

## **The Relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB)**

**Nur Zahara Ismail<sup>1</sup> & Shazaitul Azreen Rodzalan<sup>1,\*</sup>**

<sup>1</sup>Department of Technology and Management, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Batu Pahat, Johor, MALAYSIA

\*Corresponding Author

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**Abstract:** Nowadays, company need a good strategy by including innovation which require Innovative Work Behavior (IWB) to boost company performance, but manager lack of information on how to innovate. However, Organizational Citizenship Behavior (OCB) as a voluntary work behavior may influence the company performance through innovation. This study has been conducted due to an issue of less innovative employees in manufacturing sector as compared to service sector. So, the purpose of this research is to investigate the level of OCB and IWB among employees in manufacturing sector in Penang. This study also attempts to address the relationship between OCB and IWB. The questionnaire has been distributed using online platform. The study employed a random sampling techniques. Descriptive analyses have been used to find out the result. The finding shows the high level of OCB and IWB among employees in manufacturing sector. Other than that, correlation analysis that has been conducted resulted in a moderate positive relationship between OCB and IWB. Therefore, there is a relationship between OCB and IWB. Furthermore, five dimension of OCB proved to be the strong behavior to develop all stages of IWB. The result from this study suggest manufacturing sector can focus on employees innovation in line with the practice of OCB from employees. For future studies, it can be carried out in a longer period to achieve more accurate result.

**Keywords:** Innovative work behavior (IWB), Organizational citizenship behavior (OCB), Manufacturing sector

### **1. Introduction**

In today's competitive environment, most companies have planning their own strategies in order to survive and sustain in marketplace (Gündüz & Akturan, 2016). Managers who understand how to have a positive effect in the competitive environment will boost organizational sustainability by providing many initiatives for inovation (Shanker, Bhanugopan, Heijden, & Farrell, 2017). Innovative Work Behavior (IWB) is regarded as a complex and multifaceted phenomenon that also cover

creativity (Khan, Ismail, Hussain, & Alghazali, 2020). IWB encompasses not only the production of new products in research and development environment, but also the entire organization (Khan et al., 2020). Innovation has been increasingly recognized as being responsible for boosting competitiveness and productivity (Hanifah, Halim, Ahmad, & Vafaei-zadeh, 2020). In order to generate new ideas and solutions, imagination, merging innovation can create a significant and sustainable competitive advantage (Gunduz et al., 2016). Many businesses are aware on the importance of innovation, but also have insufficient knowledge on how to develop it (Gunduz et al., 2016).

However, an employee behavior towards a colleague such as Organizational Citizenship Behavior (OCB) may help organization to sustain (Tamunomiebi & Owere, 2019). OCB can be defined as the output that supports the social and psychological environment in which tasks are performed (Taskiran, 2019). Examples of OCB include assist colleagues with work related problems, not complaining about small problems and take courteous behavior towards colleagues (Gunduz et al., 2016). The core essence of OCB is voluntary work in which workers fulfill these activities for organizational purposes without feeling obligated (Taskiran et al., 2019). OCB evolve through the employees' voluntary efforts to meet the specified guidelines and tasks (Gunduz et al., 2016). Innovation plays a major role in organizations, but it is beyond their enthusiasm for brilliant ideas (Hanifah et al., 2019). OCB also is one the important factors influencing the achievement of organizational goals by increasing employee's engagement rates (Taskiran et al., 2019). To be creative and innovative, the employees must work together and share the necessary knowledge voluntarily (Gunduz et al., 2016). Company should continue their lives as connected to focus on innovation (Gunduz et al., 2016).

## 1.1 Research Background

Manufacturing sector is an economic engine that drives innovation and growth by creating jobs and improving life through a wide range of products including food, pharmaceuticals product and technology (Bosman, Hartman, & Sutherland, 2018). The manufacturing sector activities have contributed significantly in improving the economies of many nations, particularly developing countries and by providing goods and services, they play a vital role in the global economy (Abdul-Rashid, Sakundarini, Raja Ghazilla & Thurasamy, 2016). However, the manufacturing sector is currently experiencing global technical breakdowns (Singh & Chand, 2019).

Under Industry 4.0 (Industry4WRD), the Government has outlined 13 strategies as part of its roadmap to change Malaysia's manufacturing environment in the next 10 years (New Straits Times, 2018). It includes enhancing digital accessibility, enhancing existing workforce capability and cultivating new talents and abilities, enhancing data integrity and quality, speeding up research, creativity, and initiatives and activities for technological development. The strategies of speeding up the creativity playing an important role in developing the manufacturing sector. It can help to create new ideas for digitalization in manufacturing to be achieved more than any other country. The result of various ideas enables the manufacturing sector to be strong and creating a new environment in the field of manufactured products that is higher quality and value in the market.

Former Prime Minister Tun Dr. Mahathir Mohamad, also said that "We believe with greater emphasis (as support) from the government, it could help promote import substitution, which will strengthen the capacity and capability of the domestic manufacturing industry", (New Straits Times, 2020). Thus, today's organizations need to more innovative and having new ideas from workers who can contribute to innovation (Dedahanov, Rhee, & Yoon, 2017). Therefore, manufacturing sector can boost the industry by using the innovation from employee's idea.

## 1.2 Problem Statements

This study has been conducted due to an issue. Firstly, the issue of less innovative employees in manufacturing sectors as compared to service sectors. This can be proven by a statistic from a

National Survey of Innovation 2015 (Ministry of Science, Technology and Innovation (MOSTI) & Malaysian Science and Technology Information Centre (MASTIC)) which respondents in manufacturing sector was less innovative (68.87%) as compared to respondent in services sector (74.10%). In line with the survey results, non-innovative respondent from manufacturing sector was 31.13% higher than service sector (25.90%). However, MASTIC is currently conducting a same survey from year 2015 until 2017. This survey has been carried out between two to four years. Recently, Malaysia Economic Performance in Fourth Quarter of 2019 shows manufacturing sector was the second sector that contribute to economic growth which 3.0% less compare to service sector with 6.1%. Based on Global Innovation Index 2019, Malaysia is in upper-middle income with the ranking number two after China. Therefore, it is a need to examine the level of IWB among employees in manufacturing sectors.

