THE INFLUENCE OF INTRINSIC AND EXTRINSIC MOTIVATION ON MALAYSIAN ACADEMICS PARTICIPATION IN THE NATIONAL INNOVATION STRATEGY

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A thesis submitted in fulfillment of the requirements for the award of the Degree of Doctorate of Technology Management in Research

Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia
To my loving wife, father and mother

My love to you will always remain and shall never change.....
ACKNOWLEDGEMENT

The author would like to convey his sincere appreciation to his supervisor, Assoc. Prof. Dr. Wan Fauziah binti Wan Yusoff, co-supervisor, Dr. Md Fauzi bin Ahmad@ Mohamad for their consistent encouragements, advices and invaluable guidance throughout the entire course of this research project.

Finally, the author would like to thank those who have contributed directly or indirectly towards the success of this project.
ABSTRACT

The practice of workplace motivation is always use in activating, directing and maintaining people’s behaviors towards specific courses of actions. In this study, the attentions are focus on studying the factors that motivating Malaysia academic citizens in participating in Malaysia National Innovation Strategy. The methodology of this exploratory study involve a quantitative designed, web-based survey method. Population include all academicians with Malaysia citizenships in all twenty Malaysia public universities, while actual samples collected consist of 833 respondents. Results were analyzed by Kruskall-Wallis test (SPSS) and Structural Equation Modelling-Partial Least Square (SmartPLS). Findings has presented that the eight motivation factors of Equity, Trust, Responsibility, Actualization, Physical Condition, Culture, Career Prospect, and Work-Life Integration have different significant results among the three categories of Malaysia public universities. Implication of this study has revealed the significance of motivation factors National Innovation Strategy, as well as the differences of significances among the three categories of public universities.
ABSTRAK

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1.0 Introduction

This chapter starts by presenting research background and problem statements. The third economic transformation to knowledge-based, innovation-led economy was started decades ago. However, it is severely commented with slow progress in governmental blueprints such as National Innovation Model and National Innovation Strategy. It is further adapted into research objectives and research questions. The significances of answering the objectives and questions will assist policy makers and institutional owners in designing their motivation packages that are effective in motivating academic citizens towards National Innovation Strategy.

1.1 Background of the Study

Motivation is widely known as human intentional process in altering behaviours towards specific course of actions. In organizational practice, motivation is mostly use to activate, direct and maintain physical or psychological activities into a preferable action. Whereas in the academic practices, motivation is generally adapted into scientific researches either to study the differences in preference or satisfactions of motivation factors among variety of cohorts, and/or its impact towards variety of human behaviour (Robbins, 2009; Hitt et. al, 2009; Lynne, 2012; Herbert et. al, 2012;
Ryan 2012). Generally, studies of motivation are either on differentiating effect of motivation factors towards different group of people; or studying the correlations of motivation factors towards variety of human behaviour. Despite one or the other objectives of conducting studies regarding human motivation, the common goals still heeds on changing human behaviour to desire forms of actions (Latham, 2007; Deckers, 2010; Reeve, 2014).

In this research, the study of motivation is scoped within motivation factors of Malaysia academic citizens to participate in National Innovation Strategy. As a hub that accumulates, researches, and disseminates knowledge, participations of academicians in National Innovation Strategy play a vital role in facilitating Malaysia’s third economic transformation. Several governmental blueprints in promoting the National Innovation Strategy highlights the attention given to academic sector. For example, in the MOHE Implementation Plan (2009), the importance and roles of academicians in collaborating in National Innovation Strategy have been emphasised as linchpins. Malaysia New Economic Model (2010) also addressed the issues of academicians’ new roles in cultivating innovation culture to support the National Innovation Strategy (NEM, 2010).

In line with this the Malaysian government has established an agency for national innovation, the National Innovation Council (AIM) was formed in an efforts to cultivate an eco-system among industry sector, academic sector, government and civil society (Rakyat). Hence, three mechanisms were introduced to be successfully adapted to the Malaysia context. The first mechanism is Quadruple Helix Model, the second is Onion Model, and finally the third Innovation (AIM, 2009). In the first mechanism academician were requested to collaborate closely with industry, government, and civil society in order to promote the innovation culture. The second mechanism of Innovation Accelerators further specifies two roles of academician. The first roll of academician is to closely collaborate with industries and foreign technology partners and be active in product and service developments that will be commercialised by government and industry, while the second role is to cultivate graduates to master the methodologies of innovation. The last mechanism of Onion Model that encourages synergy between academic sector, government sector, community, and industry sector has further defined the activities that will be conducted among the four stated sectors.
All three mechanisms have demonstrated the significant role that academicians play in fostering national transformation. Besides of core responsibilities in teaching and researching, academicians are demanded for additional efforts in cultivating innovative culture, and collaborate with industries for innovations (AIM, 2009). Such request from governments have further adapted into Ministry of Higher Education Implementation Plan (2009). As such Malaysia’s academicians are also required to be more active in increasing the awareness of innovation among graduates and promoting and collaborating with private sector in conducting innovations (MOHE, 2009).

