THE IMPACT OF POSITIVE PSYCHOLOGICAL RESOURCES ON CAREER SUCCESS AMONG ACADEMIC STAFF IN SUDAN

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FACULTY OF BUSINESS AND ACCOUNTANCY UNIVERSITY OF MALAYA KUALA LUMPUR

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THE IMPACT OF PSYCHOLOGICAL RESOURCES ON CAREER SUCCESS AMONG ACADEMIC STAFF IN SUDAN

ABSTRACT

Career success is important in shaping individual vocation's identity. Different individual will have various perceptions about their career accomplishment; whether they feel successful or otherwise. This research aims to investigate the impact of positive psychological resources on career success among academic staff in public universities in Sudan. This due to the importance of career success in contributing to both individual's performance and organisational growth. The research is guided by protean career theory (PCT), conservation of resource theory (COR), and self-determination theory (SDT) for explaining the theoretical framework. On the other hand, the conceptual framework informed by protean career orientation (PCO) as an independent variable, career adaptability (CAA) and psychological capital (PsyCap) as mediator variables, academics' career success as the dependent variable, and Islamic work ethics (IWE) as a moderator. Data were collected from 398 academic staffs who work in public universities in Sudan using a drop-off and pick-up survey method. Data were analysed by using Smart-PLS and PROCESS macro software. The results revealed that PCO, CAA, and PsyCap were significantly related to academics' career success. Additionally, the results emphasised that CAA and PsyCap mediate the relationships between PCO and academics' career success. However, the moderated-mediation of IWE is not found in through the career adaptability path. This research provides implications both theoretically and practically including to the leaders in the universities to recognise PCO and psychological resources as important attributes to increase the level of academics' motivation, and strength in order to determine their career success. Finally, the limitations of this research are discussed, and the directions for future research are suggested.

Keywords: Academics' career success, psychological capital, career adaptability, Islamic work ethics, protean career orientation, conservation of resource, selfdetermination theory.

IMPAK SUMBER-SUMBER PSIKOLOGI TERHADAP KEJAYAAN KERJAYA DI KALANGAN STAF AKADEMIK DI SUDAN ABSTRAK

Kejayaan kerjaya adalah penting dalam membentuk identiti kerjaya individu. Individu yang berbeza akan mempunyai pelbagai persepsi tentang pencapaian kerjaya mereka; sama ada mereka merasa berjaya atau sebaliknya. Kajian ini bertujuan untuk menyiasat kesan sumber psikologi positif ke atas kejayaan kerjaya di kalangan kakitangan akademik di universiti-universiti awam di Sudan. Ini disebabkan oleh kepentingan kejayaan kerjaya dalam menyumbang kepada prestasi individu dan perkembangan organisasi. Penyelidikan ini dipandu oleh Theori Kerjaya Protean (PCT), Teori Pemuliharaan Sumber (COR), dan Teori Determinasi Diri (SDT) untuk menjelaskan rangka kerja teori. Sebaliknya, kerangka kajian berlandaskan terdiri dari Orientasi Kerjaya Protean (PCO) sebagai pemboleh ubah bebas, kebolehsuaian kerjaya (CAA) dan modal psikologi (PsyCap) sebagai pemboleh ubah pengantara, kejayaan kerjaya akademik sebagai pembolehubah bergantung, dan etika kerja Islam (IWE) sebagai satu interaksi. Data telah dikumpul dari 398 kakitangan akademik sepenuh masa yang bekerja di universitiuniversiti awam di Sudan melalui kaedah kaji selidik "drop and pick-up". Data telah dianalisa dengan menggunakan Smart-PLS dan perisian makro PROCESS. Keputusan menunjukkan bahawa PCO. CAA dan PsyCap mempunyai kaitan penting dengan kejayaan kerjaya akademik. Di samping itu, keputusan menekankan bahawa CAA dan PsyCap mempunyai kesan pengantaraan di antara PCO dan kejayaan kerjaya akademik. Walau bagaimanapun, pengantaraan yang dikendalikan, IWE, tidak dijumpai melalui laluan kebolehsuaian kerjaya. Kajian ini memberi implikasi secara teori dan praktikal, termasuk kepada pemimpin di Universiti untuk mengenal pasti sumber-sumber PCO dan psikologi sebagai ciri penting untuk meningkatkan tahap motivasi golongan akademik,

dan kekuatan demi menentukan kejayaan kerjaya mereka. Akhir sekali, keterbatasan kajian ini dibincangkan, dan arahan untuk penyelidikan masa depan dicadangkan.

Kata kunci: Kejayaan kerjaya akademik, modal psikologi, keupayaan menyesuaikan diri dalam kerjaya, etika kerja Islam, orientasi kerjaya protean, pemuliharaan sumber, teori determinasi diri.

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### LIST OF SYMBOLS AND ABBREVIATIONS

Career adaptability CAA : Construction career theory CCT : CS Career success : Conservation of resource COR : IWE Islamic work ethics : KSA Knowledge, skills, abilities : PCO : Protean career orientation Protean career theory РСТ : Person environment fit PE-fit : Psychological capital PsyCap : Self-determination theory SDT : Sudan university of science and technology SUST : University of Malaya UM : University of Khartoum UOK ·

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### **CHAPTER 1: INTRODUCTION**

#### 1.1 Research Background

Today's organizations have to continuously adapt to substantial changes in the surrounding work environment such as rapid technological advancements, flattened hierarchies, and decreased job stability due to financial constraints that make it increasingly harder for individuals to pursue a lifelong career within one single organization (Volmer & Spurk, 2011). Traditional career success is also affected by the unpredictable economic changes that affect organizations, which gave rise to new theories and approaches in order to cope with current changes (such as protean and boundaryless theory). Career success can be defined as a "dynamic and changing concept in explaining a person's actions in striving for self-development, progression and self-fulfillment" (Abu Said, Mohd Rasdi, Alias, & Sulaiman, 2015). It comprises the two dimensions of objective career success (OCS) and subjective career success (SCS). OCS is feasible to the third-party indicators such as salary, promotion, and position or external measures, whereas SCS is related to internal personal indicators such as job and career satisfaction.

Certain traditional and contemporary approaches are available for addressing the career success phenomenon in the work-environment whereby the traditional approach focuses on OCS and the modern approach focuses on SCS (Hall et al., 2018). For example, Hall (1976) and Arthur and Rousseau (1996) developed a contemporary approach for career advancement that is based on protean and boundaryless theory. This approach is characterized by a shift of responsibilities from organizations to employees by way of increasing the individual's freedom and growth as a core value (cf. Hall 2002, 2004). This new direction of career success is found to be specifically suitable for employees of institutions that provide services such as hospitals, universities, schools, banks, and the like. Relatedly, Hall and Baruch (2004) developed an academic career

success model in line with the new career approach (protean theory) with the aim to guide academic staff. Their study focused on selected universities that had adopted the new approach for career development based on the psychological contract shifting from the organisation to the employees and found that this change encouraged academic staff to be more actively involved in their career success rather than depend on their university.

Due to the importance of career success in academia, academicians and university management have called for additional studies to gain a better perspective of this phenomenon (Hall & Baruch, 2004; Abu Said et al., 2015) since the benefits derived from applying this approach are mutual; when the academic staff is more successful in their career, they will become more productive, which in turn will contribute to the university's sustainability. This in line with the findings of Spurk and colleagues (2019) who emphasised that career success is equally important for both individuals and organisations (Spurk, Hirschi, & Dries, 2019). At the individual level, career success increases the staff's self-esteem, commitment, engagement, and competent identity in particular areas of their career work in the short term (Hall & Chandler, 2005) and their feelings of satisfaction and happiness in the long term (Abele, Hagmaier, & Spurk, 2016). Furthermore, the career success achieved by the staff benefits the organization as well since personal employee success can eventually contribute to organisational success (Ng & Feldman, 2010). Moreover, career success has a significant impact on the academic staff performance by increasing their motivation and satisfaction, which in turn also increases their ability to foster the vision and mission of the university (Spurk et al., 2019).

Notwithstanding, career success contributes to employees' organisational commitment, self-efficacy, occupational/organisational embeddedness, happiness, and

physical or psychological well-being while reducing employees' turnover intention and depression (Spurk et al., 2019; Abele et al., 2016; Stumpf, 2014). However, the empirical evidence also revealed a lack of support from public universities for the academics' career success such as Malaysia (Abu Said et al., 2015), India (Choudhary, 2017; Noordin, 2009), and the Republic of Sudan (Zakaria & Abdalla, 2016). These cases are related to the psychological contract shift in career development.