Innovative Work Behavior (IWB) is one of the contributing factor for organizational growth. Former International Trade and Industry Minister Datuk Darrel Leiking include innovativeness as the strategy to map Malaysia's digital manufacturing and service transformation (New strait Times, 2018). Now, the organizations allow their managers to evolve their products and behavioral strategies through innovation in order to achieve productive result (Khan et al., 2020). In this globalization era, all sector wants to improve its quality and effectiveness in meeting the demands of people. Some manufacturer invests heavily on employees training and development to improve employee performance. If the issue of less innovative employees are not going to be handle, Malaysian economy is hard to move forward.

A successful organization therefore needs workers who perform their regular duties more than expected (Tamunomiebi et.al, 2019). Moreover, "To stay relevant in this new digital era, we encourage everyone to have a learning and growth mindset — regardless of where you are," said Feon Ang, vice-president of talent and learning solutions for the Asia Pacific at LinkedIn, (New Strait Times, 2019). Employees can learn more, exchange knowledge and enhance their skills by helping each other among them. This is critical not only for the wellbeing of individual employees but also for organizations (Akram, Lei, Haider, & Hussain, 2019). It is expected that employees displaying OCB will display more innovative actions and try to show more activities that will provide more benefit compared to another employee in favor of the company they work for (Gunduz et al., 2016). To be more creative and innovative in workplace, employees need to perform OCB.

In addition, employees play an important role in developing a sustainable company which they need to be more creative and innovative in order to align with modern's workforce. Prasarana Malaysia Bhd group president and chief executive officer Datuk Mohamed Hazlan Mohamed Hussain said employees are encouraged to think outside their area of jobs and establish innovative ways of maximizing resources (New Strait Times, 2019). However, various studies have been conducted on IWB such as effect of knowledge sharing on IWB, the mediating effect of IWB and the impact of organizational justice on employee innovative work behavior. However, there is limited study has been conducted about the relationship between OCB and IWB in manufacturing sectors. So, there is a need of present study on the relationship between OCB and IWB in manufacturing sectors to improve the organization performance.

### 1.3 Research Questions

- (i) What is the level of Organizational Citizenship Behavior (OCB) among employees in manufacturing sector?
- (ii) What is the level of Innovative Work Behavior (IWB) among employees in manufacturing sector?
- (iii) What is the relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB)?

#### 1.4 Research Objectives

- (i) To investigate the level of Organizational Citizenship Behavior (OCB) among employees in manufacturing sector.
- (ii) To investigate the level of Innovative Work Behavior (IWB) among employees in manufacturing sector.
- (iii) To study the relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB).

#### 1.5 Scope of the Study

The study aims to examine the relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB). It also aims to identify the level of OCB and IWB among employees in manufacturing sector. This research was particularly focus in the manufacturing sector in Penang. However, manufacturing and services sectors continued to be key economic drivers, about 45% and 49% of the total GDP in Penang, respectively (Penang Economic and Development Report 2017/2018). A survey has been carried out by distributing questionnaire to employees in manufacturing sector in Penang to gain their respond about OCB and IWB.

#### 1.6 Significance of the Study

The finding of this study will benefit manufacturing company in supporting and boosting local exports as said by Reischauer (2018), Industry 4.0 is a big technological revolution which will more widely reshape the industrial sectors and social and economic life. Manufacturing company in Bayan Lepas, Penang can boost their performance and be the main contributor to economic growth of Malaysia. This is due to human resources role in future factories, making them a crucial factor in Industry 4.0 implementation (Matt, Orzes, Rauch, & Dallasega, 2020). However, stimulating individual innovation is a critical part of keeping businesses competitive and thriving in the market (Shafi, Zoya, Lei, Song, & Sarker, 2020). For example, employees who performing OCB will give positive effect on their performance (Gunduz et.al, 2016) such as having a high level of innovativeness.

This activity contributed positively to the potential of employee to innovate, which in turn contributed to firm success (Sivalogathan, 2016). Thus, the study of the level of OCB and IWB among manufacturing employees can help to improve employee's performance by providing new ideas for the sustainability of the firm. Sustainable innovations that are continuously adopted improve specific organizations and the sustainability path of the entire supply chain, enabling them to achieve superior performance in sustainability (Silvestre & Tirca, 2019). Therefore, it will help manufacturing sector in line with the digital transformation and adapt with Industry 4.0.

## 2. Literature Review

This section provides literature review of OCB and IWB among employees in manufacturing sector. This paper will primarily focus on the relationship between OCB and IWB.

### 2.1 Innovative Work Behavior (IWB)

Organizations need to be creative in order to survive and remain competitive (Gunduz et al., 2016). Organizations need to improve their resilience, responsiveness and productivity because of the dynamic nature of the global business climate and the clear need to tackle local and international market challenges (Shanker et al., 2017). The most important thing here is to develop innovations (Ornek & Ayas, 2015). Consequently, Innovative Work Behaviour (IWB) comes out through the implementation of innovative business ideas (Ornek et al., 2015). As a consequence of IWB,

creative outputs will be achieved (Ornek et al., 2015).

Innovative Work Behaviour (IWB) can be described as individual behaviour that encourages employees to introduce new and beneficial ideas, processes and products to present (Ornek et al., 2015). Ornek et al. (2015) added IWB typically involves mechanisms of exposing thoughts and their implementation. Ornek et al. (2015) divided four stage of IWB which are idea exploration, idea generation, idea championing and idea implementation. First, the cycle of creativity starts with the stage of discovery of ideas, that is, the searching for opportunities (Ornek et al., 2015). New ways to develop current products and services are being looked for at this stage. At this point, extensive market analysis and consumer reviews are evaluated which lead to the kind of innovation that need to be done in chosen area.

Second stage, the generation of ideas is concerned with the creation of new goods, services or existing business processes. (Ornek et al., 2015). The environmental factors is such as unexpected innovations, incompatibility between expectations and results achieved, process requirements, industry or market changes encountered, demographic shifts, shifts in perception and creating new business knowledge (Ornek et al., 2015). Although these factors are different in terms of hazard risk and complexity, they can conflict with each other and lead to innovation's potential. Third stage of IWB involves gaining support for the idea, depending on creative behaviour, building an energetic environment and bringing workers right through the process. Innovative ideas should also be supported, strengthened and made ready for adoption by peers, leaders and clients. Last stage is idea implementation. Anyone can discover, create and champion the innovative ideas (Ornek et al., 2015). But if this concept is not used in any business area then it is useless. Unless the workers who work in the implementation process of the concept work as organized and integrated, they can only make one step forward in creativity and routinize the organization.

