803	-1.342	.180
	Late Response	58	2.841	.532	.069				
Knowle-dge Sharing	Early Response	294	5.027	.554	.032	4.314	.039	1.122	.265
	Late Response	58	4.951	.451	.059				
Innova-tive Work Behavi-our	Early Response	294	4.925	.562	.032	3.765	.053	-.941	.347
	Late Response	58	5.000	.488	.064				

4.3.6 Reliability Analysis

Reliability analysis was conducted to access the internal consistency of the item by using Cronbach's alpha. According to Hair et al., (2010), the value above 0.7 is considered as reliable and accepted. Correspondingly, Nunnally and Bernstein (1994) advocate that a rule of thumb for reliability value must be higher than 0.70 or at least at 0.60 for new scales.

Table 4.12 below reports the Cronbach's alpha value of the entrepreneur set. The result shows the Cronbach's alpha value as the following; challenge and involvement (CH) = 0.883; freedom (FR) = 0.759; trust/openness (TR) = 0.691; idea time (IT) = 0.792; humour/playfulness = 0.792; conflict (CF) = 816; idea support (IS) = 0.815; debate (DB) = 0.749; and risk taking (RT) = 0.727. The total value for organisational creative climate (OCC) is 0.940, and innovative work behaviour (IWB) is 0.927. It indicates that all 63 items are good in terms of internal consistency.

Table 4.12: Reliability Analysis for Entrepreneurs

Constructs	Number of Items	Cronbach's Alpha Value
Organisational Creative Climate	53	0.940
Challenge and Involvement	7	0.883
Freedom	7	0.759
Trust/Openness	5	0.691
Idea Time	6	0.792
Humour/Playfulness	6	0.792
Conflict	6	0.816
Idea Support	5	0.815
Debate	6	0.749
Risk Taking	5	0.727
Innovative Work Behaviour	10	0.927
Overall	63	0.948

Table 4.13 presented the Cronbach's alpha value of 73 items for the employee set. The result shows the Cronbach's alpha value as the following; challenge and involvement (CH) = 0.838; freedom (FR) = 0.791; trust/openness (TR) = 0.747; idea time (IT) = 0.781; humour/playfulness = 0.792; conflict (CF) = 831; idea support (IS) = 0.806; debate (DB) = 0.751; and risk taking (RT) = 0.754. Further, cronbach's alpha value for organisational creative climate (OCC) is 0.937, knowledge sharing (KS) is 0.865, and innovative work behaviour (IWB) is 0.913. Overall, the Cronbach's alpha values for all of the constructs are higher than 0.70. This indicates that the internal consistency of the instruments is established and satisfactory.

Table 4.13: Reliability Analysis for Employees

Constructs	Number of Items	Cronbach's Alpha Value
Organisational Creative Climate	53	0.937
Challenge and Involvement	7	0.838
Freedom	7	0.791
Trust/Openness	5	0.747
Idea Time	6	0.781
Humour/Playfulness	6	0.792
Conflict	6	0.831
Idea Support	5	0.806
Debate	6	0.751
Risk Taking	5	0.754
Knowledge Sharing	10	0.865
Innovative Work Behaviour	10	0.913
Overall	73	0.948

4.4 Respondents' Demographic Profile

This section discusses the result of analysis pertaining to company profile of the startups and demographic profiles of the entrepreneurs and the employees. The years of startups' establishment and services sub-sectors of startups were identified. There are several variables of the respondents' demographic background that were examined including gender, age, education level, function, and work experience. The data were analyzed using SPSS 21.0 version to determine the frequency and percentage of each variable. The explanation of each category of respondents' demographic profiles is discussed further as the following.

4.4.1 Startups' Profile

A descriptive analysis was performed to establish the general background of the startups that participated in this study. The results of the analysis report about 104 (29.5%) of the startups started their business in 2011. Further, 80 (22.7%) started their operation last three years in 2014, while another 67 (19%) started their operations last two years in 2015. About 35 (9.9%) of the startups have been established for four years

since 2013, followed by 33 (9.4%) which have been established for five years since 2012. 33 (9.4%) of the startups have just operated around one year starting from 2016. This indicates that the majority of the startups participated in this study are considered as new ventures.

Further analysis reveals the sub-sectors of services industry. As shown in Table 4.14, out of 352 startups, 62 (17.6%) are involved in beauty and fashion sub-sector, followed by 57 (16.2%) involved in food and beverages sub-sector. About 42 (11.9%) of the startups are involved in wholesale and retail, 36 (10.2%) are involved in automotive sector, and 27 (7.7%) are involved in engineering work sector. Further, 20 (5.7%) of the startups participated in healthcare, followed by 19 (5.4%) participated in design and advertising as well as IT and multimedia sub-sectors. Following this, agricultural sub-sector manifests 18 (5.1%) participations, education 12 (3.4%), and training and consultant 10 (2.8%). About three (0.9%) startups are involved in transportation, travel and tourism, and other sub-sectors.

Table 4.14: Startups' Profile

Factors	Category	Frequency (n=352)	Percentage (%)
Years of Establishment	1 (2016)	33	9.4
	2 (2015)	67	19.0
	3 (2014)	80	22.7
	4 (2013)	35	9.9
	5 (2012)	33	9.4
	6 (2011)	104	29.5
Sub-sectors	Agriculture	18	5.1
	Automotive	36	10.2
	Beauty and Fashion	62	17.6
	Computer Hardware & Software	7	2.0
	Design & Advertising	19	5.4
	Education	12	3.4
	Engineering Work	27	7.7
	Event Management	7	2.0
	Financial & Insurance	5	1.4
	Food and Beverages	57	16.2

Table 4.14 continued

Factors	Category	Frequency (n=352)	Percentage (%)
Sub-sectors	Healthcare	20	5.7
	IT & Multimedia	19	5.4
	Oil, Gas, Energy	2	0.6
	Training & Consulting	10	2.8
	Transportation	3	0.9
	Travel & Tourism	3	0.9
	Wholesale & Retail	42	11.9
	Others	3	0.9

4.4.2 Demographic Profile of Entrepreneurs

A descriptive analysis was performed to establish the general background of the respondents who participated in this study. Out of the 352 entrepreneurs participated in the survey, 228 (64.8%) are male and 124 (35.2 %) are female.

The majority of the entrepreneurs at startups stage are between 25 – 34 years represented by 233 (66.2%). 85 (24.1%) respondents are in the age range between 35 – 44 years. Furthermore, 20 (5.7%) of them are aged between 18 - 24 years and below, followed by 14 (4.0%) from the age range between 45 – 54 years.

The output analysis of the education level reports that 113 (32.1%) respondents possess a Bachelor's degree and followed by 99 (28.1%) possess a Diploma. Following this, 58 (16.5%) respondents have Sijil Pelajaran Malaysia (SPM), while 54 (15.3%) respondents have a certificate and Sijil Tinggi Pelajaran Malaysia (STPM). Meanwhile, 26 (7.4%) have a Masters Degree qualification, and only two (0.6%) entrepreneurs have other qualification.

As presented in Table 4.15 below, most of the entrepreneurs are responsible in the financial function represented by 256 (72.7%), followed by administration with 190 (54.0%) entrepreneurs. Sales and marketing, and customer service function are also among the main functions of entrepreneurs represented by 187 (53.1) and 129 (36.6%) respondents, respectively. Further, 94 (26.7%) are involved in the operation and production function, whereas 59 (16.8%) in the consultation function. In addition to this, human resources function reports the involvement of 57 (16.2%) entrepreneurs, whereas research and design function, 53 (15.1%) entrepreneurs. However, the remaining 47 (13.4%) and 27 (7.7%) entrepreneurs are involved in the engineering work and information technology functions. The least involvement of entrepreneurs is education function represented by 16 (4.5%) entrepreneurs.

Further analysis of work experience of startup shows that 122 (34.7%) of them have 6 to 10 years of experience, followed by 120 (34.1%) with 5 years and below experience. Subsequently, 85 (24.1%) had 11 to 15 years of work experience. 17 (4.8%) respondents have 16 – 20 years of experience, while another eight (2.3%) have 21 years and above of work experience.

Table 4.15: Demographic Profile of Entrepreneurs

Demographic Factors	Category	Frequency (n)	Percentage (%)
Gender	Male	228	64.8
	Female	124	35.2
Age	18 – 24 years	20	5.7
	25 – 34 years	233	66.2
	35 – 44 years	85	24.1
	45 – 54 years	14	4.0
Education	SPM	58	16.5
	Certificate/STPM	54	15.3
	Diploma	99	28.1
	Bachelors Degree	113	32.1
	Masters Degree	26	7.4
	Others	2	0.6

Table 4.15 continued

Demographic Factors	Category	Frequency (n)	Percentage (%)
Current Function	Finance	256	72.7
	Administration	190	54.0
	Customer Service	129	36.6
	Education	16	4.5
	Consultation	59	16.8
	Human Resources	57	16.2
	Sales and Marketing	187	53.1
	Research and Design	53	15.1
	Information Technology	27	7.7.
	Operation and Production	94	26.7
	Engineering Professional	47	13.4
Working Experience	5 years and below	120	34.1
	6 – 10 years	122	34.7
	11 – 15 years	85	24.1
	16 – 20 years	17	4.8
	21 years and above	8	2.3

4.4.3 Demographic Profile of Employees

Table 4.16 presents data pertaining to employees' profile. It is found that female respondents are greater than male, with 199 (56.5%) of them are female and 153 (43.5%) are male employees.

The highest age range of the employees in this study is between 25 – 34 years represented by 189 (53.7%). Subsequently, 117 (33.2%) of them are aged 24 years and below, followed by 37 (10.5%) from the age range of 35 – 44 years. 8 (2.3%) respondents are in the age range of 45 – 64 years. Only one respondent is aged from 55 – 64 years. This shows that most of the employees at startups levels come from young generation.

An analysis of the percentage of education level shows 94 (26.7%) respondents possess a Diploma, followed by 91 (25.9%) respondents possess Sijil Pelajaran

Malaysia (SPM). Further, 79 (22.4%) respondents have a certificate and Sijil Tinggi Pelajaran Malaysia (STPM), whereas 76 (21.6%) have a Bachelor's Degree qualification. Besides, eight (2.3%) respondents are Masters Degree holders, while four (1.1%) respondents have other qualification. Therefore, it can be summarized that most of the employees at startups levels receive tertiary education.

Based on the data analysis below, it is observed that the most of the respondents in this study are responsible in operation and production function represented by 76 (21.6%), followed by sales and marketing function, 75 (21.3%). It is also found that 46 (13.1) respondents are responsible in engineering function, whereas 39 (11.1%) in research and design function. In addition to this, customer service and information technology functions report 38 (10.8%) and 30 (8.5%) respondents respectively. However, the remaining respondents are responsible in administration 16 (4.5%), consultation 14 (4.0%), education 10 (2.8%), and finance (2.3%) functions. It can be concluded that half of the respondents play a significant role and are responsible in contributing to the development of the business.

Further analysis of the amount of time that the respondents have been employed at startups level shows that the longest duration is between 1.5 to 3.5 years represented by 155 (44.0%) respondents, and 116 (33.0%) respondents employed between 7 months to 1.5 years. Next, 62 (17.6%) are employed within 3.5 to 6 years. Moreover, 19 (5.4%) respondents are employed in the shortest duration which is less than 6 months.

Analysis on the percentage of work experience shows that majority of the respondents have 5 years of experience and below represented by 219 (62.2%). 91 (25.9%) respondents have work experience from 6 to 10 years, while 31 (8.8%)

respondents, from 11 to 15 years.   Further, six (1.7%) respondents have 16 – 20 years

of experience, while another 5 (1.4%) have 21 years of working experience and above.

Table 4.16: Demographic Profile of Employees

Demographic Factors	Category	Frequency (n)	Percentage (%)
Gender	Male	153	43.5
	Female	199	56.5
Age	24 years and below	117	33.2
	25 – 34 years	189	53.7
	35 – 44 years	37	10.5
	45 – 54 years	8	2.3
	55 – 64 years	1	0.3
Education	SPM	91	25.9
	Certificate/STPM	79	22.4
	Diploma	94	26.7
	Bachelors Degree	76	21.6
	Masters Degree	8	2.3
	Others	4	1.1
Function	Finance	8	2.3
	Administration	16	4.5
	Customer Service	38	10.8
	Education	10	2.8
	Consultation	14	4.0
	Sales and Marketing	75	21.3
	Research and Design	39	11.1
	Information Technology	30	8.5
	Operation and Production	76	21.6
	Engineering Professional	46	13.1
Amount of Time Employed	Less than 6 months	19	5.4
	7 months – 1.5 years	116	33.0
	1.5 – 3.5 years	155	44.0
	3.5 – 6 years	62	17.6
Working Experience	5 years and below	219	62.2
	6 – 10 years	91	25.9
	11 – 15 years	31	8.8
	16 – 20 years	6	1.7
	21 years and above	5	1.4

4.5   Descriptive Analysis of Exogenous and Endogenous Constructs

A descriptive analysis measures the mean values and standard deviation to find the lowest and the highest rank of each items tested for both exogenous and endogenous constructs. In this study, two different likert scale were used involving four-point Likert scale in assessing the nine dimensions of organisational creative climate, while six-point Likert scale for the knowledge sharing and innovative work behaviour constructs.

Following is the formula for calculating the evaluation interval and interpreting the mean values. The table below shows the evaluation interval for both scales.