Traditionally, the organisation is expected to provide training, funding, and other facilities for the development of the employee's career whereas nowadays more and more employees self-initiate and self-direct to their own career development (Briscoe & Hall, 2006; Defilippi & Arthur, 1996). In the case of Sudan, public universities still follow the traditional approach and provide little support for academics' career success. That showing their ignorance to apply the new approach to career success.

Therefore, this study focused on investigating the academics' career success from the new career perspective in public universities in Sudan, with specific emphasis on psychological resources. This is due to the crucial role of universities in building and developing nations in general, and human resources in particular in order to cope with the rapid changes that have a substantial impact on the current business world. The role of the university is not only to produce qualified human resources for potential organisations but also acts as a repository of knowledge for decision makers, researchers, and consultants in order to meet the organisations' targets and contribute to the country's growth and sustainability (Ng'ethe, 2012).

### **1.2 Higher Education Institutions in Sudan**

Sudan or the Sudan is located in Northeast Africa. It called officially the Republic of the Sudan where bordered by seven countries which are Egypt to the north, the Red Sea to the northeast, Eritrea to the east, Ethiopia to the southeast, South Sudan to the south, the Central African Republic to the southwest, Chad to the west, and Libya to the northwest. The number of Sudanese population in 2018 was 43 million people and occupies a total area of 1,886,068 square kilometres (728,215 square miles), which considered the third-largest country in Africa. In terms of religion, Sudan's predominant religion is Islam, and its official languages are Arabic and English. The main capital is Khartoum, located at the confluence of the Blue and White Nile.

Due to the important role of Sudan played in African continent in term of agriculture due to fertile lands and education industry which contribute many African country by hosting their students in different scholarship programmes (such International African University). However, higher education in Sudan has been affected by the different phases of economic, social and political change and development (El-Hassan, 1992). Historically, higher education in Sudan begins in the era of British colonial rule in the 19th century when Lord Kitchener came to Khartoum has proposed the founding of a college in remembrance of General Gordon in 1898. This college was officially established in 1902 and named 'Gordon Memorial College' later changed to University of Khartoum (UOK) after the country achieved independence in 1956 (MOHE, 2016). Since then, the academic higher institutions have received more attention from the successive national governments, especially under the government of President Omer El-Bashir, who came to power in 1989 (Gasim, 2010). This new government called Al-Engaz regime organised several national conferences in Khartoum on economic, political, and higher education development issues (Kilase, 2013). Also, the Ministry of Higher

Education decided in 1990 to apply new policies in higher education based on the recommendations given on these conferences (Gasim, 2010; Kilase, 2013) by amending the Act and Regulations of Higher Education that initiated what so-called 'revolution in higher education' with the objective to a) change the medium of instruction from English to Arabic (Arabicisation); b) integrating Islamic sciences into the curriculum (Islamisation), and c) to increase the number of universities (Kilase, 2013).

The reform of higher education has resulted in a drastic increase of Sudanese universities, which bears positive as well as negative implications for their academic staff. On the positive side, the number of universities has grown from five (5) public universities in 1989 to 30 public universities in 2016 (MOHE, 2016) and expanded from the two major states into covering all states in the Sudan. This rapid acceleration of growth has opened up new job opportunities which have a positive impact on the Sudanese society. On the other hand, the rising number of universities has negatively impacted on the career success of academic staff due to the limited availability of resources. For example, there is an imbalance in the student-academic staff ratio in classes (see Figure 1.2) (Saeed & Fadlallah, 2015), which causes dissatisfaction among the academic staff as they feel overworked and have invest an increasing amount of effort into controlling their packed lecture rooms. Moreover, the staff has to deal with a lack of teaching resources (such as references, syllable guides, and technical equipment). The change from English to Arabic as medium of instruction poses another challenge as they are not provided with adequate means for achieving the new regulation goals and fulfill the international standards (Gasim, 2010; Saeed & Fadlallah, 2015). These transitory shortcomings in higher education have a negative impact on the academic staff's career success and overall performance, which is documented in the Sudanese research literature (Shikieri & Musa, 2012).

#### 1.3 Challenges of Academic Staff in Sudanese Public Universities

Recently, the public universities in Sudan have experienced substantial challenges relating to enrolment expansion, brain drain among the academic staff, and reduction in public funding and world ranking (Zakaria & Abdalla, 2016). The main reason for these issues is found to be the low career success rate among academic staff (Saeed & Fadlallah, 2015) due to the lack of career success indicators of objective parameters such as position, promotion, salary (pay), and publications (4Ps) and subjective parameters such as job and career satisfaction (Arthur, Khapova, & Wilderom, 2005; Vos & Soens, 2008). In this respect, the data indicates that academic staff perceive a lack of motivation and satisfaction towards their career due to reduced career success indicators such as inadequate salary, complicated procedures of promotion, high work-load, and inadequate research funding (Gasim, 2010; Hamdy, 2007; Kilase, 2013; Roediger-schluga, Dachs, & Economic, 2006; Saeed & Fadlallah, 2015). That issues need to be elaborated in more detail as follows.

*High teaching loads* - The regular load of full-time faculty members is allocated between teaching, research, and professional and administrative duties (Zakaria & Abdalla, 2016). The teaching load is distributed per week as six (6) hours for full professors, nine (9) hours for associate professors, twelve (12) hours for assistant professors, fourteen (14) hours for lecturers, sixteen (16) hours for teaching assistant. However, this also means that academic staff need to devote a considerable portion of their work hours to teaching and marking rather than research and publication. In order to complement their low annual income, many academics choose to teach part-time in private universities, which further increases their already high teaching load (Zakaria & Abdalla, 2016).





*Inadequate salary* – The academic staff tend to immigrate to Saudi Arabi in order to achieve their success because the education system there look-like Sudanese system of education in terms of language medium of instruction, religion, and geographical position as one of the neighbouring countries. So, after doing the comparison between salaries Saudi Arabian universities and Sudanese universities (see Figure 1.1), it clearly known that academic staff in Sudan earn insufficient monthly salaries and bonuses. Hence, the majority are forced to distribute their time between public and private universities (Zakaria & Abdalla, 2016). Consequently, they have less time to conduct research, which may have an adverse effect on the overall quality of their knowledge and by extension their university's ranking (Zakaria & Abdalla, 2016).

*Increased enrolment rates* - Evidence has shown a rapid increase in the enrolment rates of undergraduates which jumped from 5,000 students in 1990s to more than 400,000 in 2018 (Gasim, 2010; MOHE, 2016) and resulted in a highly unfavorable 1:42 ratio of students per lecturer. This value exceeds the standard ratio of 20 students or less per

lecturer (see Figure 1.2) above which is experienced scarcity in the quality of learning and communication (Saeed & Fadlallah, 2015; Zakaria & Abdalla, 2016).



# Figure 1. 2: Students-faculty ratios in selected countries Adapted from: UNESCO Institute for Statistics

*Lack of research productivity and low university ranking* - Research productivity has a significant contribution to the universities' development and sustainability. However, in the Sudan, research has indicated that academic institutions run on small research budgets, which has a negative impact on publication and university ranking (Saeed & Fadlallah, 2015; Zakaria & Abdalla, 2016). When comparing Sudanese universities in terms of citation in the *Web of Science* platform created by the Institute for Scientific Information (ISI) with other peer African countries based on Open Access Scientific Institutional Repository (OASCIR) project at the University of Khartoum, the report showed that they are ranked 14th with only 774 published articles in top-tier journals (Table 1.1). As a result of a dearth in research efforts, the global ranking of Sudanese universities has been declining over the last few years where the top 20 Sudanese universities rotated between 2,000th and 14,000th (see Table 1.2). Therefore, concerned academics like Saeed and Fadalallah (2015) emphasised the need for Sudanese universities to provide more financial support to their academic staff for running research projects, publishing research, and participating in training and development strategies to compete with other countries.

*Lack of satisfaction* - Empirical evidence has shown that academic staff in Sudan experience a lack of satisfaction in their career (Shikieri & Musa, 2012), which Saeed and Fadallalah (2015) explained through the academics' lack of motivation due to fact that they are unable to procure financing for research.

In sum, all the evidence illustrated above are pointing out that academicians in Sudan face a lack of career success indicators. According to Selesho and Naile (2014), career success indicators such as salary, promotion, career progression, and development constitute the main factors for enhancing staff employability and reducing intention to move out of South Africa. Thus, the story of academic staff in the Sudan is related to the lack of career success indicators such as low salary and remuneration, the decline in publications, and low satisfaction with their job and career. All this results in a low level of career success, lead academic staff to engage in psychological or physical mobility (Liu & Liu, 2016). In response, the Ministry of Higher Education issued a new regulation aimed at improving the level of academics' career success by increasing the salary by adding extra allowances and incentives; however, this plan has not been implemented yet (Tribune Sudan, 2017).