Overall, the role of academicians in facilitating Malaysia’s economy transformation nowadays is identified as one among the linchpins (MOHE, 2009; AIM, 2009; NEM, 2010) Attentions are no longer framed within academic-industrial collaborations, however, academicians are even encouraged to involve in cultivating a culture of continuous innovation, as well as more active in participation in knowledge sharing-related activities, such as workshops and conferences that are good platforms in exchanging and dispersing knowledge and information.

1.2 Problem Statement

Ministry of Higher Education stated that the progress of economic transformation is sluggish with at a gap of at least 10 years (MOE, 2010). Several global reported that Malaysia has not entered a stage of innovation-led growth and research performance has not significantly improved since ten years ago (OECD, 2013; Klaus & Xavier, 2014). Various researchers and governmental agencies further found that the delayed of National Economic transformations were mainly due to the poor engagement of academic, government, and industry in the innovation ecosystem (OECD, 2013; Hutschenreiter, 2013; Thiruchelvam, 2013; MOHE, 2014; Reezal, 2015, Ramli & Senin, 2015). As mentioned in a blueprint Implementation Plan for Development of Innovative Human Capital at Tertiary Level issued by Ministry of Higher Education, participation of academicians in National Innovation Strategy is one of the key to fasten National Third Economic Transformation (MOE, 2010)
Although the reason behind delayed of National Economic transformation has been addressed, however, to date there are less empirical findings that heeds on Malaysia academicians’ motivation factors to collaborate with industrials sectors. Among the limited empirical researches on the issues of motivation among Malaysia academicians, Alsaleh and Haryani (2013) have contributed an empirical finding on Malaysia academicians’ motivation for knowledge sharing. The qualitative case study covered 15 renowned academicians from one public university, and the findings only answered seven factors to motivate academicians for knowledge sharing. On the other hand, another research conducted by Goh and Sandhu (2013) included a number of 545 academicians from 30 public and private universities in Malaysia. Besides reporting the significant correlation on the motivation factors of Trust and Commitment towards Knowledge Sharing, the findings also revealed significant difference on the intentions of knowledge sharing among private and public universities. Although the two articles have accessed the motivation and knowledge sharing among Malaysia academician, however, they discounted continuous learning and cultivation of innovation eco-system in the study. Furthermore, Choong et. al. (2011) reported an empirical finding on the correlation between intrinsic motivation and organizational commitment among 247 academicians from four Malaysia private universities. Another empirical research conducted by Anidah et. al (2014) among 45 academicians from Malaysia community college reported that organizational culture and environment, organizational and managerial issues, and personal experience and quality are effective factors to motivate respondents for academic leadership.

While the examples provided above are focuses on motivation factors towards different dependant variables, there are no empirical findings found on motivation factors of Malaysia academicians towards participation in the National Innovation Strategy. As mentioned by Faizal et. al. (2013), numbers of studies that focus on the university-industry collaboration in Malaysia are not sufficient. In fact, university-industry collaborative in Malaysia has received very little research attentions (Chin et. al, 2011).

Furthermore, there are also less researches found in comparing and contrasting motivation of Malaysia academicians from three categories of public universities. Empirical papers regarding motivation issues among Malaysia academicians either covered several universities or taken all universities in Malaysia
as one group (Md. Zain et. al., 2010; Azman et. al., 2012; Gurnam et. al., 2013). As stated in following chapter of literature review, Malaysia public universities are categorised into three categories of universities, each category have their distinct roles and visions to grow within their specific niche that will contribute to national global competitive advantage. The fact that Motivation serves as activators for human behaviour has been repeatedly justified. According to Hitt et. al. (2009), Lynne (2012) and Ryan (2014), preferences on motivation factors in activating a particular behaviour may be influenced by environmental context where individuals are within. Hence, without identifying the differences of motivation toward National Innovation Strategy among the categories of public universities, the speed of collaboration among academic, government, and industry, and civil society will not be fully accelerated. As suggested by several researches in their local empirical findings, more studies on identifying variance of motivation towards other dependant variables among different public universities should be conducted, so that a more comprehensive view on the issues of motivation in Malaysia academic industry can be drawn (Normah, 2011; Goh and Sandhu, 2013; Anidah et. al.,2014).