## 2.2 Organizational Citizenship Behavior (OCB)

OCB which emerged in the 1980s is an independent term that has become the focus of attention today (Gunduz et al., 2016). Basically, Tamunomiebi et al. (2019) relate OCB to Organizational Behaviour (OB). Tamunomiebi et al. (2019) added this field is about the impact of behaviour of individuals, group and structure in order to improve the effectiveness of an organization. Derived from Gunduz et al. (2016), Organizational Citizenship Behavior (OCB) has been defined as discretionary which means the voluntarily work by an individual even the work is beyond the job description. Same goes to Tambe et al. (2015) which refers OCB to the actions of the workers of an organization that is voluntary of nature and such conduct is beyond their assigned roles and responsibilities. In the other hand, Harvey, Bolino, & Kelemen (2018) describe OCB itself may mean something different in different organizations, particularly those outside the west where OCB has been studied most frequently. Additional work by Gündüz et al. (2016), OCB is exposed as supporting behavioral factors representing social, spiritual, or functional aid which include five dimensions which are altruism, courtesy, sportsmanship, civic virtue, and conscientiousness.

Altruism is discretionary conduct that has the effect of supporting other person the related role in an organization (Gunduz et al., 2016). This voluntarily of social behaviour will affect the employee to exhibit IWB (Gunduz et al., 2016). As noted above, the behaviour of supporting other person could enhance the innovative behaviour among employee. Courtesy is discretionary behaviour designed to avoid work-related issues with others such as touching base with production plant before making a final large sale (Gunduz et al., 2016). In other word, courtesy could be characterized as respectful conduct among the employees (Taskiran, 2019). By doing the alternative action to avoid the problems could help employees to be more innovative. Sportsmanship is a behaviour that tolerates in good spirit the occasional hardships and deprivations that affect individuals unpredictably during organizational efforts (Gunduz et al., 2016). Sportsmanship is described as the avoidance of complaint even in uncomfortable circumstances and the willingness to

work in a positive working environment (Taskiran, 2019). Therefore, good and positive mind-set could help to boost the IWB among employees in an organization.

Civic virtue is behaviour which indicates that the employee participates responsibly and is concerned about the company's existence (Gunduz et al., 2016). Employees that displayed OCB volunteers support the company in tough times such as when their colleagues are sick or lack experience (Davison et al., 2019). So, active participation, full commitment and maximum interest towards organization can help in generating a good idea for the organization. Conscientiousness is a flexible conduct that goes way beyond the organisation's minimum position requirements (Gunduz et al., 2016). Similarly, to Taskiran (2019) which stated conscientiousness as the behaviours which go beyond the minimum roles an employee expects. Therefore, the flexible conduct allows employees to explore and meet various of challenge which is good to help them generating the new idea.

### 2.3 The Relationship between OCB and IWB

In today's market climate, growing globalization and diversity of the workforce create challenges for corporate leaders and employees to be more effective at workplace (Azevedo & Jo, 2019). According to Backstrom et al. (2019), in order to make use of employees' experiences, knowledge and skills at their work place, the top management needs to build a positive environment. Same as stated by Gunduz et al. (2016), creativity will flourish in an environment of freedom and dynamism. Backstrom et al. (2019) added, they found five main themes that contribute to employee innovation which are employee innovative work behaviour, firm innovation performance, employee innovation processes, frontline service employees and management tools for employee innovation. So, Pandey, Gupta, & Gupta, (2019) state a team with a better spiritual environment leads to higher degree of innovative actions through higher team learning.

Next, the company works in a very vibrant world of rapid technological growth, forcing organizations to introduce creativity and innovation to goods and services (Shafi, Zoya, Lei, Song, & Sarker, 2020). Innovative and creative efforts by the workers significantly affect the success of a company (Pandey et al., 2019). To develop IWB, it is a need for employees to practice OCB in workplace (Gunduz et al., 2016). In general, Abdul Rashid et al. (2016) stated that OCB and IWB are connect to each other.

Naqshbandi et al. (2016) supported that as behaviours of OCB provide an effective way to deal with interdependencies between members in a work unit and thus increase the cumulative results obtained, OCB may contribute to organizational success. At the same time, Naqshbandi et al. (2016) stated OCBs will improve the organization's internal networks and partnerships, thereby promoting innovation. This is due to high levels of OCBs can create a strong team spirit between innovation team members and different organizational units (Naqshbandi et al., 2016). In addition, exhibiting OCBs on the part of workers will promote IWB (Naqshbandi et al., 2016). This is particularly true when Gunduz et al., (2016) state performing OCB by employees will lead them to be more creative than others. However, Gunduz et al., (2016) still include knowledge sharing as important role to develop innovative action.

There is some limitation on the previous study which state by Akram et al. (2019) which conducted the research using convenience sampling technique. Only employees that show consent that fill the survey. Then, the study by Asurakkody & Kim (2020) only include a school of nursing student, thereby could not represent the population of nursing student in Sri Lanka. Khan et al. (2019) used the cross-sectional survey design but with a limited sample, then the internal validity was poor. Therefore, it shows that limitation occur from unsuitable sampling technique result in low validity of result because it does not represent all the population in the study area.

For the future research, Akram et al. (2019) suggested to use longitudinal studies and further examine the role of organisational justice and the sharing of expertise in other organisations in

developing IWB. Asurakkody et al. (2020) encourage to do more research into nursing innovation and focus on nursing education. Meanwhile, Gunduz et al. (2019) think an organization's competitive advantage can be accomplished by creating an environment among the workforce who can willingly serve as a citizen of their organization. Another researcher proposed that experimental research design can be carried out to examine current models (Khan et al., 2019). Lastly, Taskiran et al. (2019) suggest to broaden the research in different industries and countries.