No.	Country	No. of	Times	No.	Country	No. o	of Times
		Documents				Documents	cited
L	Egypt	18722	46211	16	Benin	688	1862
2	Tunisia	9026	19125	17	Zambia	664	3292
3	Nigeria	8046	14784	18	Mali	459	2246
4	Algeria	5781	10464	19	Gambia	404	5207
5	Kenya	3976	19207	20	Mozambique	394	1958
6	Cameroon	2142	5947	21	Namibia	378	2914
7	Ethiopia	1951	5382	22	Congo People's Rep.	368	1248
8	Ghana	1484	5210	23	Niger	301	978
9	Senegal	1160	4521	24	Rwanda	173	507
10	Zimbabwe	1072	4156	25	Congo	170	530
					Democratic Rep.		
11	Botswana	877	3450	26	Eretria	133	507
12	Burkina Faso	847	3260	27	Swaziland	107	NA
13	Ivory Coast	784	3128	28	Guinea	106	NA
14	Sudan	774	1947	29	Central African Rep.c	101	357
15	Madagascar	728	2741	30	Mauritania	100	NA

Table 1. 1: Web of Science documents in selected African countries over five years

#### Adapted from: Zakaria and Abdalla (2016)

The overall evidence showed that Sudanese universities have limited access to resources that are insufficient to meet the academics' career success vision. This problem calls for what is described in the career development literature as a "psychological contract shift" which induces the employees to be more independent in pursuing their career goals (Ballout, 2007). In dealing with career success on the basis of the psychological contract shift climate, researchers have suggested a new approach under the name of "new career theory" that is based on the two popular perspectives of protean theory (Hall, 1976) and boundaryless theory (Arthur and Rousseau, 1996). These two theories suggest that career management and progression are increasingly related to the individual level and not the organizational level (Chin & Rasdi, 2014).

No.	World Rank	University	Presence Rank	Impac t Rank	Openness Rank	Excellenc e Rank
1	2237	University of Khartoum	403	4470	1639	2446
2	3507	Sudan University of Science & Technology	378	7849	4125	3574
3	4852	Gezira University	2821	14664	4258	3671
4	5393	Neelain University	330	13410	5028	4397
5	6804	International University of Africa	424	11602	9593	4397
6	7336	Alzaiem Alazhari University	2901	16800	8233	4063
7	8100	Public Health Institute	24298	21668	9593	2339
8	8438	University of Medical Sciences & Technology	3635	19042	3923	4696
9	8495	Bayan College for Science & Technology	22234	4626	9593	5777
10	8686	Mashreq University	4605	8753	8718	5777
11	9720	Ahfad University for Women	12370	15344	9593	4279
12	10271	National Ribat University	3301	16091	8417	4914
13	10449	University of Gadarif	2737	19966	4691	4914
14	10744	University of Nyala	15487	8093	9593	5777
15	11850	Red Sea University	396	16704	6272	5777
16	12909	University of Science & Technology Omdurman	14329	11058	9593	5777
17	13246	University of Bahri	3703	17403	6544	5777
18	13496	University Shendi	4042	12662	9593	5777
19	13606	University of Kordofan	1717	18856	5734	5777
20	14015	Omdurman Islamic University	27450	14122	9593	4914

### Table 1. 2: Top 20 Sudanese Universities World Ranking 2018

### Source: Adapted from (http://www.ebometrics.info/en/aw/sudan, 2018)

This research study focuses on the protean career theory (PCT) to motivate Sudanese academic staff to achieve their career goals and not on boundaryless theory that encourages employees to follow their career development whether inside or outside of the current organisation on the basis of their personal interest. PCT, on the other hand, stimulates proactive employees towards their career success in the same organisation (Baruch & Hall, 2004). Currently, the protean model has been acknowledged as an important driver for the individual's career success in the field of academics since academicians are found to be more self-directed in achieving their career success (Baruch & Hall, 2004; Vos & Soens, 2008). In reference to universities, Baruch and Hall (2004) stated that "the academic career system has unique features" (P. 242) inasmuch as universities have a different career design compared to the business career system

established in firms and corporations. Today, however, academic staff find themselves in a changing and interconnected global environment that has altered all professions and industries and is highly competitive (Baruch & Hall, 2004). Given this new scenario, Riordan and Louw-Potgieter (2011) suggested to use the protean career model to explain academics' career success.

Furthermore, protean career orientation (PCO) postulates that employees should be more responsible and self-managed in pursuing their career rather than rely on their organisation (Baruch & Hall, 2004). Currently, careerists argue that academics are always protean-oriented and indeed responsible for their own careers (Volmer & Spurk, 2011). Accordingly, this research suggests a protean career orientation apart from other psychological resources such as career adaptability, psychological capital, and Islamic work ethic as important predictors for achieving academics' career success in Sudanese universities. These positive resources can be categorised under the 'positive psychology approach' as devised by Seligman (2002) who defined positive psychology as "a positive personal trait which is related to individual positive thinking and subjective experience ranging from past well-being and satisfaction into future hope, faith, and optimism to achieve professional advancement".

Consequently, this research is supported with positive psychological resources to help academics to attain their career success based on building and developing their psychological resources. This is assumption supported by the conservation of resources (COR) approach that involves personal characteristics, objects, conditions and energies employees seek to obtain (Hobfoll, 1989). It is argued that since these resources exist in any organisation, the individual only needs to focus on the resources he/she has at disposal. The basic tenet of COR theory is that "people strive to retain, protect, and build resources but what is threatening to them is the potential or actual loss of these valued resources" (Hobfoll, 1989, P. 516). It follows that Sudanese academic staff who need to work hard in order to gain and improve their psychological resources in the form of psychological capital, Islamic work ethics, career adaptability, and protean career orientation to generate additional resources for achieving their career success in the universities.

#### **1.4 Problem Statement**

Currently, career success has gained considerable scholarly attention in the career management field (Spurk et al., 2019). Career success is an important indicator not only for individuals but also for organisations as workers' success can ultimately contribute to the overall success of organisations (Gu & Su, 2016). Career success involves two measurements that objective career success (OCS) such as pay, position, promotion, and publication; and subjective career success (SCS) such as job and career satisfaction. Moreover, career success has been investigated from different perspectives such as students' success (Ang, Hwa, & Ramayah, 2010), managers' success (Heslen, 2005; Stumpf & Tymon, 2012), and career success in medicine (Kaderli, Muff, Stefenelli, & Businger, 2011; Sanders, Breland-Noble, King, & Cubic, 2010; Santos, 2016). However, there is a lack of studies that investigate the academics' career success in universities, particularly in a non-western context like the Sudan.

In the case of Sudanese universities, there is a lack of objective and subjective career success indicators among academic staff, which prevent them of continuing work with high commitment and enthusiasm. This because the previous studies have shown that academic staff are paid low salaries, are discouraged by complicated procedures of promotion, lack job satisfaction and motivation, and are restricted by limited funds for research and publication (Saeed & Fadlallah, 2015; Zakaria & Abdalla, 2016; Shikieri & Musa, 2012).

It can be summarized here that the above-mentioned factors reflect the problem of career success failure among academic staff in the Sudan. Although the phenomenon of career success has been extensively studied in the western context, the gap remains open in terms of the geographical context of career success studied, the nature of career, and the career approach or theory. Accordingly, western studies on career success were focused on academics' success in the field of engineering and technology (Robinson & Cooper, 1984), in the medical field (Golper & Feldman, 2008), and gender (Leahey, Crockett, & Hunter, 2008; Kaderli, Muff, Stefenelli, & Businger, 2011). However, there are only two studies known to the researcher that focus on the career success of academic staff in a non-western context that were conducted in Malaysia and South Africa respectively (Abu Said, Mohd Rasdi, Abu Samah, Silong, & Sulaiman, 2015; Riordan & Louw-Potgieter, 2011). The first study attempted to create a career success model for academics in Malaysian research universities (Abu Said et al., 2015) focusing on the traditional career perspective in terms of organisational support, extraversion, and personal fit while the second study concentrated on the academic career success of women in South Africa (Riordan & Louw-Potgieter, 2011).

As mentioned earlier, the two approaches used for predicting career success are the traditional approach and the new approach. What is relevant here is for this study is that most of the previous research focused on the career success of academics following the traditional career approach. In contrast, this research focuses on the academics' career success in the light of the protean career theory (i.e., is one part of new career theory) and other personal resources such as psychological capital (Luthans, 2002), career
adaptability (Savickas (1997), and Islamic work ethics (Ali, 1988) in the non-western cultural context of the Sudan. Furthermore, there is a lack of studies have integrated the two dimensions of career success (OCS and SCS) a single model. However, this study focuses in the simultaneous value of two career success's dimensions in one model for having a full image of career success. For achieving that, the model understudy was grounded on the new career theory (Hall, 1976) which suggests that academic staff should become more self-directed and self-managed to achieve their career goals rather than depend on their universities' promotion mechanisms. The other factors that will be included in this study are guided by the conservation of resources theory (Hobfoll, 1989) and self-determination theory (Deci & Ryan, 2000) that focus on boosting positive personal strengths and on developing psychological resources.