While the government is fostering the cultivation of innovative culture and pushing academicians to participate in National Innovation Strategy, a gap of understanding the factors that will motivate Malaysia academicians to enter the innovation ecosystem still left empty. Hence, this marked the gap of this research is attending to fill. It also guided the scopes and objectives of this research that is going to conduct.

1.3 Research Objectives and Questions

Although the topic of motivation has been widely discussed throughout industries, there are less research evidence focusing on Malaysia higher education especially on the theory practicability towards academicians. As a result, this study is reconstructing a new motivation model to analyse factors of motivation and their strength of relationships towards academic citizens’ National Innovation Strategy.
1.3.1 Research Objectives

Generally, studies of motivation are either about differentiating effect of motivation factors towards different group of people; or studying the correlations of motivation factors towards variety of human behaviour. This study hence adapted all two types of motivation study and formulate into two general research objectives.

The first broad objective is to understand the differences in the extent of satisfactions in motivation factors as well as the extent of participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities. Three specific research objectives are presented.

1. To compare the extent of satisfactions in intrinsic factors among academic citizens in the three categories of Malaysia public universities.

2. To compare the extent of satisfactions in extrinsic factors among academic citizens in the three categories of Malaysia public universities.

3. To compare the extent of participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities.

The second broad objective is to identify the motivation factors of Malaysia academic citizens towards National Innovation Strategy. Two specific research objectives are presented.

4. To determine the intrinsic factors that significant towards participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities.
5. To determine the extrinsic factors that significant towards participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities.

1.3.2 Research Questions

After defining the problem statements, this study continues with designing research questions. Each research question is designed with proper justifications of problem statements and related theories align with the problematical circumstance. The purpose is to fill up the research gaps identified in problem statements. Each question is formulated from the research objectives respectively. Hence, research questions are present as:

1. What are the extent of satisfactions in intrinsic factors among academic citizens in the three categories of Malaysia public universities?

2. What are the extent of satisfactions in extrinsic factors among academic citizens in the three categories of Malaysia public universities?

3. What are the extent of participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities?

4. What are the intrinsic factors that are significant towards participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities?

5. What are the extrinsic factors that are significant towards participation in National Innovation Strategy among academic citizens in the three categories of Malaysia public universities?
1.4 Research Model

In this study, a research model is proposed to account for academic citizens’ motivation for National Innovation Strategy. This research Model is based on previous motivation theories, empirical findings and statements that highlighted workplace motivation factors and processes of human motivation. Detail formation of this Theoretical Model is discussed in chapter 3.

As shown is figure 1.1 below, The independent variables in this study are the four intrinsic factors of Actualization, Equity, Responsibility, and Trust, as well as the four extrinsic factors of Career Prospects, Culture, Physical Condition and Work-Life Integration. Details of each factor under this model are determined by a process of literature review. The factors collected are further integrated into a new model of intrinsic and extrinsic factors. On the other hand, Dependent variable in this study is National Innovation Strategy. This variable will be measured according to academic citizens’ extent of participation in the National Innovation Strategy.

![Figure 1.1: Research Model](image)

This research model illustrated the relationships among academicians’ motivation and National Innovation Strategy. For the independent variables, motivation is widely defined as processes of modifying and directing human attitudes and behaviour into desired patterns of work, whereas motivation factors represented
keys to activate, direct, and/or sustain the attitudes and behaviour (Ryan and Deci, 2000; Griffin, 2013).

The dependant variable is Malaysia academic citizens’ participation in the National Innovation Strategy. As cleared by AIM (2012), which was developed to support Malaysia Innovation Model. Ultimately, both innovation model and innovation strategy shares similar purpose of transforming the Malaysia economy from a resource-based, manufacturing-led economy into knowledge-based, innovation-led economy (Majlis Inovasi Negara, 2009; Amerul, 2012).

Since satisfactions for motivation factors is the cornerstone in activating individuals’ behaviour, it is further summarised that academicians’ motivation are positively correlated with their participation in the National Innovation Strategy. Hence, in order to persuade academic citizens to exert additional efforts to participate in National Innovation Strategy, the factors of motivation must be addressed. According to the interconnections among independent and dependant variables discussed, the research model of this study is developed.

In depth discussions of the research model of this study is included in chapter 3.