Formula = $\dfrac{\text{Highest number} - 1}{\text{Highest number}}$

Example = $\dfrac{4 - 1}{4}$

     =   0.75

Table 4.17: Evaluation Interval for Four Point Likert Scale

Evaluation Criteria	Evaluation Interval
Very High	3.26 – 4.00
High	2.51 – 3.25
Low	1.76 – 2.50
Very Low	1.00 – 1.75

Table 4.18: Evaluation Interval for Six Point Likert Scale

Evaluation Criteria	Evaluation Interval
Very High	5.166 – 6.00
High	4.333 – 5.165
Medium High	3.500 – 4.332
Medium Low	2.667 – 3.499
Low	1.834 – 2.666
Very Low	1.000 – 1.833

4.5.1 Descriptive Analysis of Overall Entrepreneurs' Organisational Creative Climate

As indicated in Table 4.19, the results show the overall descriptive statistical analysis of organisational creative climate from the entrepreneur perspective. The findings present that the overall organisational creative climate for entrepreneur scored high values (mean = 2.85, sd = .376). It indicates that entrepreneurs at startups believe that their employees are given conducive work environment and opportunities in performing their tasks. In addition to this, startups' entrepreneurs practiced the creative climate in their business operations to boost employees' motivation.

The findings also discover the mean score of organisational creative climate dimensions from the entrepreneurs' perspective. The highest mean score was gained by challenge and involvement (mean = 3.28, sd = .515) followed by idea support (mean = 3.26, sd = .511). Furthermore, humour/playfulness scored (mean = 3.10, sd = .532), followed by trust/openness (mean = 3.03, sd = .539), and idea time (mean = 3.00, sd = .522). Besides, debate scored (mean = 2.91, sd = .530), freedom (mean = 2.83, sd = .527), and risk taking (mean = 2.64, sd = .576). The lowest mean score was gained by conflict dimension (mean = 1.60, sd = .553).

Table 4.19: Overall Analysis of Organisational Creative Climate for Entrepreneurs

Variables	M	SD
Organisational Creative Climate	2.85	.376
• Challenge and Involvement	3.28	.515
• Freedom	2.83	.527
• Trust/Openness	3.03	.539
• Idea Time	3.00	.522
• Humour/Playfulness	3.10	.532
• Conflict	1.60	.553
• Idea Support	3.26	.511
• Debate	2.91	.530
• Risk Taking	2.64	.576

4.5.2 Descriptive Analysis of Overall Employees' Organisational Creative Climate

Table 4.20 presents the overall descriptive statistical analysis of organisational creative climate from the employees' perspective. The findings reveal that the overall organisational creative climate for employees scored high values (mean = 2.87, sd = .353). It indicates that most startups' employees practice creative environment in performing their works.

Whilst, the finding of organisational creative climate dimensions from entrepreneurs' perspective, indicates that the highest mean score was gained by challenge and involvement (mean = 3.32, sd = .478). The second highest score was gained by idea support (mean = 3.21, sd = .480), followed by humour/playfulness (mean = 3.10, sd = .548) and trust/openness (mean = 3.07, sd = .507). Further, freedom scored (mean = 2.92, sd = .474), and idea time scored (mean = 2.89, sd = .524). Debate dimension's mean is (mean = 2.87, sd = .470), while the following and risk taking scored (mean = 2.75, sd = .518). Meanwhile, the lowest mean score was gained by conflict dimension (mean = 1.70, sd = .599).

Table 4.20: Overall Analysis of Organisational Creative Climate for Employees

Variables	M	SD
Organisational Creative Climate	2.87	.353
• Challenge and Involvement	3.32	.478
• Freedom	2.92	.474
• Trust/Openness	3.07	.507
• Idea Time	2.89	.524
• Humour/Playfulness	3.10	.548
• Conflict	1.70	.599
• Idea Support	3.21	.480
• Debate	2.87	.470
• Risk Taking	2.75	.518

4.5.3 Descriptive Analysis of Knowledge Sharing

The data in Table 4.21 show mean score for ten items of knowledge sharing construct. The results show the first ranked of mean value was scored by item KS61 indicating, I would share my knowledge with others if it is beneficial to organizations (mean = 5.39, std = .663). Following this, item KS63 indicating I would share my knowledge with others if they need it, and item KS64 indicating I always share new knowledge with others have the same mean score with (mean = 5.25, std = .767) and (mean = 5.25, std = .713) respectively. At the fourth and fifth rank are item KS58 (mean = 5.24, std = .697) and KS59 (mean = 5.05, std = .777) indicating when one of my colleagues is good at something, I ask him to teach me how to do it and when i need to learn something, i ask my colleagues about their skills and abilities, respectively.

Furthermore, item KS57 indicating when i need certain knowledge, my colleagues tell me what they know and KS65 indicating I will demonstrate something which is hard to explain to others reported a high level of mean score with (mean = 5.02, std = .755) and (mean = 4.97, std = .930), respectively. At the eighth rank is item KS62 which indicates, startups' employees would share their knowledge with others if others would do so (mean = 4.75, std = 1.026) and item KS66 at the ninth rank indicating startups' employees will keep information in record for others' reference (mean = 4.56, std = .982). At the last rank is item KS60 which indicates, startups' employees like to be informed of what his colleagues know (mean = 4.56, std = .811). In a nutshell, the total mean for knowledge sharing is high (mean = 5.00, std = .544).

Table 4.21: Descriptive Analysis of Knowledge Sharing for Employees

Variables	Items	Statements	M	SD
Knowledge Sharing	KS57	When I need certain knowledge, my colleagues tell me what they know	5.03	.745
	KS58	When one of my colleagues is good at something, I ask him to teach me how to do it	5.24	.697
	KS59	When I need to learn something, I ask my colleagues about their skills and abilities	5.06	.771
	KS60	I like to be informed of what my colleagues know	4.56	.811
	KS61	I would share my knowledge with others if it is beneficial to the organizations	5.39	.663
	KS62	I would share my knowledge with others if they would do so	4.78	.986
	KS63	I would share my knowledge to others if they need it	5.25	.767
	KS64	I always share new knowledge with others	5.25	.713
	KS65	I will demonstrate something which is hard to explain to others	4.98	.901
	KS66	I will keep information in records for others' reference	4.61	.899
	Total Mean Score		5.01	.538

4.5.4 Descriptive Analysis of Entreprenuers' Innovative Work Behaviour

The endogenous construct in this model is innovative work behaviour which consists of ten items. Referring to Table 4.22, entrepreneurs of startups ranked the statement, my employees pay attention to issues that are part of their daily work (IWB57) with the highest score (mean = 4.99, std = .677), followed by my employees put effort in the development of new things (1WB66) with the score (mean = 4.98, std = .781). Item IWB65 with the score (mean = 4.92, std = .786) signifies my employees contribute to the implementation of new ideas. Next, the result shows that item IWB59 with the score (mean = 4.91, std = .816) proves that my employees search out new working methods, techniques or instruments, followed by my employees find new approaches to execute tasks with the score (mean = 4.90, std = .776). Further, the score by item IWB58 supports that my employees wonder how things can be improved (mean

= 4.88, std = .792), while item IWB60 (mean = 4.83, std = .735) supports my employees generate original solutions for task-related problems. The items of idea promotion which are my employees attempt to convince people to support innovative ideas (IWB63) and my employees make important organisational members feel enthusiastic about innovative ideas (IWB62) show a high level of mean score with (mean = 4.82, std = .807) and (mean = 4.81, std = .793) respectively. The lowest mean was scored by item IWB64 that indicates, my employees systematically introduce innovative ideas into work practices (mean = 4.76, std = .817). Overall, the mean score for innovative work behaviour from the entrepreneurs' perspective is high (mean = 4.88, std = .604) indicating that startups' employees are actively involved in identifying new ideas and realizing the ideas generated and promoted in the business operations and development.

Table 4.22: Descriptive Analysis of Innovative Work Behaviour for Entrepreneurs

Variables	Items	Statements	M	SD
Innovative Work Behaviour	IWB57	My employees pay attention to issues that are part of their daily work	4.99	.677
	IWB58	My employees wonder how things can be improved	4.88	.792
	IWB59	My employees search out new working methods, techniques or instruments	4.91	.816
	IWB60	My employees generate original solutions for task-related problems	4.83	.735
	IWB61	My employees find new approaches to execute tasks	4.90	.776
	IWB62	My employees make important organisational members feel enthusiastic about innovative ideas	4.81	.793
	IWB63	My employees attempt to convince people to support innovative ideas	4.82	.807
	IWB64	My employees systematically introduce innovative ideas into work practices	4.76	.817
	IWB65	My employees contribute to the implementation of new ideas	4.92	.786
	IWB66	My employees put effort in the development of new things	4.98	.781
	Total Mean Score		4.88	.604

4.5.5 Descriptive Analysis of Employees' Innovative Work Behaviour

Table 4.23 presents the employee perspective of their level of innovative work behaviour. Among the ten items, the employees at startups ranked I pay attention to issues that are part of daily work (IWB67) with the highest score (mean = 5.10, std = .672), followed by I wonder how things can be improved (IWB68) with the score (mean = 5.06, std = .701). The item IWB71 with the score (mean = 5.05, std = .710) signifies that startups' employees find new approaches to execute tasks. Next, the result shows that item IWB69 with the score (mean = 5.02, std = .732) proves that startups' employees search out new working methods, techniques or instruments, followed by I put effort in the development of new things (IWB76) with the score (mean = 5.01, std = .692). Further, item IWB70 supports the statement that I generate original solutions for task-related problems (mean = 4.89, std = .756). The items of idea promotion which are I attempt to convince people to support an innovative ideas (IP73) and I make important organisational members feel enthusiastic about innovative ideas (IP72) showed a high level of mean score with (mean = 4.84, std = .785) and (mean = 4.83, std = .778) respectively.

Besides, item IWB75 (mean = 4.82, std = .770) reported that startups' employees contribute to the implementation of new ideas. The lowest mean was scored by item IWB74 which indicates that employees systematically introduce innovative ideas into work practices (mean = 4.77, std = .741). Overall, the mean score for innovative work behaviour of startups' employees is high (mean = 4.93, std = .550). This indicates that startups' employees participate in exploring and generating new ideas, promoting the proposed idea, and implementing the ideas generated into practice for the benefit of startups.

Table 4.23: Descriptive Analysis of Innovative Work Behaviour for Employees

Variables	Items	Statements	M	SD
Innovative Work Behaviour	IWB67	I pay attention to issues that are part of daily work	5.10	.672
	IWB68	I wonder how things can be improved	5.06	.701
	IWB69	I search out new working methods, techniques or instruments	5.02	.732
	IWB70	I generate original solutions for task related problems	4.89	.756
	IWB71	I find new approaches to execute tasks	5.05	.710
	IWB72	I make important organisational members feel enthusiastic about innovative ideas	4.83	.778
	IWB73	I attempt to convince people to support innovative ideas	4.84	.785
	IWB74	I systematically introduce innovative ideas into work practices	4.77	.741
	IWB75	I contribute to the implementation of new ideas	4.82	.770
	IWB76	I put effort in the development of new things	5.01	.692
	Total Mean Score		4.93	.550

4.6 Measurement Model using Structural Equation Model – Partial Least Square

A structural equation model using partial least square involved two analyses of measurement model and structural model. The first stage involves the assessment of a measurement model to measure reliability and validity of the data collected. An evaluation of easurement model aims to show how well the chosen sets of indicators measure the respective latent or emergent constructs. In measurement model evaluation, two types of validity were examined, the first was convergent validity, and the second was discriminant validity. Convergent validity of the measurement model usually examines the indicator reliability/factor loadings, average variance extracted (AVE), and composite reliability (CR), while discriminant validity assess Fornell and

Larcker criterion, cross loadings, and heterotrait-monotrait ratio of correlations (HTMT)(Ramayah et al., 2018; Gholami et al., 2013).

4.6.1 Assessment of Covergent Validity - Indicator Reliability/Factor Loadings

Indicator reliability of the measurement model is measured by examining the loadings for all items. Loading is described as the correlation of the latent constructs and their respective indicators/items (Ramayah et al., 2018). According to Hair et al. (2014) and Chin (1998), loading must be higher than 0.70 and this indicates that the item has high internal consistency reliability to the constructs. In contrast, Hair et al., (2011) state that indicator with loading between 0.40 and 0.70 should only to be removed if deleting the indicator leads to an increase in composite reliability above the suggested threshold value. In addition, if indicator is below than 0.4, then the item should be deleted (Hair et al., 2011). Further, for the loading lower than the threshold values, the item is recommended to be deleted from the construct until the average variance extracted meets the minimum values at 0.50 and higher than 0.7.

Based on the Table 4.24, the result of PLS revealed that all the 61 items tested indicated having high factor loading which were above 0.5. As for this study, 12 items have been deleted to fulfill the requirement of construct reliability and discriminant validity. There were three items of conflict namely CF08, CF44 and CF46, one item of debate (DB10), idea time (IT12), humour/playfulness (HP29), and two items from freedom, which item of FR27 and FR33 deleted because of lower factor loading which is less than 0.5. The two items of knowledge sharing, KS62 and KS66 were also deleted. Some of the items were deleted to meet the AVE values even though the factor loading has fulfilled the requirement which is greater than 0.50. Nevertheless, one additional item of idea support (IS37), and one item of debate (DB49) were deleted to

fulfill the requirements of the Fornell and Larcker and the HTMT criterion. For innovative work behaviour, all ten items were tested and the results reveal that the factor loading of all the items were found above 0.50. As can be seen in Table 4.24, all 61 items in the measurement model exhibit loading within 0.540 to 0.951. Based on the result, after the deletion of the items, it can be concluded that all the items used in this study have obtained satisfactory indicator reliability.