According to COR theory tenet is that the presence of adequate personal resources contributes to individual well-being (Hobfoll, 1989). It furthermore suggests that people are motivated to develop and maintain their existing resources and then acquire new resources in order to achieve positive outcomes (Alarcon, Bowling, & Khazon, 2013). Hence, this research integrates four valuable personal resources for enhancing the academics' career success in Sudanese universities.

Firstly, protean career orientation constitutes an essential antecedent for academic' career success (Vos & Soens, 2008) as academics tend to be more self-directed in pursuing their career goals (Baruch & Hall, 2004).

Secondly, psychological capital resources such as self-efficacy, hope, resilience, and optimism are considered as important motivators for people to experience psychological well-being (Alarcon et al., 2013). This follows that academics in particular possess higher psychological resources and are thus more motivated to succeed in their career.

Thirdly, career adaptability resources (i.e. concern, control, curiosity, and confidence) are crucial for academics to cope with career challenges in the workplace. Moreover, career adaptability is positively related to career success and is relevant to the protean attitude as well (Spurk, Volmer, Hagmaier, & Kauffeld, 2013). In other words, individuals who embrace career adaptability resources tend to be more successful in their career as they have an efficient career plan that will assist them in coping better with unforeseen events, and overcome the expected hurdles at the workplace (Spurk et al., 2013).

Finally, Islamic work ethics (IWE) considerable as a personal/contextual resource that has a positive impact on employees' performance. Previous studies have shown that employees who have high IWE enjoy high motivation and loyalty in the workplace and also low stress and turnover intention (Maaz-ud-Din, Farooq, & Khan, 2017). Moreover, Rokhman (2010) confirmed that IWE is positively related to positive outcomes in the form of job satisfaction and organisational commitment, yet is negatively related to deviant work outcomes such as turnover intention and depression. Accordingly, IWE is considered an important predictor for academics' career success and other positive outcomes, although only few studies have investigated this relationship. Therefore, this research suggests the above-mentioned resources as a new model for helping academic staff to utilise their positive psychological resources and achieve their career success in Sudanese universities.

# 1.5 Research Questions

This research will answer five main questions that are related to the impact of positive psychological resources on academics' career success.

- (1) What is the influence of protean career orientation (PCO) on career adaptability (CAA), psychological capital (PsyCap), and academics' career success?
- (2) Do PsyCap and CAA mediate the relationship between PCO and career success?
- (3) What is the impact of Islamic work ethics (IWE) on CAA and PsyCap?
- (4) To what extent will IWE moderate the direct relationship between PCO and both CAA and PsyCap resources?
- (5) Is there any moderated-mediation effect for IWE on the indirect relationship between PCO and career success through both mediators CAA and PsyCap?

# 1.6 Research Objectives

This research aims to achieve the following objectives which are related to investigating the impact of positive psychological resources on academics' career success in Sudan.

- To examine the impact of protean career orientation (PCO) on career adaptability (CAA), psychological capital (PsyCap), and academics' career success.
- (2) To identify the mediation effect of CAA and PsyCap on the relationship between PCO and career success.
- (3) To investigate the impact of Islamic work ethics (IWE) on CAA and PsyCap.
- (4) To examine the direct moderation effect of Islamic work ethic (IWE) on the relationship between PCO and both CAA and PsyCap.
- (5) To investigate the moderated mediation effect of IWE on the indirect relationship between PCO and career success through both CAA and PsyCap.

#### **1.7** Scope of Research

Career success is related to the positive personal experiences associated with the career's outcomes at the workplace (Arthur et al., 2005). In light of this definition, career success is evaluated through the individuals' previous psychological or work-related experience. Furthermore, career success is regarded as an important construct for evaluating any type of occupation as it has been used in the context of occupation understudy. Relating to this, Abele et al. (2011) argued that career success is a contextualised phenomenon and differs from one occupation to another (e.g., university teacher vs medical doctor), and from one institution to another (e.g., public vs private). Accordingly, this research concentrates on evaluating the academics' career success in six prominent Sudanese public universities: Khartoum University, Sudan University of Science and Technology, University of Gezira, Omdurman Islamic University, Al-Neelain University, and Al Zaim Al Azhari University. These six universities are according to the Ministry of Higher Education in Sudan – the top public universities in terms of world ranking, number of academic staff and publications, number of faculties and graduates and historical significance (MOHE, 2016). Therefore, this research focuses on the participants who are academicians employed at public universities in Sudan.

#### **1.8** Significance of Research

Recent scholarship has noticed a marked shift in the nature of career success, which is due to the ever-changing global environment that significantly affects the structure of organisations and their growth. Modern organisations have to raise the level of flexibility value in order to adapt, respond, and compete in this turbulent economic environment (DiRenzo, 2010). While careers were built and promoted within a few organisations, employees today are more likely to adopt new career models in order to pursue their careers in various organisations, divisions, locations, and even industries (Sullivan & Arthur, 2006).

While yesterday career was guided by the organization, today it is subjected to individual self-management based on new career theory that encourages employees to become more independent and actively seek professional success and growth rather than passively accept and follow organisational trajectories (Hall & Chandler, 2005). The protean career orientation (PCO) is considered a contemporary career approach that is concerned with enhancing employee ability and responsibility to manage career success and advancement (Arthur et al., 2005). Some argue that this new orientation has emerged in the research literature in response to the organisations' increasing violation of the psychological contract through the lack of guiding employees' career success (Granrose & Baccili, 2006). They found that the majority of employees perceived that their organisation had failed to meet their perceptions in terms of providing job security and training. It follows that this failure on part of the organisation reduces the employees' commitment and their chances for achieving career success (Granrose & Baccili, 2006). Therefore, this research employs positive individual psychological resources rather than organisational resources for enhancing the chances of academic staff to achieve their career goals in the Sudan.

Therefore, the significance of this research can be outlined in the following aspects. Firstly, this research contributes to the body of knowledge by quantitatively investigating the influence of positive psychological resources (PCO, CAA, PsyCap and IWE) on academics' career success in the Sudan, which differs from previous research that mostly focused on qualitative studies (Baruch & Hall, 2004; Ng & Feldman, 2014b; Tengku Abdul Jalal, Abu Said et al., 2015) or on the medical staff, students or managers (Ang et al., 2010; Heslin, 2005; Kaderli et al., 2011; Santos & Santos, 2016). Moreover, previous literature revealed that the majority of studies following the traditional career approach emphasized on the role of the organisation (Abu Said et al., 2015; van Dierendonck & van der Gaast, 2013) rather than self-initiative as suggested by Hall (1976; 2004).

Secondly, career success has been operationalised as an objective and subjective career success (Ng & Feldman, 2014b). However, there is a debate among scholars of career management regarding the importance which one of these indicators is more promising contributing to career success. Earlier scholars supported the idea that objective indicators are more important as most of the studies on career success were focused on objective measures such as salary and promotion (Arthur et al., 2005) whereas the current literature suggests that subjective indicators such as job and career satisfaction are more important (Ng & Feldman, 2014b). Only a few studies have attempted to resolve this dispute by combining both objective and subjective indicators of career success (Spurk et al., 2013; Vos & Soens, 2008; Yang & Chau, 2016). Based on the above statements, and in line with the call made by Vos and Soens (2008) and Hall et al. (2018) to examine both career success indicators in order to achieve a comprehensive conclusion, so this research investigates the two components of career success (i.e. objective and subjective) by focusing on academics due to its unique type of academic' career which consider additional measurements of career evaluation such as the number of publications and peer reviews (Abu Said et al., 2015).

Thirdly, this research introduces the two individual positive resources of psychological capital and career adaptability as mediators for broadening the understanding of COR theory application in the field of career success in academia. Furthermore, this research also introduces Islamic work ethics (IWE) as a moderator since it is considered as a part

of the contextual resources, particularly in the Muslim cultural context. Thus, these positive psychological resources increase the importance of this research by contributing to educational development through increasing the academic staff's positive psychological resources in order to ensure their career success by improving employability, life satisfaction, and psychological well-being (DiRenzo, 2010). Finally, this research contributes to different fields of research such as new career research (Hall, 2002; Baruch & Hall, 2004), career success research (Abele, Spurk, & Volmer, 2011), academics' career model (Abu Said et al., 2015), Islamic work ethics (Ali, 1988) and positive psychology (Seligman, 2002) by employing psychological capital and career adaptability resources as a mechanism in the protean career orientation – academics' career success relationship. Moreover, the present research combines theories and findings from occupational psychology, ethics, and positive psychology resources to develop a model of academics' career success in the workplace.