1.5 Scope of the Study

From the perspective of the industry, universities are the external source of information both for new ideas and innovation. Wherein the scientific results contributed by academic researchers are able to increase industrial sales, improve productivity and enhance patenting activities (Kamaruzaman & Azizi Wafa, 2011). On the other hand, as suggestions from OPINET (2011), collaborations among academic and industry sector allows organizations to share wealth and resource allocations, better attract governmental funding for innovations, as well as the larger flow of external ideas into organizations. Furthermore, the New Economic Model (2010) states that a quality education system that is able to nurture skills, inquisitive and innovative citizens is the foundation of sustained economic growth (NEM, 2010). As results, the statements have clearly identified the importance of the academic sector to collaborate with other sectors.
Universities in Malaysia are broadly categorised as public and private types of universities. These two types of universities have discrepancies in funding, policies, and structure (Goh & Sandhu, 2012). As pointed out in numerous local articles, academicians in public universities are more focus on research part, and overall culture in the public universities are more research-oriented. Responsibilities related to research and publication have slightly higher degree of influence towards their work value, performance indexes and promotions. (Ina et. Al., 2013; Nor A’tikah and Siti, 2015; Naidu & Shuhada Deran, 2016). In the Malaysia New Economic Model, public universities in near future have to sustain themselves through research outputs such as patents and trademarks, as well as providing service in consultancies (NEM, 2010). In contrast, academicians in private universities are paying most of their attentions on teaching (Goh & Sandhu, 2012). Although there is a rising trend of recruiting academicians with research capabilities among private universities, however, teaching and supervising students’ performance are still their core responsibilities, as the main source of income among private universities are students’ tuition fees (Ina et. al., 2013; Nor A’tikah and Siti, 2015; Naidu & Shuhada Deran, 2016).

Since the above reviews have clearly pointing out the differences of work environment and job requirements in public and private universities, it is not suitable to merge the academicians as one population. Next, rather than comparing motivation factors among different cohorts, this study was designed to understand significant motivation factors among academicians to participate in national innovation Strategy. Thereby, this study only accessed academicians in public universities and subtracting academicians in private universities, as research activities are common among academicians in public universities, and opportunities of collaborations among industries are higher than private universities (Ina et. al., 2013; Nor A’tikah and Siti, 2015; Naidu & Shuhada Deran, 2016).

In this study, academicians with non-citizenship are also subtracted. This groups of academicians may pose different working attitudes, value systems, as well as perceptions and favours towards motivation factors. The variances are developed from cultural background, living experience, and career prospects that are distinct with Malaysia’s context (Diana, 2006; Solomon et. al., 2009).

Hence, this study focuses on academic citizens who work in all twenty public universities in Malaysia. In detail, despite neither contract-base nor full employment,
all academicians with Malaysia citizenship are invited. According to a statistical data published by MOHE, there are currently 27,618 academic citizens from twenty public universities (Malaysia Higher Education Statistics, 2011). The population is next categorised in three strata according to the types of universities.

1.6  **Significance of the Study**

This study shall contribute towards three different perspectives:-

1.6.1  **Contribution to Practice or Practitioner**

The findings of this study are expected to contribute to enhance the implementation plan on Development of Innovative Human Capital at Tertiary Level. Since the Pillars of Initiatives are considered as the foreground for motivated academicians, findings arrived from this study are useful in terms of the development of specific guidelines for academic citizens’ motivation. The guidelines then can be referred by Malaysian universities and ministries, especially in encouraging academic citizens to be more active in the National Innovation Strategy.

1.6.2  **Contribution to Body of Knowledge**

This study contributes a model inclusive of academic citizens’ extent of satisfactions on intrinsic and extrinsic factors and key motivational factors towards National Innovation Strategy. In detailed, this research will offer academic contributions by generating an up-to-date, well categorised list of new intrinsic-extrinsic motivation factors to the body of knowledge in the field of motivation. No doubt that there are numbers of empirical researches concluded discrepancies between academic theories and actual practice (Edward & Teoh, 2009; Saraswathi, 2011; Fang Yang, 2011; Carolyn et. al., 2011), as well as other new factors found from recent researches such as Free Time (Barford & Hester, 2011), Locus of Control (Baron and Greenberg, 1990, in Kurnia et. al, 2013) as well as Shared Vision (Samer et. al., 2013). All
motivation factors will be determined from a comprehensive study on theories and empirical literatures on the subject of motivation and job satisfactions, followed by a process of comparison, sorting and integrate into a new list of intrinsic and extrinsic motivation factors. This research product is not only applicable in this research; in fact, it will be helpful to other researchers in their area of social science research.

1.6.3 Contribution to Policy

Lastly, the statistical result of this research will offer both government and universities an opportunity to take a glimpse into academic citizens’ current extents of satisfactions in motivation factors, as well as their actual frequency of participation in the National Innovation Strategy. Obviously, descriptive statistics generated from the survey is useful for MOHE and universities in observing the progress of Implementation Plan for Development of Innovative Human Capital at Tertiary Level, to compare the extent of satisfactions among the three categories of universities, and to serve as reference in designing future motivation packages.