Table 4.24: Factor Loading

Construct	Item Loading	Outer Loading
Challenge	CH01	0.732
	CH02	0.757
	CH11	0.656
	CH16	0.752
	CH18	0.710
	CH23	0.698
	CH39	0.684
Freedom	FR06	0.731
	FR17	0.783
	FR22	0.664
	FR40	0.725
	FR42	0.760
Trust	TR34	0.540
	TR45	0.807
	TR48	0.628
	TR51	0.807
	TR53	0.753
Idea Time	IT03	0.641
	IT19	0.725
	IT28	0.742
	IT35	0.711
	IT50	0.806
Humour/Playfulness	HP07	0.681
	HP13	0.755
	HP20	0.755
	HP36	0.805
	HP43	0.638
Conflict	CF04	0.581
	CF24	0.715
	CF30	0.951

Construct	Item Loading	Outer Loading
Idea Support	IS09	0.779
	IS14	0.792
	IS26	0.771
	IS47	0.711
Debate	DB05	0.791
	DB21	0.791
	DB31	0.741
	DB38	0.772
Risk Taking	RT15	0.746
	RT25	0.615
	RT32	0.720
	RT41	0.723
	RT52	0.741
Knowledge Sharing	KS57	0.746
	KS58	0.777
	KS59	0.782
	KS60	0.592
	KS61	0.732
	KS63	0.745
	KS64	0.726
	KS65	0.605
Innovative Work Behaviour	IWB67	0.660
	IWB68	0.777
	IWB69	0.796
	IWB70	0.774
	IWB71	0.815
	IWB72	0.749
	IWB73	0.723
	IWB74	0.798
	IWB75	0.843
	IWB76	0.819
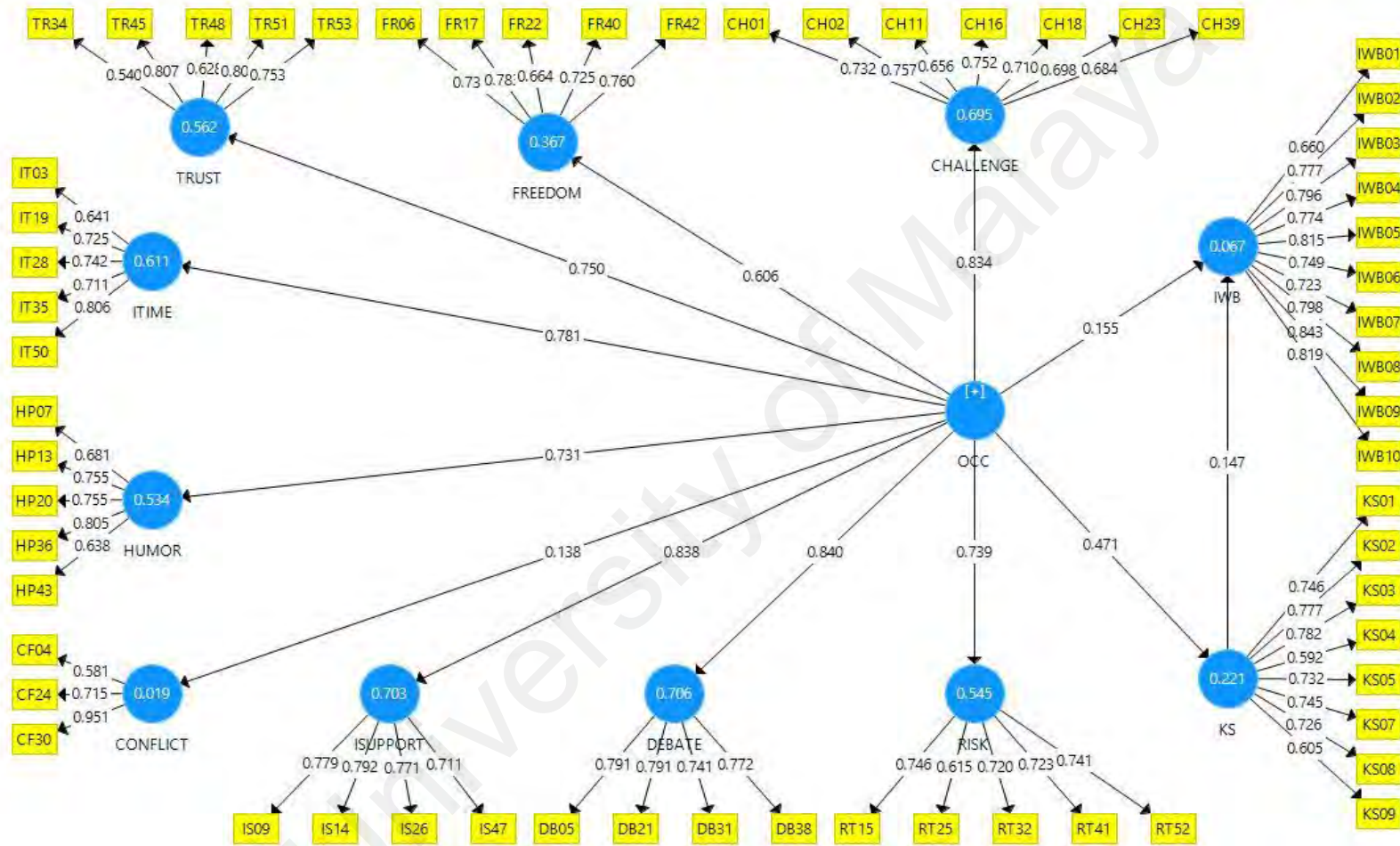
Figure 4.1: Measurement Model

4.6.2 Assessment of Internal Consistency Reliability

Previously, Cronbach's alpha was used to measure the internal consistency reliability particularly in the social science research. However, Bagozzi & Yi, (1998) and Hair et. al. (2012) suggest that researchers should report the composite reliability (CR) to measure internal consistency reliability as a replacement to the Cronbach's alpha in order to provide an advanced measurement in SEM-PLS. A measurement model has a satisfactory internal consistency reliability when the CR of each construct exceeds the threshold value of 0.70 (Nunnally & Bernstein, 1994; Hair et al., 2014).

Table 4.25 shows the CR of each construct for research ranges from 0.802 to 0.938 with the value of 0.938 for innovative work behaviour, 0.902 for organisational creative climate, and 0.893 for knowledge sharing. All the reflective constructs of organisational creative climate were found to be of high values of composite reliability as in challenge and involvement (0.879), freedom (0.853), trust/openness (0.836), idea time (0.848), humour/playfulness (0.849), conflict (0.802), idea support (0.848), debate (0.856), and risk taking (0.835). Overall, the results demonstrate that all the indicators used to present the constructs of the study have satisfactory internal consistency reliability with the values greater than 0.70. Therefore, the results confirm that the 61 items tested are reliable.

Table 4.25: Internal Consistency Reliability

Constructs	Composite Reliability (CR)
Organisational Creative Climate	0.902
Challenge and Involvement	0.879
Freedom	0.853
Trust/Openness	0.836
Idea Time	0.848
Humour/Playfulness	0.849
Conflict	0.802
Idea Support	0.848
Debate	0.856
Risk Taking	0.835
Knowledge Sharing	0.893
Innovative Work Behaviour	0.938

4.6.3 Assessment of Convergent Validity - Average Variance Extracted (AVE)

Convergent validity of each construct is conducted by evaluating the value of average variance extracted (AVE). According to Urbach & Ahlemann (2010), the measurement model of convergent validity occupies the degree to which individual items reflect a construct congregating the items compared in other constructs. A sufficient convergent validity is accomplished when the value of AVE of the construct is above the threshold of 0.50 (Barclay et al., 1995). After construct reliability has been identified, the analysis process was conducted to analyze the values of average variance extracted (AVE) estimated by the ratio of construct variance to the total variance among indicators. The recommended values should be above the threshold of .50 in order to prove the convergent validity of each construct. In addition to this, Hair et al. (2014) recommend that the assumption of composite reliability must be higher than 0.70 and the average variance extracted must also be higher than 0.50. If the assumption is met, the result indicates that the items of the model tested have high internal consistency reliability and validity for the study.

However, for second order construct (organisational creative climate), SEM-PLS was not able to identify whether the latent variable is a second order construct or a normal construct. Thus, the AVE of a second order construct is based on all repeated indicators of the variables. This AVE should not be used. Instead, to retrieve AVE value, the loading in the path coefficient from the the nine dimensions of organisational creative climate namely: challenge and involvement, freedom, trust/openness, idea time, humour/playfulness, conflict, idea support, debate, and risk taking should be used. Next, all the nine dimensions value were inserted using the AVE calculator (excel format) as shown in Appendix L. The result reveals that the AVE value for organisational creative climate is 0.527.

Based on Table 4.26, all the constructs obtained AVE values ranging from 0.505 to 0.604. In particular, the AVE values for challenge and involvement is (0.509), freedom (0.538), trust/openness (0.511), idea time (0.529), humour/playfulness (0.532), conflict (0.584), idea support (0.583), debate (0.599), risk taking (0.505), knowledge sharing (0.513) and innovative work behaviour (0.604). Overall, each of the average variance extracted of all the constructs meet the threshold values as greater than 0.50. Thus, this result evinces that the study's measurement model has demonstrated an adequate convergent validity.

Table 4.26: Average Variance Extracted

Constructs	Average Variance Extracted (AVE)
Organisational Creative Climate	0.527
Challenge and Involvement	0.509
Freedom	0.538
Trust/Openness	0.511
Idea Time	0.529
Humour/Playfulness	0.532
Conflict	0.584
Idea Support	0.583
Debate	0.599
Risk Taking	0.505
Knowledge Sharing	0.513
Innovative Work Behaviour	0.604

4.6.4 Assessment of Discriminant Validity

Discriminant validity referes to the degree to which indicators are differentiated across constructs or to measure distinct concepts by examining the correlations between the measures of potentially overlapping" (Ramayah et al., 2018, p.84). In other words, to ensure that the constructs measured are different from the other constructs. In SEM-PLS, discriminant validity is assessed based on the Fornell and Larcker's (1981), cross loading (Chin, 1998), and Heterotrait and Monotrait ratio of correlations (HTMT) (Henseler, Ringle, & Sarstedt, 2015) criteria.

According to Fornell and Larcker (1981), the discriminant validity can be established whenever the square root of AVE in each of latent variables is larger than other correlation values among the latent variables. The assumption underlying discriminant validity is, if the single loading of the indicator is greater for their own latent variable than for the other latent variable in the model, the model is interpreted as well differentiated with respect to the other constructs.

The result of discriminant validity in Table 4.27 indicates the cross-loadings of the construct and the other constructs which met the assumption as the values are greater than another construct. All items loading in reflective model values are in the range of 0.711 to 0.764. Thus, this result implies that there is no item loading higher on constructs that are not intended to be measured. Additional to cross loading assessment, the analysis was done further to measure generalization, and minimize bias by using the same data to estimate the path coefficient of the reflective measurement model. Overall, these results confirm the discriminant validity of the constructs.

Table 4.27: Discriminant Validity using Fornell and Larcker Criterion

Constructs	CH	CF	DB	FR	HP	IS	IT	IWB	KS	RT	TR
Challenge and Involvement (CH)	**0.714**										
Conflict (CF)	0.033	**0.764**									
Debate (DB)	0.632	0.170	**0.774**								
Freedom (FR)	0.396	0.266	0.464	**0.734**							
Humour/Playfulness (HP)	0.591	0.061	0.603	0.354	**0.729**						
Idea Support (IS)	0.697	0.045	0.692	0.372	0.591	**0.764**					
Idea Time (IT)	0.534	0.166	0.644	0.412	0.443	0.63	**0.727**				
Innovative Work Behaviour (IWB)	0.202	-0.073	0.190	0.203	0.135	0.163	0.177	**0.777**			
Knowledge Sharing (KS)	0.473	-0.088	0.355	0.164	0.363	0.424	0.376	0.219	**0.716**		
Risk Taking (RT)	0.462	0.250	0.567	0.545	0.426	0.557	0.572	0.159	0.293	**0.711**	
Trust/Openness (TR)	0.639	-0.081	0.546	0.317	0.47	0.57	0.56	0.153	0.383	0.486	**0.715**

Secondly, discriminant validity is examined from the indicator's loadings with respect to all construct of the correlations. According to Chin (2010), the cross loading of each item is higher on its own construct than on other constructs and that all constructs share more variance with their measures than with other constructs. On the other hand, for cross loadings, the indicator's loadings should be higher against their respective construct compared to other constructs to establish the discriminant validity of measurement model.

Table 4.28 shows the output cross loadings between constructs and indicators of the model. From the result, all the measurement items are loaded higher against their respective intended latent variable compared to other variables. Besides, the results present that the loading of each items in the respective construct is higher than any other values in the same rows and columns. The loadings clearly distinguish each latent variable as theorized in the conceptual model. Hence, the cross loading output satisfies the second assessment of discriminant validity. Therefore, it can be concluded that this study has confirmed the measurement model of discriminant validity.