A number of dimensions of OCB are regularly reported in literature (Davison et al., 2019). Davison et al. (2019) also state that five dimensions of OCB are usually essential in developing IWB for organizational health. Therefore, effect of OCB on IWB of employee has been pointed out. Based on the previous studies, this study hypothesized that:

H1: There is significant relationship between OCB and IWB.

### **3. Research Methodology**

This research used quantitative method to achieve the objectives. Respondent was among employees from manufacturing company in Penang. For sampling method, a simple random sampling was used to conduct the research. A set of questionnaire has been distributed to respondents and they were requiring to answer with a five point Likert scale. The questionnaire was adopted from Podsakoff (1990).

#### **3.1 Research Flow Chart**

This research begins by finding the issues related to innovation and innovativeness to carry on the study. The subject areas that was related to doing research have been identified which is employees in manufacturing sector. Second, the researcher finds there was a few factors towards Innovative Work Behavior (IWB) in literature review. The researcher then selected the best approach to conduct this research. The researcher then conducted the procedure to collect, analyze and interpret the data. The final step, outcome was reported and coming up with conclusion and recommendation for the next research.

#### **3.2 Research Design**

In conducting this research, the quantitative approach was used by distributing questionnaire to the respondent. The data collected was used to achieve the objectives.

#### **3.3 Population and Sampling**

In order to find out the relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB), Penang was chosen as area of this study because it is known as backbone of manufacturing sector in Malaysia. It was the main reason the area was selected. Penang have the population with 1, 783, 600 million according to the Department of Statistics Malaysia (2020). A sample of 384 employees in manufacturing sector has been selected from population in Penang. The targeted respondents were from different age brackets, races and backgrounds. A random sampling technique was used to collect data from employees. Then, questionnaires were distributed among employees with clear instruction about how to fill up the questionnaire.

#### **3.4 Research Instrument**

The instrument that used in this study was develop from the previous study. Open-ended questions were used related to the topics or issues. The instrument has been checked by consultant and going through the pilot study before it laid on to this study. The instrument was divided into three components which are demographic, Innovative Work Behavior (IWB) and Organizational

Citizenship Behavior (OCB). In order to validate the propositions made in this research study, a five point Likert scale (1= strongly disagree to 5= strongly agree) was developed.

### 3.5 Pilot Study

The questionnaire that used in this study was developed based on several previous studies and a thorough analysis of the literature. A pilot study has been carried out to determine the validity and reliability of the questionnaires before the questionnaires was distributed to the respondents. It is important because it helps to make survey questionnaires more reliable. The minimum number of respondents require to conduct a pilot test is 10 to 15 while the maximum is 30 respondents. Thus, only 16 respondents were involved for pilot study.

### 3.6 Reliability and Validity

Respondent has been guided with clear instructions to provide their response to questionnaire. Additionally, the use of unfamiliar terms was also avoided in self-administered questionnaire. Questionnaire that used for this study also has been prepared in both English and Malay to get reliable answer. Although researchers adopted previously validated and reliable scales for present study, however, the revalidation for the reliability of these scales was very important (Akram et al., 2019). Therefore, Cronbach's Alpha reliability test has been conducted using IBM SPSS. Both value of Cronbach's Alpha for dependent variable and independent variable are 0.961 and 0.922 which are higher than 0.70. This indicate excellent level and suitable to be used (Habidin, Zubir, Fuzi, Latip & Azman, 2015).

### 3.7 Data Collection

The first step before distributing the questionnaire was making a request letter. Upon approval, the researcher retrieves the request letter. All questionnaire has been given to the manager as the representative to distribute the questionnaire to other employees. They were allocated a time between to answer the questions. All the answer has been submitted through google forms. Only 300 respondent submit the answer out of 384 sample selected. In addition, descriptive studies have been conducted on the designation of the questionnaire. Online surveys were used to get the data from employees in manufacturing sector.

### 3.8 Data Analysis

Data obtained from questionnaires has been analyzed through the SPSS software. In order to analyze the nature of the data and variables, descriptive analysis has been conducted. For the descriptive analysis, responses were tabulated and analyzed in the form of mean, percentage and standard deviation. In order to do comparison and test hypotheses, inferential analysis using Pearson Correlation has been used. Data analysis used in this research was descriptive analysis.

### 3.9 Normality Test

Normality test was used to determine whether the distribution of data is normal or otherwise. The determination of the normality statement should be taken into account for the use of parametric statistical tests. The test was conducted in three ways which are using histogram, Kolmogorov-Smirnov test (K-S) and Shapiro-Wilk (S-W) test and Q-Q Plot. The normality of data distribution was determined based on the majority result from those three test. Therefore, if data are not normally distributed, the non-parametric technique will be used for further test. If the data are normally distributed, the parametric technique will be used for further test. After using the three test of normality for IWB, result from the test of histogram and Q-Q Plot shows normal distribution of data and result from the test of Kolmogorov-Smirnov Test (K-S) and Shapiro-Wilk (S-W) Test show otherwise. So, it can be assumed that the distribution of data for IWB in this study is approximately normal. Same goes to the three test of normality for OCB, histogram and Q-Q Plot test resulted in

normal distribution of data, but Kolmogorov-Smirnov Test (K-S) and Shapiro-Wilk (S-W) Test show otherwise. So, the distribution of data for OCB in this study has been assumed as approximately normal. Therefore, Pearson's correlation was employed for further test to examine the relationship between OCB and IWB.

#### 4. Results and Discussion

It begins with descriptive analysis to describe demographic profile of the respondent. Next, mean and standard deviation was determined in this chapter. Then, inferential analysis was performed using Pearson's correlation in exploring the relationship between Organizational Citizenship Behavior (OCB) and Innovative Work Behavior (IWB).

##### 4.1 Demographic Analysis

A total of 300 respondents were answered the google form. Out of 300 samples that being collected through the questionnaire, the number of female respondents was 219 which accounted for 73%. Meanwhile, the number of male respondents was 81 which contributed for 27%. The majority of respondents are single (85.7%) compared to married (14.3%). Respondents who are single was 257 respondents while who are married was 47 respondents. From the age range, most of respondent are from the age group of 20 to 25 years (79.3%), followed by 26 to 30 years (14.7%), 31 to 35 years (3.3%), over 41 years (1.7%) and 36 to 40 years (1%). In term of education, diploma (43.7%) is the highest educational qualification achieved by majority of respondents as compared to degree level (41%) followed by Malaysian Certificate of Education (SPM) (7.3%), Malaysian Higher School Certificate (STPM) (5%) and others (3%). The longest year respondent has been working for company in manufacturing sector is between 0 to 5 years (90%) followed by 6 to 10 years (6.7%) and both 11 to 15 years and over 21 years are equal (1.7%). The majority of respondent are work as non-managerial employee (90.7%) followed by chief (5.7%) and senior manager (3.7%).