1.7 Organization of the Thesis

In order to facilitate understanding of the flow of research, figure 1.2 below has presented a flow chart of chapters in this research. Chapter 1 is the introduction of this research, where the important discussions of following chapters 2 and 3 are summarised in this chapter 1. In the next chapter 2, a comprehensive literature review of variables in this research has been discussed. In detail, the variables of Motivations, Academic Citizens, as well as National Innovation Strategy have been reviewed and discussed. Chapter 3 presents the development of theoretical model. Chapter 4 presented the overall methodology that will be used in conducting this research. Research Approach, Model, development of Hypotheses, Sampling calculation methods, Instruments used, Measurements as well as methods of Analysis has covered in the formulation of Research Design. Data collected in this
research will be analysed in Chapter 5. Lastly, Chapter 6 presented the sections of Discussion, Conclusion and Recommendation.

![Figure 1.2: Organization of Thesis](image)

1.8 Operational Definitions

Several important definitions are required for this research for generational satisfactions in motivation factors and its relationship with Citizenship Performance, this part has abstracted some importance from afterward chapters.
• **Academic Citizen**

Academic Citizen is narrowed down from Academician in order to specify research populations. It is used in statements when academic staffs with Malaysia citizenship are referring.

• **Academician**

Academician refers to all staffs in higher learning institutes who are responsible to conduct three core responsibilities of Teaching and Supervision, Research and Publication, and Service to Community. It includes all academic ranks from tutor, lecturer to professor (Sidek et. al., 2012; Azman et. al., 2012).

• **Emotional Aspect**

Emotional Aspect covers emotional factors that are able to motivate individuals. It refers to individuals’ intense feelings that are responded by someone or something (McShane and Glinow, 2008; Robert, 2011).

• **Extrinsic Factor**

Extrinsic Factor is summarised as all motivation factors that are supplied from work environment individuals are within. All factors of Motivation that categorised in extrinsic factors share the common ground where they are supplied from the environment individuals are within (Amabile, 2001; Osterloh and Frey 2007; Ravikiran et. al., 2007; Oudeyer and Kaplan, 2008).

• **Growth Aspect**

Growth Aspect is defined as individuals’ awareness in intents for self-improvements. This aspect is further distinct in Personal Growth and Capacity Intensification (Jack and McAdams, 2004; Dennis, 2006; Laker & Powell, 2011).

• **Life Aspect**

Life Aspect refers to interaction between individuals’ life and work. As one of the most important purposes for individuals to work are to sustain their life, a job that individuals hold has great impact on their life (Geraldine and Alma, 2008; Kotowska et. al., 2010; Colette et. al., 2011; Adam et. al., 2013).
• **Motivation**
  Motivation is a process which involves a series of modifying and directing human behaviours into desired patterns of work. The effects are responding from individuals' intentions to satisfy factors or driven by their satisfaction on factors (Robbins, 2009; Hitt et. al, 2009; Lynne, 2012).

• **Organizational Context**
  Organizational Context is defined as the environment where individuals are conducting their jobs. It includes all organizational factors that will affect individuals' behaviours (Bradley, 2004; Robert, 2013).

• **Perceptual Aspect**
  Perceptual Aspect is defined as individuals’ organization, identification, and interpretation of sensory information in order to represent and understand the environment that are affected by physical or chemical stimulation of human sense organ, individuals' learning, memory, expectation, and attention in interpreting the stimulations (Douglas, 2010; Schacter, 2011).

• **Intrinsic Factor**
  Intrinsic factor is defined as all emotional motivation factors that produced by individual themselves when the interactions between work environment and individuals exists. All the factors of Motivation that are categorised in intrinsic factors share the common ground where they are psychology-related and are produced by individual’s cognitions ((Ravikiran et. al., 2007; Oudeyer and Kaplan, 2008; Brooks et. al., 2009; Ryan and Deci, 2009).

• **Social Aspect**
  Social Aspect is defined as the interaction of individuals with others and to their collective co-existence, irrespective of whether they are aware of it or not, and irrespective of whether the interaction is voluntary or involuntary (Weber, 1991; Stolte et. al., 2001; Watson, 2008; Kadushin, 2012).
• **Work Content**

Work Content refers to the actual content of the job individuals are conducting. It included all characteristics of tasks that individuals are experiencing when conduct it (Herzberg, 1959; Locke & Latham, 2002; Michaelson, 2013).

1.9 **Summary**

In this chapter, it is identified that education that plays as a bedrock of knowledge and innovation has been given high attention in fostering world class innovative human capital. Quality of human capital, intellectual capacity and skills among Malaysian will be polished up by structured programming and strategically crafted plans of actions offer by educations. However, problem statements have reported an unsatisfying frequency of participation among the four sectors of academicians, government, and industry. The problem statements are thus applied into research objectives, questions and research model. Lastly, scope of study, significance, and operational definitions are also presented.
CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Literature review served several important objectives. First, a good literature review sets the broad context of the study, clearly defines what is and what is not within the scope of the investigation, and from the perspective of the author, rationally justifies those decisions. Besides, it also situates an existing literature in a broader scholarly and historical context (Sekaran, 2003; Boote and Beile, 2005; Robert, 2010).