Table 4.28: Discriminant Validity using Cross Loading Criterion

Constructs	Items	CH	CF	DB	FR	HP	IS	IT	IWB	KS	RT	TR
Conflict (CF)	CF04	-0.135	**0.581**	0.085	0.169	0.008	-0.030	0.057	-0.052	-0.143	0.122	-0.111
	CF24	-0.083	**0.715**	0.098	0.212	0.008	0.007	0.087	-0.099	-0.122	0.205	-0.118
	CF30	0.008	**0.951**	0.173	0.242	0.076	0.060	0.177	-0.048	-0.046	0.230	-0.044
Challenge and Involvement (CH)	CH01	**0.732**	0.014	0.427	0.254	0.365	0.432	0.351	0.126	0.290	0.284	0.424
	CH02	**0.757**	-0.003	0.438	0.251	0.399	0.496	0.346	0.173	0.377	0.295	0.400
	CH11	**0.656**	-0.034	0.481	0.263	0.420	0.496	0.385	0.111	0.358	0.278	0.421
	CH16	**0.752**	-0.053	0.448	0.329	0.473	0.514	0.372	0.171	0.339	0.344	0.464
	CH18	**0.710**	0.090	0.492	0.345	0.451	0.530	0.484	0.114	0.331	0.405	0.501
	CH23	**0.698**	-0.088	0.411	0.273	0.404	0.479	0.346	0.130	0.273	0.373	0.411
	CH39	**0.684**	-0.102	0.451	0.247	0.426	0.522	0.366	0.180	0.388	0.314	0.558
Debate (DB)	DB05	0.494	0.128	**0.791**	0.364	0.433	0.552	0.545	0.128	0.319	0.427	0.415
	DB21	0.550	0.149	**0.791**	0.350	0.528	0.578	0.509	0.130	0.327	0.460	0.465
	DB31	0.391	0.144	**0.741**	0.339	0.410	0.456	0.410	0.210	0.200	0.422	0.310
	DB38	0.506	0.107	**0.772**	0.382	0.485	0.544	0.516	0.130	0.242	0.445	0.483
Freedom (FR)	FR06	0.264	0.214	0.308	**0.731**	0.219	0.255	0.239	0.082	0.078	0.290	0.194
	FR17	0.387	0.151	0.366	**0.783**	0.260	0.307	0.301	0.195	0.118	0.348	0.249
	FR22	0.189	0.246	0.331	**0.664**	0.219	0.190	0.279	0.102	0.106	0.408	0.147
	FR40	0.300	0.148	0.321	**0.725**	0.252	0.307	0.363	0.152	0.155	0.488	0.303
	FR42	0.289	0.233	0.372	**0.760**	0.336	0.289	0.317	0.194	0.133	0.451	0.246
Humor/Playfulness (HP)	HP07	0.290	0.125	0.386	0.221	**0.681**	0.354	0.319	0.069	0.180	0.307	0.270
	HP13	0.474	0.046	0.492	0.321	**0.755**	0.511	0.401	0.096	0.256	0.341	0.381
	HP20	0.365	0.159	0.428	0.245	**0.755**	0.324	0.243	0.038	0.253	0.294	0.250

	HP36	0.444	0.076	0.485	0.273	**0.805**	0.429	0.326	0.157	0.254	0.314	0.324
	HP43	0.541	-0.155	0.387	0.216	**0.638**	0.497	0.306	0.118	0.364	0.291	0.459
Idea Support (IS)	IS09	0.575	0.018	0.512	0.257	0.466	**0.779**	0.404	0.072	0.341	0.358	0.407
	IS14	0.565	0.006	0.544	0.287	0.476	**0.792**	0.468	0.138	0.341	0.425	0.421
	IS26	0.543	0.078	0.546	0.345	0.485	**0.771**	0.537	0.197	0.298	0.498	0.463
	IS47	0.440	0.032	0.510	0.242	0.371	**0.711**	0.512	0.081	0.318	0.414	0.450
Idea Time (IT)	IT03	0.393	0.077	0.391	0.261	0.332	0.441	**0.641**	0.152	0.279	0.403	0.300
	IT19	0.411	0.141	0.452	0.288	0.348	0.454	**0.725**	0.176	0.315	0.346	0.412
	IT28	0.359	0.138	0.489	0.304	0.236	0.417	**0.742**	0.062	0.204	0.342	0.358
	IT35	0.387	0.143	0.459	0.301	0.352	0.465	**0.711**	0.102	0.256	0.459	0.433
	IT50	0.392	0.104	0.538	0.338	0.338	0.507	**0.806**	0.147	0.307	0.514	0.510
Innovative Work Behavior (IWB)	IWB01	0.155	-0.074	0.124	0.120	0.083	0.082	0.109	**0.660**	0.204	0.091	0.171
	IWB02	0.179	-0.105	0.111	0.154	0.052	0.106	0.142	**0.777**	0.167	0.090	0.123
	IWB03	0.119	-0.044	0.132	0.177	0.052	0.089	0.129	**0.796**	0.177	0.119	0.070
	IWB04	0.182	-0.028	0.113	0.230	0.085	0.123	0.156	**0.774**	0.140	0.162	0.143
	IWB05	0.158	-0.020	0.184	0.197	0.145	0.167	0.151	**0.815**	0.168	0.108	0.083
	IWB06	0.165	-0.074	0.151	0.141	0.122	0.133	0.130	**0.749**	0.120	0.128	0.134
	IWB07	0.171	-0.059	0.173	0.160	0.158	0.138	0.133	**0.723**	0.165	0.109	0.172
	IWB08	0.147	-0.057	0.185	0.155	0.177	0.153	0.144	**0.798**	0.188	0.162	0.118
	IWB09	0.146	-0.028	0.166	0.140	0.110	0.137	0.144	**0.843**	0.178	0.143	0.078
	IWB10	0.140	-0.080	0.119	0.095	0.042	0.126	0.130	**0.819**	0.183	0.119	0.089
Knowledge Sharing (KS)	KS01	0.412	-0.026	0.332	0.140	0.327	0.349	0.406	0.159	**0.746**	0.262	0.348
	KS02	0.404	-0.105	0.267	0.097	0.317	0.333	0.261	0.141	**0.777**	0.177	0.293
	KS03	0.392	-0.035	0.257	0.183	0.323	0.337	0.359	0.168	**0.782**	0.272	0.333
	KS04	0.180	0.063	0.230	0.243	0.208	0.250	0.321	0.166	**0.592**	0.272	0.230
	KS05	0.353	-0.108	0.215	0.013	0.226	0.262	0.198	0.178	**0.732**	0.176	0.280
	KS07	0.363	-0.165	0.234	0.042	0.239	0.320	0.213	0.120	**0.745**	0.171	0.247

	KS08	0.336	-0.111	0.262	0.078	0.259	0.299	0.193	0.134	**0.726**	0.141	0.242
	KS09	0.220	-0.036	0.212	0.113	0.124	0.255	0.113	0.200	**0.605**	0.174	0.170
Risk Taking (RT)	RT15	0.414	0.137	0.387	0.395	0.387	0.449	0.447	0.101	0.256	**0.746**	0.389
	RT25	0.168	0.321	0.284	0.388	0.193	0.233	0.354	0.083	0.117	**0.615**	0.230
	RT32	0.333	0.175	0.453	0.328	0.336	0.383	0.396	0.140	0.211	**0.720**	0.319
	RT41	0.398	0.085	0.475	0.419	0.315	0.504	0.467	0.177	0.255	**0.723**	0.377
	RT52	0.277	0.228	0.390	0.415	0.252	0.358	0.352	0.050	0.172	**0.741**	0.386
Trust/Openness (TR)	TR34	0.256	-0.111	0.236	0.156	0.186	0.292	0.284	0.112	0.053	0.228	**0.540**
	TR45	0.512	-0.068	0.436	0.260	0.415	0.424	0.460	0.157	0.369	0.349	**0.807**
	TR48	0.322	-0.083	0.261	0.246	0.171	0.266	0.259	0.058	0.127	0.308	**0.628**
	TR51	0.599	0.001	0.548	0.271	0.448	0.551	0.526	0.136	0.361	0.453	**0.807**
	TR53	0.495	-0.076	0.378	0.190	0.361	0.429	0.398	0.071	0.338	0.359	**0.753**

Finally, the result of Heterotrait and Monotrait Ratio (HTMT) is regarded as another best alternative to detect discriminant validity issues as suggested by Henseler et al. (2015). HTMT uses a criterion which involves the act of comparing it to a predefined threshold. If the value of the HTMT is higher than the threshold, one can conclude that there is a lack of discriminant validity. If the HTMT value is greater than $HTMT_{.90}$ value of 0.90 as proposed by Gold, Malhotra, and Segars (2001), it shows the evidence of discriminant validity issues. Using the PLS Algorithm, as seen in Table 4.29, none of the respective constructs violates $HTMT_{.90}$, which concludes that construct validity is established in the measurement model.

In addition, a bootstrapping was applied to test whether the HTMT value is significantly different from 1.00 (Henseler, Ringle, & Sarstedt, 2015) as recommended by Hair, Risher, Sarstedt, and Ringle (2019). If the confidence interval contains the value, it indicates a lack of discriminant validity (Henseler et al., 2015). More specifically, none of the upper bound of the 95% confidence interval of HTMT is lower than 0.9.

To conclude, since the conservative HTMT threshold of 0.90 already supports discriminant validity, the bootstrap confidence interval results of the HTMT strengthen the evidence indicating that discriminant validity has been ascertained in this study. It can, therefore, be concluded that both reliability and validity requirements are met for this study. Next, the data can be further analysed for structural measurement.

Table 4.29: Discriminant Validity using Heterotrait-Monotrait (HTMT Criterion)

Constructs	CH	CF	DB	FR	HP	IS	IT	IWB	KS	RT
Challenge and Involvement (CH)										
Conflict (CF)	0.159									
Debate (DB)	0.775	0.202								
Freedom (FR)	0.477	0.357	0.592							
Humour/Playfulness (HP)	0.717	0.211	0.767	0.444						
Idea Support (IS)	0.868	0.097	0.894	0.473	0.753					
Idea Time (IT)	0.661	0.184	0.823	0.523	0.564	0.819				
Innovative Work Behaviour (IWB)	0.228	0.105	0.226	0.232	0.163	0.189	0.208			
Knowledge Sharing (KS)	0.546	0.189	0.425	0.195	0.427	0.520	0.440	0.246		
Risk Taking (RT)	0.558	0.340	0.730	0.706	0.543	0.712	0.737	0.186	0.346	
Trust/Openness (TR)	0.764	0.181	0.671	0.401	0.568	0.723	0.697	0.178	0.429	0.619

4.7   Structural Model using Structural Equation Model – Partial Least Square

The structural model was further analyzed after the measurement model has been successfully validated and confirmed. According to Urbach & Ahlemann (2010), the purpose of validating the structural model is to observe whether the hypotheses proposed as presented in the structural model are supported by the data.   In SEM-PLS, the validity of structural model is evaluated by using coefficient of determination (R^2) and path coefficients.

Furthermore, the evaluation of the mediation relationship was also conducted. The mediation relationship for this study was tested using the new procedure for mediation, which is bootstrapping the indirect effect as propagated by Preacher & Hayes (2008; 2004).   Likewise, Hair et al. (2013) support the application of bootstrapping for mediation analysis by which they mention that "when testing mediating effects, researchers should rather follow Preacher and Hayes (2004, 2008)

and bootstrap the sampling distribution of the indirect effect, which works for simple and multiple mediator models."

4.7.1 Assessment of Structural Model for Collinearity Issues

The lateral collinearity (predictor-criterion collinearity) issue is crucial to be addressed even though the criteria of discriminant validity (vertical collinearity) have been achieved. It is because lateral collinearity issue may sometimes mislead the finding in a stealth way, which in turn, can mask the strong causal effect in the model. The rule of thumb in assessing collinearity issue is when VIF value is 5 or higher (Hair, Ringle, & Sarstedt, 2011) or when VIF value is 3.3 or higher (Diamantopoulos & Sigouw, 2006), collinearity problem exists. In other words, the assumption underlying collinearity issue is, if the inner VIF value of the exogenous constructs is less than 5 and 3.3, the model has no collinearity issue (Hair et al., 2017). Based on Table 4.30, each set of predictor constructs indicates that collinearity is not a concern.

Table 4.30: Collinearity Issue

Constructs	Innovative Work Behaviour	Knowledge Sharing
Challenge	2.871	2.796
Freedom	1.881	1.880
Trust	2.200	2.184
Idea Time	2.117	2.101
Humour/Playfulness	2.161	2.151
Conflict	1.257	1.217
Idea Support	3.241	3.241
Debate	2.809	2.808
Risk Taking	1.896	1.891
Knowledge Sharing	1.426	
Innovative Work Behaviour	1.000	1.000

4.7.2 Assessment of R Square

The R^2 value determines the amount of variance in the endogenous constructs explained by the exogenous constructs. The larger the R^2 value, the higher the predictive ability of the structural model. According to Hair et al. (2014), the R^2 value should be between 0 and 1. Then, the R^2 value close to 1 indicates higher predictive accuracy. Further, Cohen (1989) highlights that the value of R^2 can be considered as substantial if it is around 0.26, whereas the R^2 value of 0.13 is moderate and the value of 0.02 is assumed as weak. However, there is no specific rule of thumb regarding the acceptable R^2 value since it all depends on the research disciplines and model complexity.