##### 4.2 Descriptive Analysis

The overall IWB which having four stages interpret the high level among employees in manufacturing sector ( $\mu=3.85$ ,  $SD=0.60$ ). This shows that they are very innovative at workplace. Stage of Idea Exploration scored the highest level which majority of manufacturing employees was likely to perform at this stages as compared to other stages ( $\mu=3.99$ ,  $SD=0.58$ ). Employees in manufacturing sector are high on Idea Exploration. It means that manufacturing employees always work with continuous improvement mentality ( $\mu=4.10$ ,  $SD=0.66$ ). In order to generate idea, they were agreeing with the statement of always find new working methods, techniques or instruments ( $\mu=3.97$ ,  $SD=0.78$ ). However, when it come to the stage three of IWB which is Idea Championing, they were not involve in gaining support for their idea as much as at the first stage ( $\mu=3.77$ ,  $SD=0.69$ ). They were not introducing ideas into the work environment in a systematic way ( $\mu=3.71$ ,  $SD=0.82$ ) and mobilize support for innovative ideas ( $\mu=3.71$ ,  $SD=0.82$ ). But, they still were high level at this stage when they make important organizational members enthusiastic for new ideas ( $\mu=3.84$ ,  $SD=0.81$ ). Furthermore, they were trying to acquire approval for innovative ideas for Idea Implementation ( $\mu=3.85$ ,  $SD=0.79$ ).

The overall OCB which consists of five dimensions of stated as high level among employees in manufacturing sector ( $\mu=3.90$ ,  $SD=0.49$ ). The analysis shows that the highest level dimension scored by Altruism ( $\mu=3.90$ ,  $SD=0.49$ ) and Courtesy ( $\mu=3.90$ ,  $SD=0.53$ ). Employees in manufacturing sector demonstrate high level of Altruism because they were always ready to give a helping hand to those around them ( $\mu=4.27$ ,  $SD=0.66$ ). In dimension of Courtesy, most of them always try to avoid creating problems for co-workers ( $\mu=4.28$ ,  $SD=0.67$ ). Moreover, most of employees was agreed with the statement they will take steps to try to avoid problems with other workers ( $\mu=4.27$ ,  $SD=0.66$ ). They

also respect the rights of people who work with them ( $\mu=4.27$ ,  $SD=0.67$ ). Thus, employees in manufacturing sector present a high level of Courtesy. However, although Courtesy was at high level, one out of five statement shows a moderate level when those employees do not consider the impact of their actions on co-workers ( $\mu=2.97$ ,  $SD=1.25$ ). Other than that, the result of analysis shows dimension of Sportsmanship also at a moderate level ( $\mu=3.58$ ,  $SD=0.67$ ). Some of the employees tend to magnify problems ( $\mu=2.70$ ,  $SD=1.53$ ). Meanwhile, the statement of always find fault with what the organization is doing was also at moderate level ( $\mu=3.52$ ,  $SD=0.87$ ). Therefore, there was only three statements that interpret a moderate level among employees in manufacturing sector.

### 4.3 Correlation Analysis

Based on Table 1, it shows that all variables for OCB and IWB have moderate significant and positive relationship. The value for the relationship between OCB and IWB also show that it is medium relationship with the value  $r=0.652$ . This value is significant at  $p<0.01$  with the value  $p=0.000$ . Thus, the hypothesis (H1) of this study is accepted where there is a relationship between OCB and IWB which support past studied that have been analyzed in literature review at Chapter 2. The more employees engage with OCB, the more they can enhance IWB.

**Table 1: The correlation between variables of OCB and IWB (N=300)**

Independent variable	Dependent variable	
	Innovative Work Behavior	
Altruism	Pearson Correlation	0.499**
	Sig. (2-tailed)	0.00
Conscientiousness	Pearson Correlation	0.589**
	Sig. (2-tailed)	0.00
Sportsmanship	Pearson Correlation	0.460**
	Sig. (2-tailed)	0.00
Courtesy	Pearson Correlation	0.519**
	Sig. (2-tailed)	0.00
Civic Virtue	Pearson Correlation	0.553**
	Sig. (2-tailed)	0.00
Overall OCB	Pearson Correlation	0.652**
	Sig. (2-tailed)	0.00

### 4.4 Discussions on First Objective

The first objective is to investigate the level of Innovative Work Behaviour (IWB) among employees in manufacturing sector. From the results of the descriptive analysis in previous section, all stages of IWB shows the level of IWB among employees in manufacturing sector is high. Those stages are Idea Exploration, Idea Generation, Idea Championing and Idea Implementation. This study identified the mean value of overall IWB as a high level of IWB among employees in manufacturing sector. This result provides meaningful finding which interpret employees in manufacturing sector in Penang has the linking traits to achieve the research objective of this study.

Penang which was the backbone of manufacturing sector in Malaysia supposedly have high level of IWB. This statement was supported when the result of this study (Table 5.1) shows the high level of Innovative Work Behaviour among employees in manufacturing sector in Penang. Based on result in previous section, employees in manufacturing sector also having high level at each stages of IWB. The highest level was at the stage of Idea Exploration. It means that manufacturing employees was always find new ways to develop current product and services. The process of innovation begins with the discovery of ideas such as searching for possibilities (Ornek et al., 2015). At this point, it will bring the manufacturing employees to the next stages of IWB which can leads to the kind of

innovation. Innovation can be one of the strategy that can be implemented by company to sustain on market place. Innovation from employees would eventually improve competitiveness (Osman, Shariff & Lajin, 2016).