As shown in Figure 2.0, this chapter has arranged areas of literature reviews into three sections of Motivation, National Innovation Strategy, and Academic Citizens.

![Figure 2.0: Organization of Chapter Two](image-url)
2.1 Motivation

Motivation is one of the most important factors in affecting human attitudes and behaviours towards work. It involves a series of modifying and directing human behaviours into desired patterns of work, which is either activating one’s behaviour, or enhance one’s performance standards on particular tasks, or both. Managerial school of studies always defines motivated individual as being impelled to do something on estimated forms of actions, which the actions is believed to satisfy his or her needs (Robbins, 2009; Hitt et. al, 2009; Lynne, 2012; Herbert et. al, 2012; Ryan 2012).

In this study, the perspective of motivation was focused on the most fundamental relationship of stimulus and response. In detailed, rather than adapting mini theories of motivation that require practitioners to manipulate environment to motivate people, this study heeds on Post-Drive theories that stresses on effective factors towards activating human behaviour.

As shown in figure 2.1.1, this section started with an overview of historical development of motivation study. It is followed by a comprehensive review on motivation theories and factors. Critical reviews and arguments of motivation is presented after reviewing the historical development. Subsequently, review on motivation factors from theories and empirical findings are conducted.

Figure 2.1.1: Organization of Chapter 2.1
2.1.1 Historical Development of Motivation

Contemporary motivation concepts and theories are mostly backboned by ancient philosophies. Concepts of motivation are the result of accumulated knowledge since the ancient Greeks. Although philosophies over century have viewed Motivation from different perspectives, definitions of motivation contributed by various philosophies and researchers are apparently in similar scope of stimulus-and-response.

2.1.1.1 Before Christ (B. C.)

The use of stimulus and response in explaining human motivation is found as early as before century. Motivation by that time was taken as human behaviours that are mainly influence by their instincts for survival and happiness (Stanford Encyclopaedia of Philosophy, 2004; Herbert et. al, 2012). Definitions of motivation are roughly straightforward, where causes for actions are mainly depend on human pre-conscious that they accumulated throughout their lives. In fact, Ancient Greek philosophies focuses on the role of reason and inquiry (Carol, 1988). From the point of view of Aristotle (384-322 B. C.) and Socrates (470-399 B. C.), behaviour will occur when individual aware consequences of their particular behaviour may results in positive or negative experience, thus actualise or halt their behaviour to attain or avoid the consequences (Latham, 2007). Hence, the awareness is taken as a stimulus that will decide their actual behaviours as a response.

In Aristotle's view, a person will be simulated by something that person believe is "real or apparent good" of some anticipated consequence, or image of "what is to come" derived in "reference to what is present," thus pursue it or avoid it (Carol, 1988). Another study in Motivation before centuries that still effect theoretical development nowadays is known as Hedonism. Ancient philosophers defines Hedonism as a theory of value that all and only pleasure for both physical and mental phenomena is intrinsically valuable and all and only pain is intrinsically not valuable. As one of the promoter of Hedonism, the great Greek philosopher Socrates (470-399 B. C.) claimed that human should follow courses of actions that will bring them pleasure that exceeded pain. Another point of view was provided by another contemporary philosophy
Democritus (460-370 B. C.), where Hedonism is born naturally and people should follow these courses of actions. A century after, the ideas of moderation was further added into the philosophy by Epicurus (341-271 B. C.). It carries meaning where a person may forgo certain pleasure if he or she noticed that greater magnitude of pain will be the subsequence. For instance, a student may forgo a party for the reason of having examination in the next day, as he know that attending the party will give him short term of pleasure, but the feeling of doing bad in the following examination will suffer him for longer time (Sobel, 2002; Stanford Encyclopaedia of Philosophy, 2004; Decker, 2010).

2.1.1.2 Nineteen Century

From early of 19th century, philosophies have recognizes the role of stimuli, thus moving forward in searching for the linchpins to turn desired human behaviours on. Obviously, desired human behaviours defined by Industrial and Organizational psychologists by the time are more towards workers’ direct quantitative performance, rather than indirect contributions towards overall organizational wellness and working environment that will in-turn effect employees’ performance nowadays. Generally, business owners by that time were concentrating on workers monotony behaviour, where their tasks were arranged into specialised forms of robotic operations. As results, most of the I/O psychologists by that time were focused on workers’ behavioural studies than cognitive studies (Hergenhahn, 2000; Lathan, 2007; Herbert et. al, 2012).