Referring to Table 4.31, the two independent variables namely organisational creative climate (OCC) and knowledge sharing (KS) are able to explain 6.7 percent of the variance in innovative work behaviour. At the same time, the R^2 value of knowledge sharing explains 22.1 percent of variance in organisational creative climate.

Table 4.31: R Square of Endogenous Constructs

Endogenous Construct	R Square	R Square Adjusted	Explanatory Power
Innovative Work Behaviour	0.067	0.061	Weak
Knowledge Sharing	0.221	0.219	Moderate

The result of R^2 of innovative work behaviour is relatively low (6.7%). In measuring the explanatory power are depending on the predictors and well-specified models used (Neter, Wasserman, & Kutner, 1989). In social sciences fields, it is extremely unlikely to have a specify complete model especially this study tested the human behaviour, thought, and feeling which the predictos are not closely related to the

outcome. In some fields, R square is typically higher since it able to predict the result or something seemingly well related outcome.

Meanwhile, for the first order construct of organizational creative climate, 69.5 percent of OCC explains the variance in challenge and involvement, 36.7 percent of the OCC explains the variance in freedom, 56.2 percent of variance in trust/openess, 61.1 percent of the OCC explains the variance in idea time, 53.4 percent of the OCC explains variance in humour/playfulness, 1.9 percent of the OCC explains variance in conflict, 70.3 percent of the OCC explains variance in idea support, 70.6 percent of the OCC explains variance in debate, and 54.5 percent of the OCC explains variance in risk taking. Figure 4.2 illustrates the R square of all constructs.
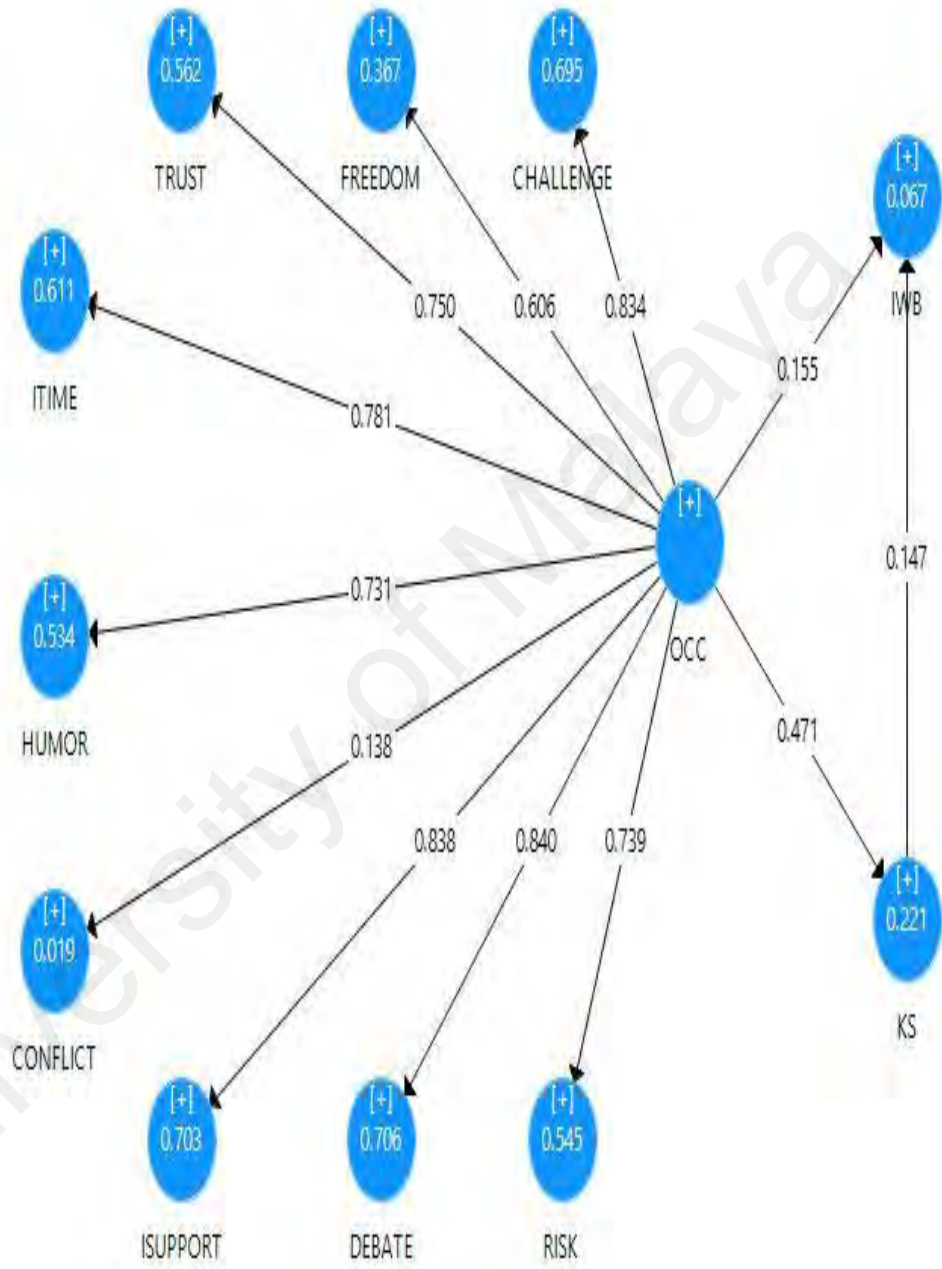
Figure 4.2 R Square

4.7.3 Significant of Direct Effects

In the structural model, each path links two latent variables (LV's) which represent a hypothesis. The purpose of examining the path coefficient value is to confirm the hypothesis proposed and provide the understanding regarding the strength of the relationship between endogenous and exogenous constructs. In other words, a direct relationship in an assessment of direct effects is between independent and dependent variables and endogenous constructs. In this study, the assessment of path coefficient value or standardized beta (β), t-statistics value and standard error for all paths were derived using the SmartPLS bootstrapping function.

In this procedure, a large number of sub-samples ranges between 500 to 5000 samples (Hair et al., 2011) were taken from the original sample with replacement to give bootstrap standard errors. It then generates t-values for significance testing of the structural path. The bootstrap result estimates the normality of data. In this study, the bootstrapping generated 5000 samples from 352 cases. The number of cases in this study was measured by referring to the valid observations of the study which collected 352 respondents.

Notably, the significance level of each relationship is generated based on the t-statistics value of the result. According to Hair et al. (2017), if the t-value is greater than value greater than 1.96 ($p<0.05$) or if the t-value is greater than 1.645 ($p<0.10$) for two-tailed, then the relationship is significant. Therefore, to confirm the significant relationship for this study, the significant values should be less than 0.05 ($p<0.05$) and the t-value should exceed 1.96. Thus the hypothesis of the relationship can be accepted.

The result in Table 4.32 shows the path coefficient between organisational creative climate and knowledge sharing is 0.471, organisational creative climate and innovative work behaviour is 0.155, and knowledge sharing and innovative work behaviour is 0.147.

The result of the hypothesis testing portray that innovative work behaviour is influenced directly by organisational creative climate (t=2.450, p<0.05) and knowledge sharing (t=2.235, p<0.05).   Further, from the finding of the analysis, the result also shows that organisational creative climate has significantly influence with knowledge sharing with the t-value = 10.440, p<0.05.   The t-values revealed there was exceed 1.96; significant less than 0.05 and these two constructs were high correlate on innovative work behaviour.   Thus, H1, H2, and H3 are supported for this study.

Table 4.32: Path Coefficient, T-Value, and Significant Level for the Hypothesized Relationship

Hypothesized Relationships	Standard Beta (β)	T-Value	P-Value	Lower Limit	Upper Limit	Decision
Organisational Creative Climate => Innovative Work Behaviour	0.155	2.450	0.007	0.043	0.252	Supported
Organisational Creative Climate => Knowledge Sharing	0.471	10.440	0.000	0.388	0.538	Supported
Knowledge Sharing => Innovative Work Behaviour	0.147	2.235	0.013	0.029	0.246	Supported

4.7.4 Confidence Interval Bias

For the confirmation of the significant result of direct effect, further analysis was conducted by assessing the confidence interval bias corrected (CI). The confidence interval bias corrected provide the result of upper and lower bound. The assumption of

CI is, if zero does not straddle in between the confidence interval bias results, it means that there is a significant result.

As in Table 4.32 below, the assessment of organisational creative climate is (LL = 0.043, UL = 0.252) and knowledge sharing is (LL = 0.029, UL = 0.246). This indicates the zero values does not straddle in between the lower and upper limit with regard to innovative work behaviour. In addition, the assessment between organisational creative climate and knowledge sharing also indicates no straddle in between the confidence interval bias (LL = 0.388, UL = 0.538). Therefore, this result confirms the significance direct relationship as presented in Table 4.32.
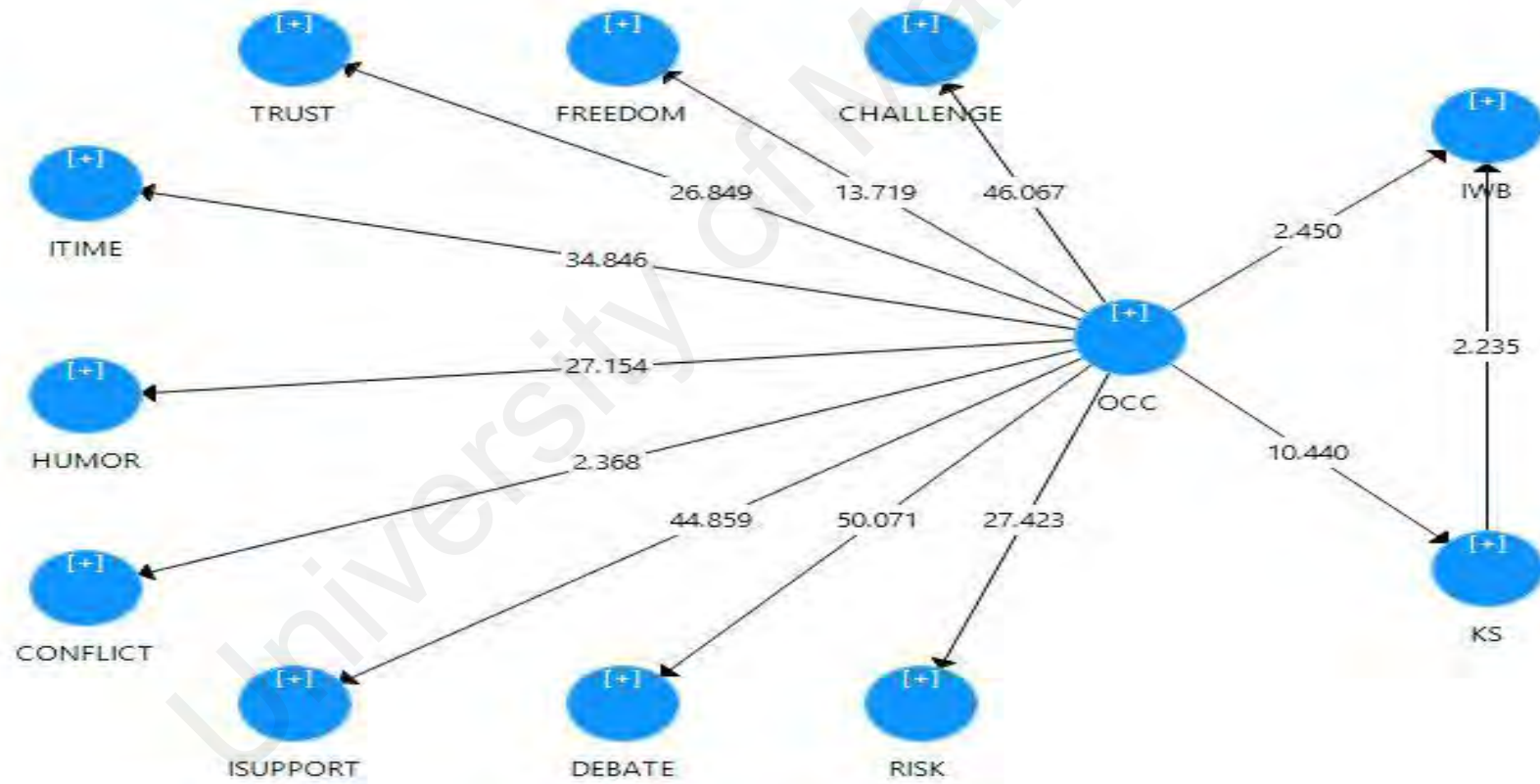
Figure 4.3: Structural Model

4.7.5 Effect Size

The effect size (f^2) is a measure of the impact of a specific predictor construct on an endogenous construct. The f^2 effect size measures the change in the R^2 value when a specified exogenous construct is absent from the model (Hair et al., 2011). The reason for calculating f^2 effect size is to estimate whether the absent predictor construct has a significant impact on the R^2 values of the endogenous construct.

From the finding, the result of f^2 shows that organisational creative climate possesses medium effect size ($f^2 = 0.284$) towards knowledge sharing. Even though there is a significant relationship between organization creative climate and innovative work behaviour, the effect size is small ($f^2 = 0.020$). Furthermore, there is small effect size of knowledge sharing ($f^2 = 0.018$) towards innovative work behaviour. It concludes that there are medium and small effects on the significance of direct relationships as presented in Table 4.33.