However, when it come to the stage three of IWB which is Idea Championing, they were not involve in gaining support for their idea as much as they try to find new ways to develop current product and services. This is shown when the level of Idea Championing among employees in manufacturing sector having the lowest level as compared to other stages, but still in the range of high level. Employees may not have many initiatives on how to introduce their idea whether for the product or for the organization in a systematic way. According to Kwon et al. (2019), convincing different people with different desires to support new projects is emotionally challenging, and creative efforts often fade out or fail due to direct opposition. However, manufacturing company in Penang still having sustainable competitive advantage due to the behaviour of employees that still trying to acquire approval for their innovative idea which is at the stage four of IWB. The proof of their creative ideas is that they are put into implementation (Ornek et al., 2015) and result in sustainable competitive advantage. Idea Implementation which is stage four of IWB, resulted in higher level as compared to the of Idea Championing.

Furthermore, although creative outputs achieved through the implementation of ideas, the systematic way to introduce new idea by employees can be consider as important. Innovative ideas should be championed, enriched and trained by employees, leaders and consumers for implementation (Ornek et al., 2015). This is due to the important of new idea easily can be understanding by organization as well as enhance the Idea Championing among employees. Although the advantages of so many business concepts, meeting the costs of their growth and their implementation are uncertain (Ornek et al., 2015), other employees can easily act to the full support and strengthened of new idea when they understand the thought. Ornek et al. (2015) added innovative ideas seem attractive in the hope of filling the success gap. Thus, next stage of IWB can be proceed for implement the new idea.

#### 4.5 Discussions on Second Objective

The second objective of this study is to investigate the level of Organizational Citizenship Behaviour among employees in manufacturing sector. From the results of the descriptive analysis in Chapter 4, four out of five dimensions of OCB shows high level among employees in manufacturing sector. Those dimensions are Altruism, Conscientiousness, Courtesy and Civic Virtue. Meanwhile, another one dimension was moderate which is Sportsmanship. However, the overall result indicated a high level of OCB among employees in manufacturing sector.

In order to improve organizational performance, study on OCB can be increase due to important role played by employees. Osman et al. (2016) stated employee performance is important to every organization as it is a way of evaluating the progress of the business. The result of this study revealed a high level of OCB means that employees in manufacturing sector in Penang always perform their job more than needed voluntarily. Going beyond the expectation of the role does not limit the employee from fulfilling the job description (Tamunomiebi et al., 2019). The most practice by employees in manufacturing sector in Penang was Altruism where they were always support other colleague which lead to enhancement of IWB among employees. Other than Altruism, they also perform well in Courtesy where they always find alternative to avoid problems for them. This behaviour also influences them to be more innovative as they always connected to challenging environment in daily life. Thus, creativity can be created when workers are in the right environment. (Osman et al., 2016).

Next, although with an optimistic look at business growth which a sportsmanship-oriented organization would recommend creativity (Naqshbandi et al., 2016), result of this study shows employees are lack of good and positive mind set. Some of them always find fault with what the

organization was doing. This is shown in the Table 4.3 of this study where Sportsmanship among manufacturing employees in Penang was at moderate level. Sportsmanship are supposed to help employees develop the necessary knowledge of innovation faster and become more familiar with innovation quickly (Naqshbandi et al., 2016). Thus, lack practice of Sportsmanship's dimension by employees may be one of the factor to the issue of less innovative employees in manufacturing sector as compared to service sector.

To handle the issue of less innovative employees in manufacturing sector as compared to service sector, employees can increase their engagement in OCB especially in dimension of Sportsmanship. Tamunomeibi et al. (2019) highlighted, for companies to stay competitive, the potential for behavioural patterns such as OCB is a significant factor. They can increase their ability to look the positive side although in a negative situation. OCB such as Sportsmanship help workers retain a good outlook even though things go wrong or minor setbacks occur (Naqshbandi et al., 2016). Yet, employees are willingly offer themselves to improve the problems in an organization. Naqshbandi et al. (2016) added when required, the workers of an organisation can also be able to give up personal interests for the benefit of the organisation. Employees who demonstrate Sportsmanship strengthen the capacity of the company to respond to changes in its environment by showing a willingness to take on new tasks or develop new skills (Naqshbandi et al., 2016). Thus, they are encouraging to be more tolerant in order to achieve good culture and healthy workplace.

#### 4.6 Discussions on Third Objective

The third objective of this study was to study the relationship between OCB and IWB. It was clear that Hypothesis 1 where there is significant relationship between OCB and IWB. The Pearson's correlation results supported this hypothesis which indicates that positive and significant values on the relationship between OCB and IWB. Five dimensions of OCB are essential in developing all stages of IWB. It is noticed from the findings that an organisation of workers with different personality characteristics is more likely to perform better (Tamunomeibi et al., 2019). Moreover, previous research finding revealed that OCB essential contributions to employees and organization's performance. OCB is beneficial and good for both the employee and the organization (Tambe et al., 2015).

Further, developing OCB also promote innovation. So manufacturing sector can be the main contributors to the economic growth of Malaysia. Companies in manufacturing sector can introduce innovation to employees. This is due to the creativity and innovation are effects which are almost inherently optimistic (Khessina, Goncalo & Krause, 2018). As there was a significant correlation between the high level of OCB and IWB, there is a chance for companies in manufacturing sector boost their performance better. According to Khessina et al. (2018), firms will directly benefit from creativity.

Moreover, based on the positive relationship between OCB and IWB, manufacturing company can develop a good culture in organization which can develop positive environment. Managers need to build conditions that inspire workers and make them feel proud of their job (Osman et al., 2016). The positive environment can form Sportsmanship among employees which result in higher level of OCB. So that, employees will have a good mind set on activity that company was doing. As result, employees can focus on increasing their skills of introducing new idea due to more initiative and feel the support from company. Those action leads to higher level of IWB among employees.

Last but not least, Backstrom et al. (2019), Gunduz et al. (2016) and Pandey et al. (2019) has mention on requirement of positive environment for employees which can leads to higher action of innovation. Innovation action comes after performing OCB. They agree OCB can bring contributions to an organization. So, manufacturing sector can be more innovative than service sector. However, although companies need to promote OCB in their own interests they need to ensure that workers are

not exposed to work stress (Tambe et al., 2015). Therefore, all objectives of this study have been achieved.