# **1.9** The Definition of Terms

The definitions of key constructs used in this research are as follows:

#### **1.9.1 Protean Career Orientation**

PCO is defined as "a career in which the person is 1) values-driven in the sense that the person's internal values provide the guidance and measure of success for an individual's career; and 2) is self-directed in personal career management having the ability to be adaptive in terms of performance and learning demands" (Briscoe & Hall, 2006, p8).

#### 1.9.2 Career Adaptability

Savickas (1997) defined "career adaptability" as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes at work and working conditions."

# 1.9.3 Psychological Capital

PsyCap is a composite construct defined as "an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans, Avolio, Avey, & Norman, 2007, p. 542).

#### 1.9.4 Islamic Work Ethics

Beekun (1997) defined IWE as "a set of moral codes and goodness principles that differentiate right practices from wrong at the workplace based on Islamic perspective" (Tufail, Ahmad, Ramayah, Jan, & Shah, 2016).

# 1.9.5 Career Success

Career success refers to "the positive psychological or work-related outcomes or achievements one accumulates due to the work experiences" (Seibert, Crant, & Kraimer, 1999, p. 417).

# 1.10 Organisation of Research

This research is divided into five chapters. Chapter one provides an introduction to the research regarding career success and offers a short overview of the research context

wherein career success improves the academics' satisfaction, productivity and retains their commitment to the organisation. Chapter two reviews the relevant literature pertaining to career success and positive psychological resources (PCO, CAA, PsyCap, and IWE). Also, the theoretical framework and development of the research hypotheses will be presented. Chapter three discusses the research methodology and chapter four analyses the research hypotheses and presents the findings of the research. Finally, the managerial implications and the conclusions of the study will be discussed in chapter five (see Figure 1.5).

# **CHAPTER 2: LITERATURE REVIEW**

#### 2.1 Introduction

This chapter is about the review of the existing literature on career success in general and academics' career success in particular, including other positive psychological resources. Furthermore, essential aspects are reviewed such as definitions, antecedents and outcomes, construct dimensions, operationalisation, and measurements, in addition to explaining the interrelationships between all constructs of the understudy, the evolution of instruments, and the theories that support the research model. Finally, this chapter presents the hypotheses development related to the theoretical framework of this research.

# 2.2 Career Success Overview

In general, career success is investigated from different perspectives related to contexts such as manager success, student success, worker success, and teacher success. However, these career contexts are different in terms of core evaluation, perception, and measurements. Here, Abele, Spurk, and Volmer (2011) observed that career success varies from one occupational context to another and measured differently based on the context of career understudy. Thus, this research focuses on academics' career success in the Sudan, where little is known about their experiences of academicians working in Sudanese universities. Besides that, the academic psychological contracts possess unique characteristics such as professional challenge, learning environment, social status, job security, professional development, suitable working conditions, and flexibility, while their career advancement is based on performance (measured by publications) rather than tenure and is self-initiated (Abu Said et al., 2015; Tengku Abdul Jalal et al., 2015). Therefore, "Career success is an important topic for researchers, working people, and host societies alike" (Arthur et al., 2005). Consequently, the concept of career success has received more attention from scholars during the last two decades (Santos & Santos,

2016). This is due to the general recognition that career success has a significant effect in the workplace for both individual behaviours and organisation outcomes (Ballout, 2007).

Historically, career used to be conceptualised based on occupation and job perspectives meaning that the earliest studies published before 1950 focused on a personenvironment fit (P-E fit) as evident in Hughes (1937) who studied the institutional office and the person, and Anderson and Park (1923) who studied homeless men. However, beginning with the 1950s, scholars began directing their attention towards the notion of career itself whereby "career theorists have increasingly promoted the idea that career is not only job or occupation but a lifelong process of deciding how one wants to live his/her life" (Reardon, Lenz, Sampson, & Peterson, 1999, p. 3).

Moreover, Hughes (1958) observed that the career concept emerged with the industrialization and the bureaucracy notions which were relatively associated with the organization. He assumed that the individual depends upon the organisation for career development process in terms of promotion, job security, job satisfaction and career performance (Shen et al., 2015). The career development process should lead to the success of both employee and organisation. Hence, the scholars studying career have classified the career measurements that lead to success as objective and subjective career success. Objective career success is understood as the extrinsic or tangible motivations that are experienced by individuals during their career progress (such as salary and promotion) and are controlled by the organisation (Arthur et al., 2005). On the other hand, subjective career progress is controlled by an individual's feeling towards his/her job (such as job/career satisfaction) that results from the employee's intrinsic or internal motivations (Ng & Feldman, 2014b).

In general, there are two schools of thoughts reflected in scholarly works of career success, namely the traditional and the contemporary school. Those following the traditional school of thought exhibit a keen interest in studying objective career indicators (Arthur et al., 2005; Ng & Feldman, 2014b; Hall, 1996; Ng et al., 2005; Vos & Soens, 2008) whereas those following the contemporary school pay more attention to subjective or intrinsic indicators of career success (Colakoglu, 2011; Ng & Feldman, 2014b; Ngo, Foley, Ji, & Loi, 2014). However, to date, studies that combine the two components of career success are still scarce, despite the fact that the extrinsic career success has a positive effect on intrinsic career success and vice-versa (Abele & Spurk, 2009; Spurk, Hirschi, & Dries, 2019). Recent studies have also affirmed the importance of combining the two construct's dimensions in order to achieve and reflect the overall effect of career success on individuals and organisations (Abele & Spurk, 2009; Otto, Roe, Sobiraj, Baluku, & Garrido Vásquez, 2017).

Although a plethora of career success studies has been published, they rarely focus on the phenomenon of career success in the academic context (Abu Said et al., 2015) or outside western society, the exemption being Malaysia (Abu Said et al., 2015) and South Africa (Riordan & Louw-Potgieter, 2011). Furthermore, researchers examined academics' career success in university as reflecting students' success (Ang et al., 2010) or applied it strictly to the medical field (Golper & Feldman, 2008) or gender (Leahey et al., 2008; Riordan & Louw-Potgieter, 2011). In contrast, this research focuses on developing the model of the academics' career success applied to academic staff or university lecturers by using individual positive psychological resources (PCO, PsyCap, IWE, and CAA) in a definite non-western context, namely the Sudan.

# 2.2.1 Career Success Operationalisation

Although a truly comprehensive definition of career success has yet to be devised, scholars have used career success in relation to occupational background and environment (Otto et al., 2017). As a result, career success is usually defined as "the positive psychological or work-related outcomes or achievements one accumulates as a result of work experiences" (Seibert, Crant, & Kraimer, 1999, p. 417). It is considered a positive career outcome related to a person's experiences over time. Accordingly, Arthur and his colleagues defined career success as "the accomplishment of desirable work-related outcomes at any point in a person's work experiences over time" (Arthur, Khapova, & Wilderom, 2005, p. 179). Based on these definitions, career success can be identified by tangible and intangible indicators, in other words objective/extrinsic and subjective/intrinsic indicators (Ballout, 2009; Hirschi, Nagy, Baumeler, Johnston, & Spurk, 2017). Objective parameters such as salary, promotion, and hierarchical status are concerned with tangible or observable outcomes, whereas subjective evaluation of one's career (Abele & Spurk, 2009; Ballout, 2009).

From the subjective view, people have differences in career aspirations, values and desires towards organisational factors such as work status, income, employment security, and progression in their jobs and learning process as well as the importance of their work-family balance in terms of time spent versus gained benefits (Arthur et al., 2005). However, objective career success is related to the social role and official position at the workplace based on income, job level, occupation, family situation, and tasks (Arthur et al., 2005). Further, objective career success also reflects the shared social understanding of employee rather than the individual understanding (Arthur et al., 2005). Here, the majority of research articles refer to objective success to progression, advancement, or

salary (pay) related to career. Objective success has been measured by external marketability (Yang & Chau, 2016), research publication, promotion, and current position (Abu Said et al., 2015) whereas subjective career success has been measured by intrinsic indicators such as job and career satisfaction (Erdogan & Bauer, 2005) and is currently operationalised as internal marketability (Yang & Chau, 2016) and career satisfaction (Abu Said et al., 2015).

Consequently, there is no consensus among scholars on the fundamental indicators that measure career success accurately, as pointed out by Arthur et al. (2005) who recommended that future research should identify the essential indicators for measuring career success. Therefore, this research draws on the work of Arthur et al. (2005) and Hall et al. (2018) who induce future research to combine the two constructs' dimensions of career success (OCS and SCS) in a single study.