Table 4.33: Effect Size

Relationships	f^2	Effect Size
Organization Creative Climate => Innovative Work Behaviour	0.020	Small
Organization Creative Climate => Knowledge Sharing	0.284	Medium
Knowledge Sharing -> Innovative Work Behaviour	0.018	Small

4.7.6 Assessment of Mediating Analysis (Indirect Effects)

Examining the direct and indirect effect relationships between exogenous and endogenous latent variable could possibly bring other significant effects to the structural model (Henseler et al., 2009). In order to test the direct and indirect relationship, mediating or moderating analysis was carried out. Knowledge sharing has been introduced as mediating effect between the direct relationships as shown in Figure 2.9.

Ideally, mediation relationship is one in which the independent variable causes the mediator which then causes the dependent variable (Mackinnon, 2008). The analysis of indirect effect was fundamentally based on the modern method identified by a single number in which confidence intervals and significance tests can be calculated (Mackinnon, 2012). In other words, the mediated effect of independent variable to dependent variable via mediating variable can be quantified as the product of the regression coefficient relating independent variables to mediating variables, and the regression coefficient relating mediating variables to dependent variables.

The fundamental aspect to understand the mediation effect was followed from Baron and Kenny (1986). They mention three following regression equations as first, regressing the mediator on the independent variable. The independent variable must affect the mediator in the first equation. Second, regressing the dependent variable on the independent variable which the independent variable must be shown to affect the dependent variable; and third, regressing the dependent variable on both the independent variable and on the mediator which means to the mediator must affect the dependent variable. In most situations, if these conditions are all held in the predicted direction, then the effect of the independent variable on the dependent variable must be less in the third equation than in the second. The relationship can interpret a perfect mediation holds if the independent variable has no effect when the mediator is controlled.

Preacher and Hayes (2004; 2008) criticize the causal procedure introduced by Baron and Kenny (1986). According to Baron and Kenny (1986), path c which is known as total effect must be significantly performed before assessing the path c' or known as indirect effect. The introduction of path "c'" or indirect effect to prove the

strength of the relations between the predictor and the outcome is reduced significantly when the mediator is added to the relationship. If it is a complete mediation, the value of path c' will not differ from zero. Whereas, if it is partial mediation, the path c' value will be significantly smaller compared to path c. However, Preacher (2011) argues that the path coefficient "a" and the path coefficient "b" can be normally distributed but the product of "a*b" will not be normally distributed. In other words, the total effect can be normally distributed but not for the indirect effect. Therefore, bootstrapping procedure is needed to be conducted and hence, correct this situation.

The new method involving bootstrapping the indirect effect is introduced as the procedure for the mediation analysis. According to Hayes (2009) and Zhao et al. (2010), bootstrapping (a nonparametric re-sampling procedure) has been acknowledged as one of the most rigorous and powerful methods for testing the mediating effect. Further, the procedure of bootstrapping the indirect effect is said to be perfectly fitting and suitable for SEM-PLS due to no assumption about the shape of the variables' distribution or the sampling distribution of the statistic which consequently can be applied to small sample sizes (Hair et al., 2013; Preacher & Hayes, 2008).

The Table 4.34 presents the results of knowledge sharing in mediating the relationships between organisational creative climate and innovative work behaviour. The results show that knowledge sharing mediates the relationship between organisational creative climate and innovative work behaviour (t = 2.621, p < 0.05). Therefore, H4 is statistically significant and supported in this study.

Table 4.34: Mediating Effects Analysis

Relationship	β	SE	T-Values	P Values	Lower Limit	Upper Limit	Decision
Organisational Creative Climate => Knowledge Sharing => Innovative Work Behaviour	0.101	0.039	**2.621**	**0.009**	**0.025**	**0.171**	H4 Supported

4.7.7 Predictive Relevance

A Q^2 predictive relevance represents a synthesis of cross validation and function fitting with the perspective that the prediction of observables or potential observables is of much greater relevance than the estimation of what are often artificial construct-parameters (Geisser 1975). In SEM-PLS, a blind folding procedure was conducted purposely to omit part of the data for a block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters.

The result of blindfolding interpreted based on the Q^2 values without any loss of freedom evinces that, Q2 represents a measure of how well-observed values are reconstructed by the model and its parameter estimated by using the blindfolding procedure. Blindfolding is a sample reuse technique that omits every ninth data point in the endogenous construct's indicators and estimates the parameters with the remaining data points (Chin, 1998; Henseler et al., 2009; Tenenhaus et al., 2005). Hair et al. (2014) suggeste that the blindfolding procedure should only be applied to endogenous constructs that have a reflective measurement (multiple items or single item). In this study, the 7th data point has been selected for blindfolding testing.

The interpretation of the Q^2 values is, if the Q^2 value is larger than 0, the model has predictive relevance for ascertaining endogenous construct. Meanwhile, if the value is less than 0, it represents a lack of predictive relevance (Hairetal.2014; Fornell and Cha, 1994).   As can be seen in the Table 4.35 and Figure 4.4, the results show the Q^2 values are more than 0 and range from 0.141 to 0.231. This suggests that the model has sufficient predictive relevance.

Table 4.35: Predictive Relevance Testing

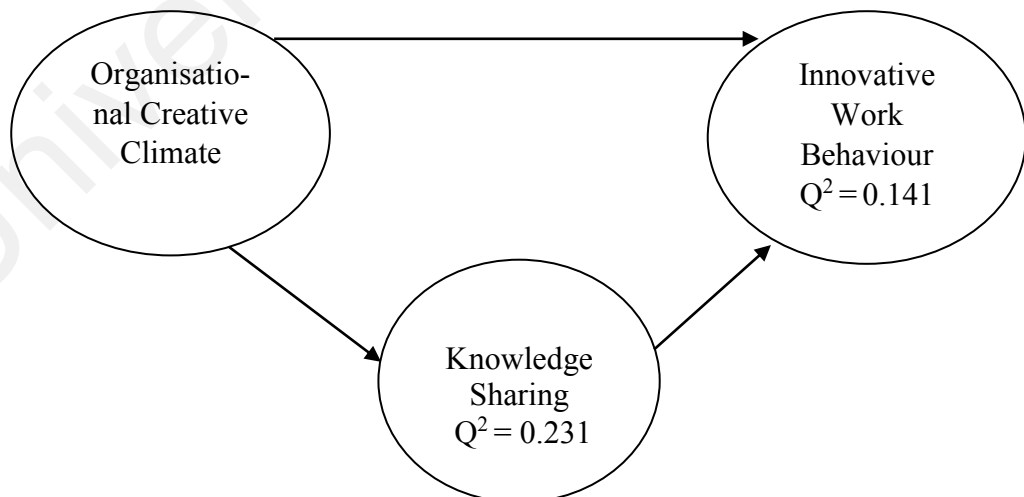| Relationship	SSO	SSE	Q^2 (=1-SSE/SSO)
Challenge and Involvement	2,464.00	2,644.00	
Freedom	704	704	
Trust/Openness	1,056.00	1,056.00	
Idea Time	1,760.00	1,760.00	
Humour/Playfulness	1,760.00	1,760.00	
Conflict	1,760.00	1,760.00	
Idea Support	1,408.00	1,408.00	
Debate	1,056.00	1,056.00	
Risk Taking	1,408.00	1,408.00	
Knowledge Sharing	2,816.00	2,420.27	
Innovative Work Behaviour	3,520.00	2,708.50	0.141

Figure 4.4: Predictive Relevance of the Model

4.8   Summary of Hypotheses Development

In order to confirm the proposed hypotheses and validate the structural model of the study, the path coefficients between two latent variables were examined. According to Hair et al. (2011), the path coefficients should be more than 0.100 in order to explain a certain impact within the model and the significant level which should be at least 0.05. Overall, all the hypotheses meet the significant criteria and are supported by path coefficient value ranging from 0.069 to 0.471.

As can be seen in Table 4.36, the results of the hypothesis testing portray that innovative work behaviour is influenced directly by organisational creative climate (β=0.155, t=2.450, p<0.01) and knowledge sharing (β=0.147, t=2.235, p<0.01). Further, from the results of analysis, knowledge sharing is influenced directly by organisational creative climate (β=0.471, t=10.440, p<0.01). Consequently, H1, H2 and H3 are supported. Meanwhile, knowledge sharing mediates the relationship between organisational creative climate and innovative work behaviour (β=0.069, t=2.189, p<0.01). Therefore, hypothesis H4 is supported.

Table 4.36 Summary of Hypothesis Analysis

	Hypothesis	Result
H_1	Organization Creative Climate => Innovative Work Behaviour	Supported
H_2	Organization Creative Climate => Knowledge Sharing	Supported
H_3	Knowledge Sharing => Innovative Work Behaviour	Supported
H_4	Organization Creative Climate => Knowledge Sharing =>Innovative Work Behaviour	Supported

4.9   Mann-Whitney U Test Analysis of Organisational Creative Climate

The differences between entrepreneurs and employees at the startups in Malaysia are in terms of organisational creative climate and its nine dimensions namely, challenge and involvement, freedom, trust/openness, idea time, humour/playfulness, conflict, idea support, debate, and risk taking. The differences were determined through mann-whitney u test analysis. Ideally, this test evaluates the median values of the test variables for one group that differs significantly from the median value of the test variable for the second group. Further, the effect size statistics for mann-whitney u test was calculated in order to indicate the value of the differences between two groups. Pallant (2010) introduced the procedure for calculating the effect size (r value). The value of r can be calculated using the following formula:

$$r = z \,/\, \text{square root of N}$$

$$N = \text{total number of cases}$$

As recommended by Cohen (1988), the threshold for assessing the values for effect size (r value) is shown in Table 4.37 below.

Table 4.37: The Threshold for Assessing R Value

Value	Effect Size
.1	Small effect
.3	Medium effect
.5	Large effect

Source: Cohen (1988)

As can be seen in Table 4.39, the results show that there is no significant difference in the organisational creative climate for employees (Md = 2.87, n = 352) and entrepreneurs (Md = 2.85, n = 352), U = 60433, z = -.56, p = .57. Further, the effect size is small (r = -.021).

A mann-whitney u test reveals no significant difference in the challenge and involvement construct for employees (Md = 3.4, n = 352) and entrepreneurs (Md = 3.3, n = 352), U = 59817, z = -.80, p = .43. Further, the effect size was small (r = -.030). A mann-whitney u test reveals a significant difference in the freedom construct for employees (Md = 2.9, n = 352) and entrepreneurs (Md = 2.9, n = 352), U = 56461, z = -2.04, p = .04. Further, the effect size is small (r = -.077).

A mann-whitney u test reveals no significant difference in the trust/openness construct for employees (Md = 3.0, n = 352) and entrepreneurs (Md = 3.0, n = 352), U = 59647, z = -.86, p = .39. Further, the effect size is small (r = -.032). A mann-whitney u test reveals a significant difference in the idea time construct for employees (Md = 2.8, n = 352) and entrepreneurs (Md = 3.0, n = 352), U = 54381, z = -2.82, p = .00. Further, the effect size is small (r = -.106).

For the humour/playfulness construct, the result shows that there is no significant difference in the humour/playfulness construct for employees (Md = 3.0, n = 352) and entrepreneurs (Md = 3.2, n = 352), U = 61617, z = -.13, p = .90. The effect size is small (r = -.005). A mann-whitney u test reveals a significant difference in the conflict construct for employees (Md = 1.6, n = 352) and entrepreneurs (Md = 1.5, n = 352), U = 56602, z = -1.99, p = .04. Further, the effect size is small (r = -.075).

The result shows that there is no significant difference in the idea support construct for employees (Md = 3.2, n = 352) and entrepreneurs (Md = 3.2, n = 352), U = 58381, z = -.1.35, p = .18. The effect size is small (r = -.051). Moreover, the result reveals that there is no significant difference in the debate construct for employees

(Md = 2.8, n = 352) and entrepreneurs (Md = 2.8, n = 352), U = 59481, z = -.92, p = .36. The effect size is small (r = -.035).

A mann-whitney u test reveals a significant difference in the risk taking construct for employees (Md = 2.8, n = 352) and entrepreneurs (Md = 2.6, n = 352), U = 55486, z = -2.41, p = .01. Further, the effect size is small (r = -.091).

Table 4.38: Mann-Whitney U Test Results of Organisational Creative Climate

Category of Respondents	N	Median	Mann-Whitney U (U)	Standardized Test Statistic (z)	Asymptotic Sig. (p)	Effect Size (r)
Organization Creative Climate						
Employee	352	2.87	60433	-.56	.57	-0.021
Entrepreneur	352	2.85				
Challenge and Involvement						
Employee	352	3.4	59817	-.80	.43	-0.030
Entrepreneur	352	3.3				
Freedom						
Employee	352	2.9	56461	-2.04	.04	-0.077
Entrepreneur	352	2.9				
Trust/Openness						
Employee	352	3.0	59647	-.86	.39	-0.032
Entrepreneur	352	3.0				
Idea Time						
Employee	352	2.8	54381	-2.82	.00	-0.106
Entrepreneur	352	3.0				
Humour/Playfulness						
Employee	352	3.0	61617	-.13	.90	-0.005
Entrepreneur	352	3.2				
Conflict						
Employee	352	1.6	56602	-1.99	.04	-0.075
Entrepreneur	352	1.5				
Idea Support						
Employee	352	3.2	58351	-1.35	.18	-0.051
Entrepreneur	352	3.2				
Debate						
Employee	352	2.8	59481	-.92	.36	-0.035
Entrepreneur	352	2.8				
Risk Taking						
Employee	352	2.8	55486	-2.41	.01	-0.091
Entrepreneur	352	2.6				

It can be concluded that the freedom, idea time, conflict, and risk taking constructs are significantly different between the two groups. However, the remaining five dimensions of organisational creative climate: challenge and involvement, trust/openness, humour/playfulness, idea support, and debate reveal that the differences between entrepreneurs and employees are not significant. Further, the organisational creative climate is also statistically not significantly different between two groups.