From the theory of S-O-R (Stimulus-Organism-Response) introduced by Woodworth in studying human behaviour, stimuli were explained as anything that will stimulate individuals’ action; organism was individuals’ personal variances; and responses were the behaviour acted in answering the stimulus (Woodworth, 1924). On the other hand, as the founder of Behaviourism, John Watson has claimed that cause-and-effect are the central of human behaviour. Every effective stimulus will result in immediate responses, thus enabling behaviourists to predict the responses from knowing stimulus or identify stimulus to predict responses (Lathan, 2007). Furthermore, Thorndike also developed his famous Law of Effect, which was backboned on the relationship between stimulus and response. According to Thorndike’s
Law of Effect, behaviours that lead to satisfying outcomes are likely to repeated, whereas behaviours that lead to undesired outcomes are less likely to recur (Thorndike, 1898, 1911). So, it can be understood as satisfying outcome stimulate behaviour to be repeated, even in some circumstance where stimulation is absent. Furthermore, from Viletes shout outs in studying workers’ motive-to-work for the purpose of understanding their attitudes and correspondent behaviour, feelings and experiences of workers towards their works are taken as stimulus in controlling their responses to work (Viteles, 1967). Improvements in the theory of Stimulus-Response were contributed by Tolman. From his researches conducted, Tolman verified that behaviour is not simply a response from stimuli, but it involves organisms’ cognitions in coping with a pattern of stimuli.

The 19th century also marked the distinction of intrinsic and extrinsic stimulus. Hugo Munsterberg was one of the key figure who triggered discussions on employees’ behavioural issues in industrial applications. In Munsterberg's view, a successful scientific industrial psychology should not only concentrate on environmental, extrinsic stimulus that generally refer as the method of carrot or sticks, but should further consider the mental structure of workers that determine their intrinsic needs. In his paper, Psychology and the Market (1909), Munsterberg further suggested that psychology could be used in many different industrial applications including management, job performance, and employee motivation. He further proposed three points of view that he believes are of particular importance to industrial psychology. These three questions include; how to find people with mental qualities are best fitted for the work which they have to do; what psychological conditions will secure the workers’ greatest and most satisfying output; and finally, how to produce most completely influences on human minds which are desired in the interest of business.

Several experiments on the theory of stimulus-response were actually carried out. The Hawthorne study has demonstrated the stimulus of working conditions, supervision, social development, and sense of leadership, has eventually responded with increased productivity (Ryan, 2012; Herbert, et. al, 2012). Another experiment conducted for the verification of stimulus and response was contributed by Ivan Pavlov. In his dramatic discovery of classical conditioning, which strengthen the relationship of stimulus and response in behavioural studies, Pavlov proposed five terminologies as unconditioned stimulus, unconditioned response, neutral stimulus, conditioned stimulus, and conditioned response (Pavlov, 1927, 1955). Furthermore, another study
that specifically kick-started the studies of intrinsic factors are presented by Harlow in 1949s. The experiment involved eight monkeys in solving puzzles revealed the third drives of behaviour. As reported by Harlow after the experiment, neither the first biology drive or food or water, nor second drive of extrinsic rewards or punishments are not stimulating the monkeys’ behaviour to solve puzzles, Harlow further proposed a theory or third drive, which is intrinsic motivation (Pink, 2009).

From the fundamental theory of intrinsic and extrinsic stimulus and response in understanding human behaviour, there were several famous theories that adapted the theory in forming its own motivation theories. For example, Content theories of motivation which include Maslow’s Hierarch of Needs, Herzberg’s Two-factor theory, Alderfers’ ERG theory, Adams’s Equity theory, and McClelland’s Theory of Needs are formulating their theories by introducing factors as stimulus in activating human behaviour. Detail discussions of these theories are presented in 2.1.2.

2.1.1.3 Twenty Century

The term motivation has been discussed and conceptualized by various researchers. In earlier century, motivation is widely explained as the willingness of an individual to do something and conditioned by actions to satisfy needs. Twenty century was a point of time when motivation were given a clearer conceptualisation. Numerous statements published within this time frame most definition of motivation start with recognition of a desire that is not present at the time the individual noticed, which consequently raises mental desires to satisfy it, thus following by physical actions to fulfil their desires. Recognition of a desire that is not present at the time the individual noticed represented stimulus which consequently raises mental desires to satisfy it, while physical actions to fulfil their desires is responses (Fang Yang, 2011; Carolyn et. al., 2011; Abdul Qayyum and Sukirno, 2012; Sadegh and Azadeh, 2012).