#### 2.2.2 Career Success Approach

The modern career success approach has emerged as a consequence of the volatile environmental conditions that resulted from globalization and technological advancements. These changes prompted the decision-makers to adopt new requirements for selecting and employing individuals who tend to be self-directed, proactive and flexible (Ballout, 2009).

Firstly, the traditional approach encompasses individual, structural, social and behavioral perspectives (Ballout, 2007; Ng et al., 2005) detailed as follows.

 (i) The individual model based on one's competences such as education, training, and experience. That factors supported by Becker's (1964) who found the human capital theory, which suggests that institutions allocate the rewards to their members based on their contributions to work (Chamorro-Premuzic & Kaiser, 2013). Accordingly, the employee needs to demonstrate his/her competencies, such as knowledge, skills, and abilities (KSA) to contribute to the organisation. Several authors have investigated the role of human capital in career success, albeit in different contexts such as Frederiksen and Kato (2011) who investigated the relationship between human capital and career success in Denmark based on data collected 1992 – 2002 and emphasised the positive effect of human capital on employees' career success. More recently produced empirical evidence has supported the positive relationship between human capital and career success (Ballout, 2007; Ngo, Foley, Ji, & Loi, 2014).

- (ii) The structural model reflects the organisational characteristics that either assist the employees in pursuing their career success or impede employee advancement (Ballout, 2007). These characteristics refer to size, prestige, and the internal promotion process in the organization, which means that the structural model relates to the management theory of the firm. It suggests that the organisation supports objective career success through providing a specific plan for an employee to grow in his/her career such as facilities for career mobility in the hierarchy, which in turn lead to individuals' pay increases as long as they move up in the organisation hierarchy.
- (iii) The **behavioural model** reflects to which extent the individual has control over his/her career choice and advancement (Ballout, 2007). Accordingly, the proactive role represents the persons' anticipatory action toward their initiative to improve their status quo and change the workplace rather than passively adapting to the present conditions (Seibert, Maria, & Crant, 2001).

Furthermore, Grant proposed a model of proactivity at work that leads to positive career outcomes (Seibert et al., 2001). Proactive work behaviour is related to career outcomes, particularly to career success as demonstrated in Cha, Kim, Beck, and Knutson (2017) who investigated the impact of proactive work behaviors on objective and subjective career success for 280 revenue managers in the USA. The result showed that proactive work behaviors are positively related to subjective/intrinsic career success, yet negatively related to objective/extrinsic career success (Cha et al., 2017).

Secondly, the contemporary approach or 'new career theory' covers both boundaryless and protean career orientations. This approach has emerged in response to the shift that occurred in the psychological contract at the workplace. Before the shift, the organisations solely controlled career progression and advancement while today, individual employees have adopted the self-career management perspective (Arthur et al., 2005; Arthur & Rousseau, 1996; Hall, 1996). In other words, employees have learned to become more independent in directing their career progress and development and no longer passively depend on their organisations. This shift or 'new deal' not only allows but rather expects the employees to engage in diverse career self-management activities, which in turn helps them to evaluate their own career options, realise their personal career goals and ensure their continued employability (Vos & Soens, 2008). These two new career perspectives based on boundaryless and protean theory are discussed below in more detail.

Firstly, the boundaryless orientation emerged in the early 1990s and is now considered as one of the contemporary theories that weight organisations as well as personal goals, particularly in achieving career success. In 1996, Defilippi and Arthur have defined boundaryless career orientation as "an individual's independence from the routinization in organisational career arrangement". In other words, employees consider the available opportunities in the work market and are encouraged to go beyond one single employer (Abessolo, Andreas, & Jérôme, 2017). In 2006, Sullivan and Arthur conceptualised the boundaryless career using the two dimensions of physical and psychological mobility (Sullivan & Arthur, 2006).

Currently, these dimensions have been re-conceptualised based on boundaryless mindset and organisational mobility preference (Verbruggen, 2012). A boundaryless mindset refers to employees' preference towards proactivity and continuity of work-related relationships across departmental and organisational boundaries, whereas organisational mobility preference refers to a personal propensity toward physically crossing organisational boundaries (Verbruggen, 2012). In this context, Verbruggen (2012) found that a boundaryless mindset related positively to objective career success in terms (wage and promotion), while organisational mobility preference leads to less objective career success (promotion), and lower subjective career success (job and career satisfaction). Similarly, there is another study on individuals' attitude towards psychological and physical mobility and the behavioral paths of employees to experience career success. The result showed that employees with a psychological mobility attitude are more likely to achieve subjective career success (career success (promotion) & galanaki, 2016).

Secondly, Protean career orientation focuses on the individual responsibility of and has control over his/her career (Hall, 1996). This new career theory was suggested by Hall (1976) in response to the violation of the psychological contract by changing the employment conditions. Thus, unlike their predecessors, contemporary employers look for meta-skilled employees who are responsible and self-managed in their careers (Granrose & Baccili, 2006). However, Granrose and Baccili (2007) found that the majority of employees consider the importance of traditional career goals such as job

security and upward mobility, although they believe that their organisation fails to fulfil these perceived obligations. This finding indicates that organisations violate the psychological contract obligations toward employees' perceptions of career success in terms of job security, training, and promotion, which in turn decreases their organisational commitment and increases their turnover intention (Granrose & Baccili, 2006).

Therefore, the protean career concept (PCC) proposes to reduce these violations in the psychological contract by focusing on individuals' motives to achieve career success through following a particular career path (Gubler, Arnold, & Coombs, 2014). According to PCC, an individual employee needs to adopt the human capital perspective by focusing on continuing training and learning to increase his/her experience (Ballout, 2007). Some studies combined these two contemporary approaches as they have the same functions or are synonyms in their effects on employee career success (Arthur & Rousseau, 1996; Eby, Butts, & Lockwood, 2003; Hall, 1996). However, recently, a distinction is made between these two concepts in terms of defining the operationalisation of protean career and identifying the specific period that employees would be affected by protean career attitude, in addition to considering the differences in achieving career success (Briscoe & Hall, 2006).

In sum, the existing career success literature showed that several gaps still need to be filled; firstly, the integration of OCS and SCS dimensions in a single model and the impact each has on the other in order to resolve the paradoxical findings such as OCS predicting SCS and SCS predicting OCS. Secondly, there is a lack of studies on career success in an academic environment, as already suggested a decade ago (Hall & Baruch, 2004). Finally, there is a dearth of research that focuses on exploring career success from the modern career perspective such as protean career orientation. Hence, this research

focuses on examining academics' career success from the modern career perspective and integrating both OCS and SCS in the research model.

# 2.3 **Positive Psychological Resources**

Today, positive psychology has become a popular trend used in psychology, which is evident from the published educational, philosophical, and psychological studies (Han, 2015). The concept of positive psychology emerged in the middle of the 20th century in the form of motivation theories. For example, Maslow (1943; 1954) proposed a dynamic theory of motivation including internal/intrinsic and external/extrinsic motivation as energy and effective process that leads to personal, social, and academic well-being (Pajares, 2001). Since then, positive psychology has become more and more prevalent in terms of theory and research (Han, 2015).

According to Rao et al. (2015), positive psychology is built on the strong belief that people would like to have a meaningful life, improve the positive sides within themselves, and enhance their experiences about love, work, and play. In addition, positive psychology comprised of three useful parts that "positive emotions, positive individual traits, and positive institutions" (Rao, Donaldson, & Doiron, 2015). Here, positive emotions are related to the study of individual's contentment with the past, his/her happiness in the present, and his/her hope for the future. Positive individual traits concern the strengths and virtues such as "the capacity for love and work, courage, compassion, resilience, creativity, curiosity, integrity, self-knowledge, moderation, self-control, and wisdom". Finally, positive institutions include the strengths that foster better communities such as justice, responsibility, civility, parenting, nurturance, work ethic, leadership, teamwork, purpose, and tolerance (Rao et al., 2015).

Therefore, the aim of positive psychology is to catalyse a human psychological mentality that is capable of repairing the worst things in life and also of building the best qualities in life (Seligman, 2002). Seligman argued that in order to address the imbalance in human psychology "we must bring the building of strength to the forefront in the treatment and prevention of mental illness" (Seligman, 2002, p. 3). This increased strength enhances the employee's energy and motivation and leads to valuable outcomes such as career success, happiness, life satisfaction, and psychological well-being. He further described positive psychology as a subjective experience formed from past well-being and satisfaction as a result of flow and joy, which in turn leads to happiness in the present and builds the individual's cognition of his/her future in terms of hope, optimism, and faith. At the individual level, positive psychology is understood as depicting positive personality traits such as love and vocation, courage, and interpersonal skills (Seligman, 2002; Han, 2015). In light of this, the present research employs positive psychological capital, and Islamic work ethics as resources that help employees to achieve their career goals.