4.10 Mann-Whitney U Test Analysis for Innovative Work Behaviour

The mann-whitney u test analysis was conducted to evaluate the differences with regard to innovative work behaviour between the median of two independent groups. The result of the mann-whitney analysis as shown in Table 4.39 indicates no significant difference in the innovative work behaviour construct for employees (Md = 5.0, n = 352) and entrepreneurs (Md = 4.9, n = 352), U = 59079, z = -1.07, p = .29. Further, the effect size is very small (r = -.040). Therefore, it was observed that there is no statistically significant difference in the innovative work behaviour values for entrepreneurs and employees in this study.

Table 4.39: Mann-Whitney U Test Result of Innovative Work Behaviour

Category of Respondents	N	Median (Md)	Mann-Whitney U (U)	Standardized Test Statistic (z)	Asymptotic Sig. (p)	Effect Size (r)
Innovative Work Behaviour						
Employee	352	5.0	59079	-1.07	.29	-.040
Entrepreneur	352	4.9				

4.11 Chapter Summary

This chapter provided a detail explanation of the findings and analysis of the data. SPSS 22.0 version was used only for data screening to check for missing value, outliers and multicollinearity issue, normality of data and non-response bias. The results of descriptive analysis reveal the level of organisational creative climate for entrepreneurs and employees is high. Whilst, the level of innovative work behaviour for entrepreneurs and employees is also high. Furthermore, the level of knowledge sharing practices among startups' employees was reported high.

Importantly, SEM-PLS using SmartPLS 3.0 version was employed as a data analysis technique to evaluate the measurement and structural model for this study. From the analysis, the measurement model demonstrated a satisfactory convergent and discriminant validity as the all items loadings are greater or at least 0.5, the CR values are greater than 0.7, and the AVE values for all the constructs in this study are greater than 0.5. Besides, all manifested variables loaded on their respective latent variable and the square roots of AVE for each construct are greater than its inter-correlation. This thus confirmed the discriminant validity of this study.

Next, the validation of the structural model also demonstrated satisfactory results. The R^2 for dependent variable (innovative work behaviour) is weak with a value of 6.7 percent, and moderate for knowledge sharing with a value of 22.1 percent. Furthermore, based on the path coefficients assessment, all the three hypotheses have been supported. Moreover, the structural model also established a significant mediating relationship in which knowledge sharing mediates the relationship between organisational creative climate and innovative work behaviour.

Following this, the results of mann-whitney u test showed that there is no statistical difference of innovative work behaviour between enterpreneurs and employees at the startups in Malaysia. Moreover, the organisational creative climate also revealed no significant difference between the two groups. From all the nine dimensions of organziational creative climate, four dimensions consisting of freedom, idea time, conflict, and risk taking indicated statistically significant difference in the scores for entreprenuers and employees, while the other dimensions reported no significant difererences between the two groups of respondents.

CHAPTER 5: CONCLUSION AND RECOMMENDATION

5.1   Introduction

This study discovers a new experience and phenomenon of organisational management particularly in the startups context in Malaysia. Moreover, there is also an urgent need to explain further the new model pertaining to the antecedents that inhibit innovative work behaviour among employees of startups in Malaysia. With regard to the objective of this study by examining the connection between organisational creative climate, knowledge sharing, and innovative work behaviour, the results of the proposed hypotheses were tested by using the partial least square of structural equation modeling (SEM-PLS). Hence, several conclusions are accomplished and presented.

The results of this study revealed that the exogenous constructs (i.e., organisational creative climate and knowledge sharing) of this study have significantly influenced the endogenous construct (innovative work behaviour). On the other hand, the mediating role of knowledge sharing significantly mediates the relationship between organisational creative climate and innovative work behaviour of startups. Notably, the findings of this study support the theory and literature which contribute to the remarkable outcomes to the field of study particularly organisational behaviour, innovation, and entrepreneurship as well as the new insight for the Malaysian startups eco-system development.

5.2   Discussion of the Findings

In this sub-section, the findings of this study are presented in consistent with the underlying research questions and research objectives. The results are discussed and evaluated with the relevant empirical studies from the past researches.

5.2.1 Research Question 1: What is the relationship between Organisational Creative Climate and Innovative Work Behaviour among Startups in Malaysia?

The first question of this study is derived from the first objective which aim to investigate the relationship between the organisational creative climate with innovative work behaviour of Startups' employee. Based on the result in chapter four, the organisational creative climate has been identified to have positive influence on the innovative work behaviour of Startups' employees with the results of ($\beta = 0.155$, $t = 2.450$, $p < 0.05$).

This finding has been supported by Spender et al. (2017) which highlighted that the elements in the organisational creative climate (i.e. challenges and involvement, trust/openness, idea support, freedom and conflicts) is important to stimulate the innovation work behaviour in the startups lifecycle. Other than that, the study of Zhang and Li (2010) cited in Spender et al. (2017) concluded that examining the role of organisational creative climate is significant to promote new business startups in new venture innovation which required fusion of entrepreneurs' and employees' ideas.

Nevertheless, Olsson et al. (2019) supported that creative climate allow new retail startups to grow faster with the innovation work behaviour practices. Furthermore, authors stressed the importance of organisational climate in influencing creativity and innovation in new businesses should not neglected. Besides, the findings of the study also claimed that people within organization seem to express a desire for better innovation support through better structured of organizational climate, given the strong entrepreneurial mindset in the company.

The results of present study are in line with previous studies by Izzati (2018), Liu et al. (2017), Wangombe et al. (2017), Yeoh and Mahmood (2016) who found that employees' agreement of organisational creative climate can improve the innovative behaviour, as well as innovation of the organisation. According to the results, the organisation environment was the major factor that facilitated individual creativity. Further, these studies propose that the organisation should strive for a conducive environment to increase innovativeness. Specifically, the result suggests that if trust at work is to be enhanced, encourgae involvement and freedom in expressing ideas, provides an ideal time and continously support them, the employees feel to be more innovative. Hence, an optimal environment practices that can stimulate innovativeness should be encouraged.

However, the relationship between organisational creative climate and innovative work behaviour has a small effect size (f^2) with the values of 0.020. A study conducted by Yusof et al. (2018) found a small effect size in a relationship between attitude and subjective norm and innovative behaviour among SMEs employees. Besides that, Ismail (2005) revealed that creative climate has a low relationship with innovation. According to Hair et al. (2009) and Sullivan and Feinn (2012), in determining a low or high effect size is depending on the complexity of the model and conditions of research area.

In a nutshell, the individual perceptions and reactions to the organisational creative climate play a vital role in enhancing their innovative work behaviour at Startups. Therefore, the hypothesis of this study (H1: There is a significant relationship between organisational creative climate and innovative work behaviour) is supported.

5.2.2 Research Question 2: What is the relationship between Organisational Creative Climate and Knowledge Sharing among Startups in Malaysia?

The second objective of this study is to examine the relationship between organisational creative climate with knowledge sharing of Startups' employees. Referring to the result in chapter four, the organisational creative climate values has been identified to have positive influence on the knowledge sharing practices of Startups' employees with the results of (β = 0.471, t = 10.440, p < 0.05). Notably, the relationship between organisational creative climate and knowledge sharing has a medium effect size for f^2 effect size with the value of 0.284.

Astonishingly, the findings have been supported by a study conducted by Akturan and Gunduz Cekmecelioglu (2016) which discovered that employees with whom the neccessary knowledge shared exhibit more organization creative behaviour in creative ways and lead them to perform better. Besides, the study also found that employees who demontsrate organization creative behavior will feel part of their organization and tends to share knowledge needed with other colleagues.

The results are consistent with previous studies (Batool, 2019; Balozi, 2017, Lashari et al., 2016; Erfan et al., 2014) revealed that organisational climate significantly and positively influences knowledge sharing. It implies that the harmonious environment may encourage knowledge sharing activities through the constructive feedback, the high trust level and freedom, sense of enjoyment in perform a task, process of debating ideas in the ideal time, and active partication in contributing ideas.

On the other hand, a recent study carried out by Bari, Abrar, Shaheen, Bashir and Fanchen (2019) claimed that knowlegde hiding has a negative influence on team

creative behaviors among employees in Pakistan. In other words, this finding supported that knowledge should be shared or transfer among co-workers in the organization in order for them to be more valued and creative in their workplace. Similar study conducted by Dong, Bartol, Zhang and Li (2017) which revealed that knowledge sharing and team creative behaviors has a positive relationship in the organization.

In conclusion, the employee perceptions to the organisational creative climate is crucial in motivating their practices of knowledge sharing at Startups. Consequently, from the analysis, the hypothesis of this study (H2: There is a significant relationship between organisational creative climate and knowledge sharing) is supported.

5.2.3 Research Question 3: What is the relationship between Knowledge Sharing and Innovative Work Behaviour among Startups in Malaysia?

The third research question is to examine the relationship between knowledge sharing and innovative work behaviour of Startups' employees. Based on the results of this study, the knowledge sharing has been identified to have positive relationship on the innovative work behaviour of employees with the results of ($\beta = 0.147$, $t = 2.235$, $p < 0.05$). Further, the f^2 value of this construct demonstrate small effect size with the value of 0.018.

The result has been supported with the study conducted by Padilla-Melendez et al. (2013) which analyzed that converting knowledge into innovation appear to be particularly important for successful innovation for startups activities addresses to SMEs. Besides, Clausen and Rasmussen (2015) revealed that transferring valuable knowledge and such innovation intermediation activities may be far greater value in startups.

Moreover, Laitinen and Scnoo (2019) revealed that the outcomes of their study showed the sources of knowledge sharing in startups helps entrepreneurs to be more creative and innovative. Besides, in the SMEs, knowledge sharing played a big role in determining the period of the businesses and build innovativeness among the entrepreneurs. In other words, this study highlighted that employees' willingness to involve in the knowledge sharing process would encourage them to generate more ideas.

This finding was similar to Hassan et al. (2018) and Akram et al. (2018) who found that knowledge sharing had a strong effect on innovative work behavior within the organisation. According to the results, the willingness of employees to share their knowledge and experience was the main aspect that facilitated individual creativity. It indicated that when employees transfer and exchange their knowledge among colleagues, they are not only gained relevant knowledge but also indirectly can enhance their innovation capability.

The results are consistent with a study conducted by Kim and Park (2017) and Jaberi (2017) demonstrated that knowledge sharing significantly related with innovative work behaviour. It implies that organisation should pay extra attention to facilitate and support employees to share the knowledge continously in order to foster innovative work behaviour, which, in turn, could improve organisational sustainability.

Thus, from the analysis, the hypothesis of this study, (H3: There is a significant relationship between knowledge sharing and innovative work behaviour) is supported.

5.2.4 Research Question 4: Does Knowledge Sharing mediate relationship between Organisational Creative Climate and Innovative Work Behaviour among Startups in Malaysia?

For the fourth research questions, the mediating analysis has been conducted in order to establish the fourth objective of this study which aims to ascertain whether knowledge sharing mediates the relationship between organisational creative climate and individual' innovative work behaviour at Startups in Malaysia. By following the guidelines by Preacher and Hayes (2008), the result reveals that knowledge sharing has mediation effect on the relationship between organisational creative climate and innovative work behaviour of Startups' employees with the results of indirect effect β of 0.101, and the t-value of 2.621 with significance at 0.01.

An additional test called 95 percent bootstrapped confidence interval is also performed to confirm the mediation relationship. Based on the result of bootstrapping analysis, it indicates that the lower limit (LL) is 0.025 and the upper limit (UL) is 0.171. According to Preacher and Hayes (2008), if the value of LL and UL did not straddle a 0 in between, it indicates that there is mediation. Therefore, the mediation effect of knowledge sharing on the relationship between organisational creative climate and innovative work behaviour of this study is statistically significant.

Finding of this study is aligned with Wah et at. (2018) and Lee (2018) where knowledge sharing played a strong mediating role between social factors such as trust and support in influencing the individual innovativeness. It meant that an optimal environment practised in the organisation increase knowledge sharing, which in turn leads to innovative work behaviour. Similar study conducted by Qammach (2016) and Tyaqi and Dhar (2017) revealed that knowledge sharing as mediator is crucial in

predicting innovation performance. Therefore, the employees' agreement on organisational creative climate on innovative work is explained by knowledge sharing.

In this vein, Spender et al. (2017) concluded that the intervention of knowledge sharing to the relationship between organisational creative climate and innovation play importance impact of startups on their survival and success. Furthermore, according to Akturan and Gunduz Cekmecelioglu (2016), in order to achieve an efficient and effective organization, management must create a climate within the knowledge sharing and organizational citezenship behavior to increase the creative and innovative work behavior. Practically, the examination among employees' oganisational creative climate, knowledge sharing, and innovative work behaviour may provide a sign with regard to how organisation can enhance the knowledge sharing practices to encourage employees to be more innovative.

Therefore, based on the supporting literature, the hypothesis of this study (H4: Knowledge sharing mediates the relationship between organisational creative climate and individual' innovative work behaviour) is supported.

5.2.5 Research Question 5: Is there any significance differences between entrepreneur and employee in Organisational Creative Climate and Innovative Work Behaviour?