As of recent definitions of motivation are less using the terms of stimulus and response in their correspondent definitions of motivation, but view it as individuals’ efforts arising from needs to be fulfilled. Modern social science are taking motivation as a process which involves activating, altering, directing, and maintaining human behaviour to a specific direction that is traded with favourable rewards that will fulfil
the individuals’ needs (Greenberg and Baron, 2008; Saraswathi, 2011; Yudhvir and Sunita, 2013).

For example, in the *Oxford Handbook of Human Motivation*, Ryan (2012) see human behaviour as clearly motivated and goal directed. Every behaviour that human performed for specific end that they desire, ranging from acquiring survival needs such as getting foods of shelter to spiritual goals such as developing sense of meaning or pride. On the other hand, in the sixth edition of motivation textbook, Herbert et. al (2012) viewed motivation as a constant flow of behaviour that can be directed in many ways. Various factors from lower motives such as to sustain life to high motivation of actualising oneself are stimulating human behaviour. It is a common trait among all human species, but the effects factors towards behaviour are difference among different cohorts (Herbert et. al., 2012).

However, not all physical or psychological actions that human performed are clearly aware. In some circumstance, individuals are performing tasks without noticing the purposes, which was elaborated by Sigmund Freud and Daniel Reisberg. According to Freud’s iceberg model, behaviour are derived from the constant and unique interaction of conflicting psychological forces that operate at three different levels of awareness: the preconscious, the conscious, and the unconscious. On occasion decision to act is clearly aware by an individual. It is the result that processed by human conscious mind. Vice versa, motives to act that are not aware, or even the individual don’t know why they act so, are the outcome of unconscious mind (Freud, 1915; Carducci, 2009). Similarly, in the *Oxford Handbook of Cognitive Psychology*, Reisberg (2013) also possess some same opinions, where purpose of human behaviour sometimes is within human conscious, at other time the motivations to act fall within nonconsciousness part of human mind (Reisberg, 2013). Despite which part of human mind in control of behaviour.

Further references were presented in demonstrating the adaptation of stimulus-response in recent motivation theories and statements. For example, Whiseand and Rush (1988) explained motivation as the willingness of an individual to do something and conditioned by actions to satisfy needs. Later, Wregner et. al. (2003) described motivation as something that energized individuals to take action and which is concerned with the choices the individual makes as part of his or her goal-oriented behaviour. Following the recent definition contributed by Fuller et.al. (2008), motivation is a person’s intensity, direction and persistence of to attain a specific
objective which is to fulfil the person’s scarcity in needs. From the statement provided, intensity is further elaborated as how hard an individual tries to attain the specific objective while direction is the channel of intensity towards the objective; whereas persistence refers to length of time someone maintains an effort to attain the specific objective. Furthermore, motivation is defined by Saraswathi (2011) as the willingness to exert high levels of effort, toward organizational goals, conditioned by the effort’s ability to satisfy some individual need. Three key elements in the definition are further provided as effort, organization goal, and need.

Definitions of motivation contributed by various researchers above are apparently in similar meaning as drives, energize and action. Researchers are agreeing on individuals’ motivations start with recognition of a desire that is not present at the time the individual noticed, followed by mental desire to achieve something, thus following by physical actions to obtain the desire. Regardless the extent of efforts paying out, every behaviour that individuals have performed is the result of stimulus (Skinner, 1994; Drake & Donald, 1995; Gary, 2000; Agnew, Carlston, Graziano, & Kelly, 2009).

While the debates on defining motivation have come to the end, another trend of researching human motivation still continue with its focuses on studying factors that are effective in activating behaviour. As commented by various researchers, researches in motivation field in this century are more interest on understanding factors of motivation among different homogeneity groups of people and it significant towards variety of behaviour (Jerald and Robert, 2008; Herbert et. al, 2012). Numerous recent articles further proven that human needs and preferences will not be the same among each other’s, one set of motivation package designed for an individual or groups may not turn up a same effect on others. In fact, Ryan (2012) commented that motivations among different cohorts of human are difficult to study, due to difference in beliefs, preferences, values, and expected outcomes among them Numbers of empirical findings have supported that diverse groups of individuals have different preferences over motivation factors. For example, such diversity may accord to their gender (Sadegh and Azadeh, 2012; Abdul Qayyum and Sukirno, 2012; Hamad, 2013), generation (Melissa et. al., 2008; Furnham and Eracleous, 2009; Lee, 2010; Marnewick, 2010), occupation (Adeyinka et. al., 2007; Tan and Amna, 2011; Carolyn et. al., 2011), demographic (Robert and Sammi, 2006; Fang Yang, 2010; Abdul Qayyum and Sukirno, 2012), and other characteristics. In line with various comments triggered by
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