#### 2.3.1 Protean Career Orientation

Protean career orientation (PCO) received increasing attention in the career literature during the 1990s (Abessolo et al., 2017; Volmer & Spurk, 2011). It emerged from Hall's book *Careers in Organisations* published in 1976 (Arnold & Cohen, 2008). Hall was one of the first authors who advocated for the validity of the contemporary career approach which stands on the shift of psychological contract and career advancement and depends on individual self-management rather than organizational management (Gubler et al., 2014). According to Gubler et al. (2014) and Chin and Rasdi (2014), 'protean' comes from Proteus, the ancient Greek god of the river "who was able to change his form at will" (Gubler et al., 2014, pp. 5,6). However, in the career field, the quality of being

'protean' describes a self-determined and values-driven career in relation with individual psychological success (Baruch & Hall, 2004). Further, Gubler et al. (2014) observed that the definition given by Hall (1976, p. 201) is the definition most frequently cited in the literature:

The protean career is a process which the person, not the organisation, is managing. [...] The protean career is not what happens to the person in any one organisation. The protean person's own personal career choices and search for self-fulfilment are the unifying or integrative elements in his or her life. [...] In short, the protean career is shaped more by the individual than by the organisation and may be redirected from time to time to meet the needs of the person.

Relatedly, PCO depends on an individual's goals, freedom and self-growth, and intrinsic motivation or psychological success (Hall, 2004). Earlier, Hall (1996, p. 10) reasoned that "the path to the top has been replaced by the path with a heart." In other words, the path to reach the top of the organisation's ladder has been replaced by internal motivation, which proactively increases one's responsibility toward his/her career rather than relying solely on the organisation.

Additionally, Briscoe and Hall (2006) defined PCO as "a career in which the person is 1) values-driven in the sense that the person's internal values provide the guidance and measure of success for individual's career; and 2) self-directed in personal career management having the ability to be adaptive in terms of performance and learning demands" (p. 8). This definition concerns the status or orientation the individual takes for his/her career rather than the career structure itself (Briscoe & Hall, 2006). The two researchers also operationalised PCO into two dimensions (values-driven and selfdirected) that is now frequently used in PCO studies (Volmer & Spurk, 2011; Wong et al., 2017). As a result of the popularity of these measurements, the research of protean career has intensified considerably (Hall, Yip, & Doiron, 2018) (see Figure 2.1).

Overall, PCO has proved to be a crucial construct that develops the human psychological success, career satisfaction, life satisfaction, and intention to stay (Cao, Hirschi, & Deller, 2013) as well as work-life balance (Direnzo, Greenhaus, & Weer, 2015) and employees' psychological well-being (Rahim, 2017; Rahim & Siti-Rohaida, 2015). In a different context, Waters and colleagues found that PCO assists employees in thinking more about their career than their organisation, which leads them to adopt a selfdirected and values-driven perspective for career development (Waters, Briscoe, & Hall, 2014). In contrast, Gulyani and Bhatnagar (2017) found that PCO has a significant relationship with passion and proactive work behavior after studying 255 employees in India (Gulyani & Bhatnagar, 2017). Similarly, Herrmann, Hirschi, and Baruch (2015) found that German employees showed that PCO positively predicts proactive career behaviors and career satisfaction. These results suggest that individuals with high PCO will be proactive, passionate, and satisfied toward their success in career. In line with career success, researchers stressed the significant effect of PCO on career success. According to Vos and Soens (2008), PCO has a positive impact on career success among 289 employees in Belgium. This result is supported by the recent study of Kiong and Yin-Fah (2016) who concluded that PCO is positively related to career success among 352 of academic staff in Malaysia.

Despite the importance of PCO at the workplace, there is a lack of research applying protean career theory to a non-western cultural context (Briscoe, Hall, & Frautschy DeMuth, 2006; Hall, 2004) since it emerged in the US before expanding into Europe and

Australia (Arnold & Cohen, 2008). In support, the last meta-analytical study showed that most new career theory studies were conducted in western cultural contexts (Kostal & Wiernik, 2017). Therefore, its validity needs to be explored in different industrial types, contexts, and cultures, especially after the most recent acknowledgement of the Protean Career Theory (Hall et al., 2018).

#### 2.3.1.1 The Dimensions of Protean Career Orientation

PCO has been measured by the two dimensions of self-directed and values-driven or intrinsic work values, as applied in most protean career research studies since 2006. Discovered by Hall in 1976 as a new career concept, PCO was not operationalised until Briscoe and Hall (2006) founded the proper dimensions for measuring and evaluating PCO quantitatively. The first-dimension concerns with career development and growth based on independent career management strategies rather than the standards of others whereas the second dimension depends on individual intrinsic values in terms of creating and evaluating personal career goals (Wong et al., 2017). Although the scale of Briscoe and Hall (2006) is popular among PCO studies, it is criticised for its length (Porter, Woo, & Tak, 2016) and multi-dimensionality of construct (Baruch, 2014b), which makes its application difficult for non-experts. Kostal & Wiernik (2017) confirmed that the most frequently used scales are the one developed by Briscoe and Hall (2006) and that by Baruch (2014) (see Table 2.1). Related to this, Hall, Yip, and Doiron (2018) recommended that more research is needed to increase the validity of the PCO's scales.

On the other hand, empirical studies showed the importance of combining both measures to evaluate the PCO. According to Volmer and Spurk (2011), individuals with PCO (self-directed and value-driven) employ their personal identity to arrive at their career decisions. They agree with Briscoe et al. (2006) that values-driven individuals

shape their career according to their internal values and beliefs inversely to organisational values and beliefs while self-directed individuals pursue their careers relating to personal views of career goals. However, Gubler et al. (2014) argued that being values-driven does not necessarily mean that personal values contradict organisational values. This counter-argument has also been validated by different authors such as Arnold and Cohen (2008) and Baruch (2014b) who amended Briscoe's and Hall's scale.

Therefore, the term is conceptualised as an individual following his/her inner view rather than someone else's view, regardless of whether this is in line with or against to any organisational values (Gubler et al., 2014). Accordingly, Gubler et al. (2014) responded to the suggestions made by Hall and colleagues regarding the importance of meta-competences (identity and adaptability) and redefined the existing protean career concepts by adding the two crucial components of identity and adaptability. Thus, identity is "the simultaneous existence of stabilising forces" and adaptability is "the capability to adapt easily to changes in the environment". Both new dimensions are considered highly valuable as long as an individual follows a defined path based on his/her own identity, values, adaptability, and self-direction (Wong et al., 2017).



# Figure 2. 1: Growing Research in Protean Careers Overtime Source: Adapted from Hall et al. (2018)

In contrast, Hall (2004) and Wong et al. (2017) and Chin and Rasdi (2014) demonstrated the vital role the organisation plays in individual career success by providing facilities such as organisational culture, formal training and development programs, peers socialization, and cross-functional job assignment that are considered as motivators for employees' career growth. Moreover, Gubler et al. (2014) suggested that the incorporation of organisational career support programs and employees' protean career might be most effective for both employers and employees 'win-win approaches'. That is in line with Hall's (2002) earlier suggestion that the individual works to achieve the organisational goals while simultaneously pursuing his/her own career goals. This view opposes the traditional view of career where an individual follows a routine path of development based on age and life stages (Gubler et al., 2014). Notably, Hall has defined

psychological success in several studies (e.g. Briscoe & Hall, 2006; Hall, 1976) while remaining consistent in his approach to conceptualising measures of PCO in terms of individual career success depending on his/her own standards (DiRenzo, 2010).

Measure	Citation	Dimensions	Total items	Number of articles
Protean Career Attitudes	Briscoe et al.	Self-direction	14	26
Scale (PCAS)	(2006)	Values-driven	14	20
PCAS; only self-direction	Briscoe et al. (2006)	Self-direction	8	10
Protean Career Scale	Baruch (2014)	Values-driven	5-7	3
Protean Career Management Scale for University Students	Liberato Borges et al. (2015)	Self-direction Values-driven	20	1
Protean Career Attitudes- Short Form	Porter et al. (2016)	Self-direction Values-driven	7	1

 Table 2. 1: Protean Career Orientation Measurements

# Source: Adapted from Hall et al. (2018)

# 2.3.1.2 The difference between protean and boundaryless career

Protean and boundaryless career perspectives have played a fundamental role in changing the direction of career management in the last two decades (Nikandrou & Galanaki, 2016). The two concepts were recognised as similar or synonymous by some scholars (Briscoe & Hall, 2006) while others pointed out its differences (Granrose & Baccili, 2006; Hong, 2012). Similarity may occur when the two perspectives focus on individual values and pursuing a path in promotion outside or independent from the determinant organisation (see table 2.2) (Arthur et al., 2005).