For the fifth research questions, a Mann Whitney U Test was employed to analyse the significance differences between entrepreneur and employee in organisational creative climate and innovative work behaviour. The findings indicate that there is no significant difference in the innovative work behaviour values for entrepreneurs and employees in this study with the score value for employees (Md = 5.0, n = 352) and

entrepreneurs (Md = 4.9, n = 352), U = 59079, z = -1.07, p = .29. Further, the effect size reported very small (r = -.040) value. It implies that, both entreprenuers and employees were agree on the level of innovative work behaviour at startups. In other words, both parties are responsible in identifying problems, generate ideas for product and process development, promoting and implementing the proposed ideas. Perhaps, as a newly business, they have to be more innovative to compete in the marketplace.

The results of the mann-whitney u test indicates that there is no significant difference in the organisational creative climate for employees (Md = 2.87, n = 352) and entrepreneurs (Md = 2.85, n = 352), U = 60433, z = -.56, p = .57. Further, the effect size is small (r = -.021). Moreover, the five dimensions of organisational creative climate: challenge and involvement, trust/openness, humour/playfulness, idea support, and debate reveal that the differences between entrepreneurs and employees are not significant. However, the remaining four dimensions of organisational creative climate: freedom, idea time, conflict, and risk taking constructs are significantly different between the two groups. Therefore, to foster innovative work behaviour among Startups' employees, entreprenuers should take further consideration on these nine dimensions in creating a creative and innovative climate.

Finding of this study consistent with Ismail (2005) who found that there are no significant differences in member's perceptions of creative climate and innovation between local organizations and MNCs in Malaysia. Futher analysis also showed that there are no significant differences among three groups of employee job levels (top, middle, and staff) in their perceptions of creative climate and innovation. Finding of the study also revealed that there are no significant differences among small, medium, large and very large organizations in creative climate and innovation. It implies that

employees at the local organizations and MNCs have a similar thought of thinking and share similar ideas on creative climate and innovation

As per the knowledge of researcher, there is lack of study investigating a differences of organisational creative climate and innovative work behaviour between entrepreneurs and employees. For instance, a study conducted by Thiruvenkadam and Kumar (2018) examined the association between dimensions of innovation climate and innovative climate. Further analysis was conducted to test the association between demographics characteristics of employees towards innovative climate.

5.3   Implications

The outcome of the review and examining past literatures have indicated that there is lack of integration between the organisational creative climate and knowledge sharing constructs. This is possibly significant in fostering the innovative work behaviour particularly in the context of startups in Malaysia. In fact, the Malaysian government is striving towards the creativity and innovation aspects of entrepreneurship to become a high income nation and competitive country, but, nevertheless, they are still searching for the real needs and establish linkages with the main stakeholders especially startups in approaching these motives.

Therefore, this study urges startups to response to the situation by introducing a model that might provide new comprehension for organisational management as well as an opportunity to boost the eco-system of startups in Malaysia. Further explanation on the theoretical and practical implications of this study are elaborated below.

5.3.1 Theoretical and Empirical Contributions

Theoretically, this study was desinged to fill in some gaps that have been highlighted by previous researchers. Empirical creative and innovative studies and the importance of innovative work behaviour in organisational management and entrepreneurship literatures were taken into consideration. Furthermore, the integration of organisational creative climate (i.e., challenge and involvement, debate, risk taking, idea support, humour/playfulness, conflict, trust/openness, idea time, and freedom) and knowledge sharing practices were used as a new-fangled variable to examine the innovative behaviour among startups in Malaysia. By developing the research model under the componential theory of organisational creativity and innovation, a strong framework, was offered for explaining the organisational climate's effects on individual innovative work behaviour. Apart from the significance of the organisational creative climate in fostering innovative work behaviour, knowledge sharing practices have also proven as a valid potential construct to enhance the innovative work behaviour among employees especially when setting up startups. This was a theoretically important contribution, because the social capital theory was used frequently in recent research on knowledge sharing. By adopting this model, the conceptual categories of work environment factors could contribute to individual innovative behaviour through the quality of knowledge sharing. Consequently, the tested hypothesized model of this study can be referred to for the purpose of reducing the gap for this particular area of study. Further, the model of this study can be used to broaden relevant literature exclusively in organisational management theories specifically related to the entrepreneurial and broad area of innovation field.

5.3.2 Practical Contributions – Startups

A better understanding of organisational creative climate, knowledge sharing and innovative work behaviour could shed some light on startups in enhancing their business performance. The implementation of organisational creative climate and its dimensions such as debate, idea support, challenge and involvement, trust/openness and so forth provides entrepreneurs with ideas for improving innovation and its management. Furthermore, it could give entrepreneurs a better understanding on the nature of creative climate that can inhibit or hinder employees' innovative work behaviour, as well as providing a good estimation of the crucial areas that need to be focused to enhance individuals' innovativeness. Whilst, from the employees' perspective, those who are given some freedom, involvement, and trust in doing their jobs, they will become more committed with the organization. Inevitably, this climate will encourage employees to be more independent, work with less supervision, which in turn could stimulate their creativity and innovation.

Notably, the success factor of every business, not only, depends on the wide range of products and services offered, but also relies on the core competencies such as employees, technology, and system. As outlined in the SME Master Plan 2012-2020, six focus areas including human capital development and innovation and technology adoption need to be addressed in order to accelerate the performance of SMEs. Hence, there is urgency for the new business entity specifically startups to stimulate the individuals' innovative work behaviour among its team including the entrepreneur and employees. The capabilities of those people in applying the innovative work behaviour could generate and implement more innovative ideas in fulfilling the market needs as well as sustaining competitive advantage. In addition, the practice of knowledge sharing among employees can also bring benefit to startups where more ideas and

strategies can be obtained to enhance the innovativeness, and ultimately, the performance of startups.

Generally, the knowledge of organisational creative climate, knowledge sharing, and innovative work behaviour could provide startups with clues for improvement regarding creativity and innovation. Indirectly, this model could serve as a guideline for startup entrepreneurs to reengineer the organization's policies and structures for the new comprehensive management system. Moreover, this study is believed to have rendered support to the eco-system of startups to conceptualize and operationalize the concept of organisational creative climate, knowledge sharing, and innovative work behaviour in order to thrive and survive in this competitive era. In a nutshell, this study could strengthen the startups eco-system to the higher level of development through fostering innovation among startups, upgrading management capabilities of entrepreneurs and employees' competencies, as well as aids in achieveing a more balanced group and inclusive growth of startups.

5.3.3 Practical Contributions – Society

Realizing the importance of entrepreneurship, the government of Malaysia has taken an initiative to encourage more young generation to be involved in the field of entrepreneurship. This has been proven through the establishment of agencies and NGOs such as 1 Malaysia Entrepreneurship (1MET), Malaysian Global Innovation and Creativity Centre (MaGIC), and Global Entrepreneurship Movement (GEM) which support youths to become entrepreneurs. Despite the fact of producing more young entrepreneurs, this can also provide more job opportunities through the establishment of startups, which ultimately will reduce the unemployment rate in Malaysia. The innovative work behavioural aspect is believed to educate the young entrepreneurs and

employees to be more creative in critical thinking which forces them to be realistic as well as innovative. Besides that, the practice of organisational creative climate and knowledge sharing in the routine activities could stimulate them to be more accountable, integrity, and reliable, which in the end, will produce creative and innovative people for a better future. In addition, this model is hoped to serve the key driven factors for a healthier competition among the young generation.

5.3.4 Practical Contributions – Economy and Nation

The startups eco-system stakeholders, particularly startups entrepreneurs together with the government of Malaysia could benefit from the output of this study to provide some fresh insights in fostering creative and innovative elements in the entrepreneurial activities, and at the same time to boost the number of entrepreneurs and startups in Malaysia. It is hoped that this study will empower the creative and innovative nation through the integration of creative climate, knowledge sharing, and innovative work behaviour. The effectiveness of the individuals' innovative work behaviour hopefully will bring Malaysia to a higher level in the Global Innovation Index (GII) as well as the Global Competitiveness Index (GCI) to be on par with other developed countries.

As highlighted in the 11th Malaysia Plan, one of the six thrust is to re-engineer growth for greater prosperity which focuses on all the economic sectors to migrate into more knowledge-intensive and high value added activities. Furthermore, the services sector is destined to be the main contributor to the Malaysian economy for the next five consecutive years. Hence, it is believed that the increasing number of startups, particularly in the services sector, could contribute to the economic stability as well as to enhance the income of the nation. In addition, the findings of this study could serve as a framework that will probably convey a message to the Malaysian government and

stakeholders in driving Malaysia to be one of the benchmark country in the aspects of creativity and innovation.

5.4 Limitations and Directions for Future Research

The following is the discussion on the theoretical and empirical limitations of this study together with further directions for future research are presented.

5.4.1 Methodological Aspects

From a methodological point of view, the sample and context could be potential issues. First and foremost, the sampling of this study only involved two agencies, namely SME Corp and Permodalan Usahawan Nasional Berhad due to the challenge in obtaining an approval of Non-Disclosure Information, as well as, the restriction as stipulated under the Personal Data Protection Act 2010. For this reason, the generalization of the startups in Malaysia still remains ambiguous/insufficient. Therefore, to improve on the generalizability, future research can approach to the other agencies such as MDEC, TEKUN, Startups Selangor, and so forth who are responsible for assisting the startups eco-system in Malaysia. It could significantly contribute to understanding the link of constructs of the model as well as provide a broad outlook.

Secondly, the sampling of this study has concentrated exclusively on startups particularly the services sector in Malaysia. Perhaps, future research should conduct a comparison study at a business level (i.e, small and medium enterprise; established company) and other sectors (i.e., manufacturing) to identify whether there are different views on the proposed constructs towards innovative work behaviour in the entrepreneurship setting. Attaining information from these groups of levels and sectors are worthwhile because they may be dissimilar from each other with regard to the years

of operation, diversity of expertise, operational system, technology and education advancement, and so forth. This may provide a more comprehensive and holistic analysis on the relationship between the constructs in a Malaysian context.

Thirdly, this study mainly measured the uni-dimensional construct of innovative work behaviour that encompasses both idea generation and application dimensions. For instance, those researchers (Hakimian et. al, 2014; Afsar & Rehman, 2015; Balkar, 2015; DeSpiegelaere, 2015; Ebrahim et. al, 2015; Rahim et. al, 2015; Szczepanska-Woszczynaa, 2015) examined innovative work behaviour uni-dimensionally. Previous researchers stated that distinguishing between different dimensions of IWB are needed to obtain more specific results (Kleysen & Street, 2001; De Jong & Den Hartog, 2010; Anderson et al., 2014; DeSpiegelaere, 2015). Therefore, by examining a broader range of innovative work behaviour through multi-dimensional of IWB, it will strenghthen the impacts of the individual's innovative work behaviour. Besides that, it is believed that future study can fill the gap of previous study and contributes to the new findings for the innovative work behaviour concept.

Finally, this study is limited to only one employee to participate due to the limited number of employees who were specifically involved in the creative and innovative work aspect in startups. Hence, involving more than one employee might contribute different points of view due to their education and experience that perceived more innovativeness. Consequently, further examination should be tested to shorten this discrepancy as well as to provide more holistic results.

5.4.2 Theoretical and Literature Aspects

Theoretically, this study was designed to fill in some gaps that have been highlighted by previous researchers. First, the understanding of organisational creative climate that is affecting innovative work behaviour should be extended to more empirical study in any other entrepreneurial setting. The mentioned relationship can be considered as significantly important to be acknowledged by scholars particularly in organisational management, entrepreneurship, and innovation. As mentioned in the chapter on Literature Review, this construct and its work environment dimensions potentially have brought some other magnificent contributions to the creativity, innovative, productivity, behaviour specifically in the business industry. Hence, future research should implement the use of this construct and employ them in the empirical study in order to ensure that this relationship is consistent over time and also to examine whether there are any changes that have an impact on innovative behaviour in the entrepreneurial setting.

In addition to this, it would be interesting to further examine the relationship between dimensions of organisational creative climate and innovative work behaviour. According to Kang et al. (2016), lack of extensive literature has discussed the association of multi-dimensional climates and innovative behaviour within entrepreneurial organizations. Hence, a comparative study to compare each dimension of organisational creative climate could provide a rich insight to identify what are the circumstances that can work on environments, promote or inhibit innovative work behaviour.

Second, the findings from this study found that knowledge sharing mediates the relationship between organisational creative climate and innovative work behaviour

among startups in Malaysia. Future research ought to aim for improving the predictive power of the research model developed in this study.   Thus, it is suggested that future study takes a step further by investigating knowledge sharing as a moderator to understand and to give a possible new impact on innovative behaviour. Luoh et al. (2014) proposed to explore further knowledge sharing as moderating effects.

Furthermore, future research can also examine other possible mediators such as personality aspects.   This could probably predict the individuals' innovative work behaviour in startups setting as intervention variables might give varied implications on the connection between climate variables and creative and innovative performance (Ren & Zhang, 2016). According to Baron and Kenny (1986), further investigation on the moderator and mediator variables might allow researchers to have a better understanding as well as measure the effectiveness of the model, which ultimately can be used as a theoretical guideline for future study.

5.5   Chapter Summary

In summary, this chapter presented the explanation and discussion on the findings, followed by the contributions and managerial implications of the study. The chapter concludes with the limitations of the research and outlines some directions for further research.

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