## 5. Conclusion

As a conclusion, the purpose of this research was to identify the level of Organizational Citizenship Behaviour (OCB) and Innovative Work Behaviour (IWB). This research also aims to examine the relationship between OCB and IWB. Descriptive analysis and Pearson's correlation was used to find out the result for the objective of this study. The finding shows there is a high level of OCB and IWB among employees in manufacturing sector. Other than that, correlation analysis resulted in positive relationship between OCB and IWB. In short, OCB can be one of the behaviour that can lead to innovative thinking and action. Therefore, it is suggested for employees in manufacturing sector to practice five dimensions of OCB in order to develop all stages of IWB so that manufacturing sector can be boosted with more innovation. Other researchers are encouraging to conduct more research on innovation in manufacturing company and focus on high innovation company to support the relationship between OCB and IWB. All the objective was achieved at the end of this research.

Real success in manufacturing sector depends on the performance and creativity of its employees. It was suggested that to increase the opportunities among employees in manufacturing sector to share their idea systematically. The result from this study suggest manufacturing sector can lay foundation in term of good culture to produce more innovators in manufacturing, who can manage the challenges of current technological situations and the demand of higher technology capabilities.

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## References

- Abdul-rashid, S. H., Sakundarini, N., Raja Ghazilla, R. A., & Thurasamy, R. (2016). The Impact of Sustainable Manufacturing Practices on Sustainability Performance: Empirical evidence from Malaysia. *International Journal of Operations & Production Management*, 37(2), pp. 182–204. <https://doi.org/10.1108/IJOPM-04-2015-0223>
- Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural Intelligence and Innovative Work Behavior: The Role of Work Engagement and Interpersonal Trust. *European Journal of Innovation Management*. <https://doi.org/10.1108/EJIM-01-2020-0008>
- Akram, T., Lei, S., Haider, M. J., & Hussain, S. T. (2019). *Journal of Innovation. Suma de Negocios*, pp. 1–13. <https://doi.org/10.1016/j.jik.2019.10.001>
- Amlus, M. H., Abdullah, A. Z., Ibrahim, A., & Mokhtarudin, H. (2015). The Relationship of Training on Manufacturing Capabilities among Electrical and Electronic Manufacturers in Malaysia. *Applied Mechanics and Materials*, 793(November), pp. 663–668. <https://doi.org/10.4028/www.scientific.net/amm.793.663>
- Apuke, O. D. (2017). *Arabian Journal of Business and Management Review (Kuwait Chapter)*. (October). <https://doi.org/10.12816/0040336>
- Asurakkody, T. A., & Kim, S. H. (2020). Effects of knowledge sharing behavior on innovative work behavior among nursing Students: Mediating role of Self- leadership. *International Journal of Africa Nursing Sciences*, 12(January), pp. 100-190. <https://doi.org/10.1016/j.ijans.2020.100190>
- Azevedo, A., & Jo, M. (2019). A New Training Program in Developing Cultural Intelligence can also Improve Innovative Work Behavior and Resilience: A Longitudinal Pilot Study of Graduate Students and

- Professional Employees. *The International Journal of Management Education*, 17(3), pp. 100-303. <https://doi.org/10.1016/j.ijme.2019.05.004>
- Bäckström, I., & Bengtsson, L. (2019). A Mapping Study of Employee Innovation: Proposing a Research Agenda. *European Journal of Innovation Management*, 22(3), pp. 468–492. <https://doi.org/10.1108/EJIM-05-2018-0101>
- Silverstre, B. S. & Tirca, D. M. (2019). Innovations for Sustainable Development: Moving toward a Sustainable Future. 208. <https://doi.org/10.1016/j.jclepro.2018.09.244>
- Bosman, L., Hartman, N., & Sutherland, J. (2018). How Manufacturing Firm Characteristics can Influence Decision Making for Investing in Industry 4.0 Technologies. *Journal of Manufacturing Technology Management*. <https://doi.org/10.1108/JMTM-09-2018-0283>
- Davison, R. M., Xj, C., & Ng, E. (2019). Information & Management Inadequate Information Systems and Organizational Citizenship Behavior. *Information & Management*, (November), pp. 103-240. <https://doi.org/10.1016/j.im.2019.103240>
- Dedahanov, A. T., Rhee, C., & Yoon, J. (2017). Organizational Structure and Innovation Performance: Is Employee Innovative Behavior a Missing Link? *Career Development International*, 22(4), pp. 334-350. <https://doi.org/10.1108/CDI-12-2016-0234>
- De Jong, J., & Den Hartog, D. (2010). Measuring Innovative Work Behaviour. *Creativity and Innovation Management*, 19(1), pp. 23–36. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>
- Ghasemi, A., & Zahediasl, S. (2012). Normality Tests for Statistical Analysis: A Guide for Non-Statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), pp. 486–489. <https://doi.org/10.5812/ijem.3505>
- Gündüz, H. & Akturan, A. (2016). The Effects of Knowledge Sharing and Organizational Citizenship Behaviors on Creative Behaviors in Educational Institutions. *Procedia - Social and Behavioral Sciences*, 235(October), pp. 342–350. <https://doi.org/10.1016/j.sbspro.2016.11.042>
- Haapasaari, A., Engeström, Y., & Kerosuo, H. (2018). From Initiatives to Employee-Driven Innovations. *European Journal of Innovation Management*, 21(2), pp. 206–226. <https://doi.org/10.1108/EJIM-09-2016-0085>
- Hanifah, H., Halim, H. A., Ahmad, N. H., & Vafaei-zadeh, A. (2020). Can Internal Factors Improve Innovation Performance via Innovation Culture in SMEs? *Benchmarking: An International Journal*, 27(1), pp. 382-405. <https://doi.org/10.1108/BIJ-06-2018-0174>
- Harvey, J., Bolino, M. C., & Kelemen, T. K. (2018). Organizational Citizenship Behavior in the 21st Century: How Might Going the Extra Mile Look Different at the Start of the New Millennium? *Research in Personnel and Human Resources Management*, 36, pp. 51–110. <https://doi.org/10.1108/S0742-73012018000036002>
- Heale, R., & Twycross, A. (2015). Validity and Reliability in Quantitative Research Validity and Reliability in Quantitative Studies. *Evid Based Nurs*, 18(3), pp. 66-67.
- Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles , Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior. *SAGE Open*, 10(1), pp. 1-6. <https://doi.org/10.1177/2158244019898264>
- Khar Kheng, Y., June, S., & Mahmood, R. (2013). The Determinants of Innovative Work Behavior in the Knowledge Intensive Business Services Sector in Malaysia. *Asian Social Science*, 9(15), pp. 47–59. <https://doi.org/10.5539/ass.v9n15p47>
- Khessina, O. M., Goncalo, J. A., & Krause, V. (2018). It's Time to Sober Up: The Direct Costs, Side Effects and Long-Term Consequences of Creativity and Innovation. *Research in Organizational Behavior*, 38, pp. 107–135. <https://doi.org/10.1016/j.riob.2018.11.003>
- Kwon, K., & Kim, T. (2019). An integrative Literature Review of Employee Engagement and Innovative Behavior: Revisiting the JD-R Model. *Human Resource Management Review*, (July), pp. 1-18. <https://doi.org/10.1016/j.hrmr.2019.100704>
- Matt, D. T., Orzes, G., Rauch, E., & Dallasega, P. (2020). Urban production – A Socially Sustainable Factory Concept to Overcome Shortcomings of Qualified Workers in Smart SMEs. *Computers & Industrial Engineering*, 139(August 2018), pp. 1-10. <https://doi.org/10.1016/j.cie.2018.08.035>
- Meghanathan, N. (2016). Assortativity Analysis of Real-World Network Graphs based on Centrality Metrics. *Computer and Information Science*, 9(3), pp. 7-25. <https://doi.org/10.5539/cis.v9n3p7>
- Naqshbandi, M. M., Garib Singh, S. K., & Ma, P. (2016). The Link between Organisational Citizenship Behaviours and Open Innovation: A Case of Malaysian High-Tech Sector. *IIMB Management Review*, 28(4), pp. 200–211. <https://doi.org/10.1016/j.iimb.2016.08.008>
- Ornek, A. S., & Ayas, S. (2015). The Relationship between Intellectual Capital, Innovative Work Behavior and Business Performance Reflection. *Procedia - Social and Behavioral Sciences*, 195, pp. 1387–1395. <https://doi.org/10.1016/j.sbspro.2015.06.433>

- Osman, S., Shariff, S. H., & Lajin, M. N. A. (2016). Does Innovation Contribute to Employee Performance? *Procedia - Social and Behavioral Sciences*, 219, pp. 571–579. <https://doi.org/10.1016/j.sbspro.2016.05.036>
- Podsakoff, P. M., & MacKenzie, S. B. (1994). Organizational Citizenship Behaviors and Sales Unit Effectiveness. *Journal of Marketing Research*, 31(3), pp. 351–363.
- Pandey, A., Gupta, V., & Gupta, R. K. (2019). Spirituality and Innovative Behaviour in Teams: Examining the Mediating Role of Team Learning. *IIMB Management Review*, 31(2), pp. 116–126. <https://doi.org/10.1016/j.iimb.2019.03.013>
- Reischauer, G. (2018). Technological Forecasting & Social Change Industry 4.0 as Policy-Driven Discourse to Institutionalize Innovation Systems in Manufacturing. *Technological Forecasting & Social Change*, 132(February), pp. 26–33. <https://doi.org/10.1016/j.techfore.2018.02.012>
- Saether, E. A. (2019). Motivational Antecedents To High-Tech R&D Employees' Innovative Work Behavior: Self-Determined Motivation, Person-Organization Fit, Organization Support of Creativity, and Pay Justice. *Journal of High Technology Management Research*, 30(2), 100350. <https://doi.org/10.1016/j.hitech.2019.100350>
- Shafi, M., Zoya, Lei, Z., Song, X., & Sarker, M. N. I. (2020). The Effects of Transformational Leadership on Employee Creativity: Moderating Role of Intrinsic Motivation. *Asia Pacific Management Review*, 25(2020), pp. 166-176. <https://doi.org/10.1016/j.apmr.2019.12.002>
- Shanker, R., Bhanugopan, R., Heijden, B. I. J. M. Van Der, & Farrell, M. (2017). Organizational Climate for Innovation and Organizational Performance: The Mediating Effect of Innovative Work Behavior. *Journal of Vocational Behavior*, 100, pp. 67–77. <https://doi.org/10.1016/j.jvb.2017.02.004>
- Singh, J. P., & Chand, P. K. (2019). High-Performance Work System and Organizational Citizenship Behaviour at the Shop Floor. *Benchmarking: An International Journal*, 27(4), pp. 1369-1398 <https://doi.org/10.1108/BIJ-07-2019-0339>
- Sivalogathan, V. (2016). How to Improve Innovation Capability?: The Role of Intellectual Capital and Organizational Motivation of Manufacturing Firms in Sri Lanka. *Journal of Business Studies*, 3(2), pp. 1-10. <https://doi.org/10.4038/jbs.v3i2.6>
- Solhi, F. (2020, February 28). FMM: Stimulus package timely shot in the arm. *New Straits Times*. Retrieved from <https://www.nst.com.my/news/nation/2020/02/570140/fmm-stimulus-package-timely-shot-arm>
- Tambe, S., & Shanker, D. M. (2015). A Study of Organizational Citizenship Behaviour and Job Stress in a Manufacturing Company In Mumbai. *GE-International Journal of Management Research*, 3(4), pp. 137-148.
- Tamunomiebi, M. D., & Owere, O. G. (2019). Organizational Citizenship Behavior: A Critical Review of Its Development in A Diversity Driven Workplace. *The Strategic Journals Business Change and Management*, 6(1), pp. 41-60.
- Taskiran, G. & N. I. (2019). The Relationship between Organizational Citizenship Behavior and Entrepreneurial Orientation: A Research in the Hospitality Industry. *Computer Science*, 00, pp. 3–10. <https://doi.org/10.1016/j.procs.2019.09.102>
- Zakariah, Z. (2018, October 31). Malaysia's 13 Strategies to Transform Manufacturing & Services Sector. Retrieved from <https://www.nst.com.my/business/2018/10/426984/malaysias-13-strategies-transform-manufacturing-services-sector>