Moreover, boundaryless career theory describes both physical and psychological dimensions of career, whereas a protean career theory focuses on the psychological indicators, particularly motivating individuals to achieve their subjective career success (Arnold & Cohen, 2008) through guiding their career (values-driven) and take an independent role in managing their vocational behavior (self-directed) (Briscoe et al., 2006, p. 31). Hence, both theories differ from the traditional career by not following the predictable career path subjective to organisation control by putting specific lifetime for an individual to meet the upward mobility process (Granrose & Baccili, 2006). However, Briscoe and Finkelstein (2009) acknowledged that boundaryless career is quite distinct from protean career as the latter emphasises on personal values and self-direction whereby an employee acts as agent of the organisation through taking the career responsibility toward growth (Briscoe & Finkelstein, 2009; Briscoe et al., 2006; Hall, 2004).

Notwithstanding, some scholars understand the protean career as involving only psychological changes; distinguishing between physical (objective) and psychological (subjective) career changes has a negative effect on the interdependence between the physical and psychological career in the workplace (Sullivan & Arthur, 2006). Sullivan and Arthur (2006) added that there is a lack of studies in addressing the objective and subjective changes for both boundaryless and protean careers. Similarly, Briscoe et al. (2006) contended that boundaryless career orientation (BCO) and protean career orientation (PCO) are related but distinct constructs in terms of their scales. PCO has a two-scales measure values-driven career orientation. Thus, generating and evaluating career goals rely on one's intrinsic values rather than others' standards, which differs from self-directed career management, which means driving the career through independent career management strategies instead of others, including the organisation.

On the other hand, BCO has a two-scales measure boundaryless mindset that concerns with the propensity and preference of working with other people and organisations across one's organisational boundaries, and in addition organisational mobility preference that reflects the desire to work for multiple organisations and not just one's current employer. Consequently, this is in line with Gubler et al. (2014) who argued that BCO focuses widely on different forms of mobility through changing employer or organization, whereas PCO predominantly concerns with an individual's motives to follow a particular career path.

Recently, Abessolo et al. (2017) investigated the relationship between work values and protean and boundaryless career orientations among 238 employees in Switzerland. Their results confirmed that PCO and BCO are related but distinct constructs (Briscoe et al., 2006). Furthermore, PCO and BCO are positively related to "intrinsic, social, and status work values". However, boundaryless organisational mobility orientation is negatively associated with "extrinsic/material work values." They concluded that an individual with protean career orientation tends to appreciate intrinsic (or subjective) rewards more. In support, Hong (2012) found that the correlation between overall PCO scale and BCO scale is 0.49 (p < 0.01), which emphasised the difference between them (Hong, 2012). Finally, protean career is an extension of self-expression or a means for growth, which in turn increases the individuals' opportunities in achieving their own goals (Zafar, 2015). Table 2.2 offers an overview of the differences between protean career and a traditional career.

Elements in the	<b>Protean Career Orientation</b>	Traditional Organisational	
Protean		Career	
Who's in charge?	Person	Organisation	
Core values	Freedom Growth	Advancement, Power	
Success criteria	Psychological success	Position level, Salary	
Important attitude	Work satisfaction;	Work satisfaction; organisational	
Dimensions	professional commitment	Commitment	
Important identity	Do I respect myself? (self-esteem)	Am I respected in this organisation?	
Dimensions	What do I want to do? (self-	(esteem from others) What should	
	awareness)	I do? (organisational awareness)	
Important adaptability	Work-related flexibility, current	Organisational related flexibility	
Dimensions	competence (measure:	(measure: organisational survival)	
	marketability)		

Table 2. 2: The difference between PCO and Traditional Organisational Career

# Source: Adapted from Hall (1996)

# 2.3.2 Career Adaptability

Career adaptability (CAA) has increasingly gained the attention of researchers during the last decade, particularly once Savickas and Porfeli (2012) developed cross-cultural instruments for measuring this construct accurately (Duffy, Douglass, & Autin, 2015). The literature suggests that 'career adaptability' has replaced 'career maturity' due to the constantly changing career development perspective that demands from individuals to decide on a job, occupation or vocation (Savickas, 1997).

The verb 'to adapt' comes from the Latin verb meaning ''to fit'' which means the act of harmonising between inner needs and outer opportunities. If such a harmony is achieved, it leads to a good adaptation that is indicated by success, satisfaction, and wellbeing (Savickas, 2013). Savickas (1997, p. 254) defined career adaptability as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions." Moreover, career adaptability is grounded on career construction theory (CCT). This theory has been conceptualised as individuals' resources that are (i) being concerned with one's future goals; (ii) promoting one's control over his/her vocational future; (iii) displaying curiosity by discovering the possible future career advancement; (iv) building one's confidence to solve problems in the workplace (Savickas, 2013). Savickas & Porfeli (2012) stressed that career adaptability refers to the self-regulation resources that a person may draw upon to solve unfamiliar and complex problems arising from vocational tasks, occupational transitions, and work traumas. Moreover, career adaptation creates a sense of person-environment fit, which in turn leads to positive work outcomes such as career development, satisfaction, success, and stability (Savickas & Porfeli, 2012).

Overall, career adaptability involves one's psychological resources for coping with ongoing and expected vocational development tasks, occupational transitions, and work traumas that may affect social collaboration (Savickas, 1997, 2013). However, these resources affect not only the individual and thus remains as the intersection of person-inenvironment (Savickas & Porfeli, 2012). Career adaptability resources also have direct and indirect interaction with individual and contextual factors (Konstam, Celen-Demirtas, Tomek, & Sweeney, 2015). Accordingly, McLennan et al. (2017) studied the impact of career adaptability and employees' career optimism in Australia. The result showed that career adaptability positively predicted career optimism (McLennan, McIlveen, & Perera, 2017).

Moreover, career adaptability has become necessary for employees in order to stay competitive and employable (Schuesslbauer, Volmer, & Goritz, 2017). It is associated with contextual factors such as inspirational motivation. It was found that inspirational motivation predicts career adaptability resources (Schuesslbauer et al., 2017) and that CAA has a positive relationship with life satisfaction for 330 students in high-schools in Germany (Hirschi, 2009). Further, university research conducted in Germany established that CAA is positively related to internal and external marketability and negatively associated with job and career insecurity (Spurk, Kauffeld, & Ebner, 2015). In the same context, CAA was found to be positively related individuals' psychological well-being (Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013) while adapt-abilities resources react to environmental contingencies that may increase or decrease income on well-being (Maggiori et al., 2013).

#### 2.3.2.1 Career adaptability dimensions

Recently, Savickas and Porfeli (2012) developed a useful scale of measuring career adaptability that has been employed in several research such as Tolentino, Sedoglavich, Lu, Garcia, and Restubog (2014). Their scale involves the four dimensions of concern, control, curiosity, and confidence (4Cs) that help to understand the antecedents of difficulties in adapting to tasks, transitions, and traumas. Savickas (2013) argued that these four dimensions are distinct but interrelated. Accordingly, Savickas and Porfeli (2012) concluded that these resources (concern, control, curiosity, and confidence) support self-regulation strategies since career adaptability is reflected based on multiple subsystems that are illustrated below.

(i) Concern about the individual future goals reflects an individual's sense of preparing for tomorrow. In other words, the individual has the belief in the continuity of experience that results in a strong connection to his/her present activities with his/her future occupational aspirations and visions. Hence, this sense of continuity "allows individuals to envision how today's effort builds tomorrow's success" (Savickas, 2013).

- (ii) Control enables an individual to take responsibility for reforming him/herself and his/her environment to meet what comes next based on intrapersonal selfdiscipline and deliberated effort. According to Savickas (2013), several studies investigated a control function but under various names (e.g., independence, internal locus of control, autonomy, and self-determination). Furthermore, control motivates an individual to engage in vocational development tasks and confront obstacles in the workplace instead of avoiding them (Savickas & Porfeli, 2012).
- (iii) Curiosity prompts a person to gain initial learning and experience about various situations and roles that might be facing him/her in future. These learning experiences and information-seeking activities increase the fitness between a person and the work world in a career.
- (iv) Confidence as described from the viewpoint of career construction theory means the individual's sense of self-efficacy and his/her ability to successfully execute a course of action for implementing sufficient educational and vocational choices (Santilli, Nota, Ginevra, & Soresi, 2014). Career confidence arises to solve dayto-day problems that the employee faces at work or at home (Savickas & Porfeli, 2012; Savickas, 2013). However, individuals who are lacking in career adaptability resources (concern, control, curiosity, and confidence), they experience a delay or disequilibrium in fitting their career success. Career counselors explored other problems regarding low career adaptability such as indifference, indecision, unrealism, and inhibition (Savickas, 2013).

Although career adaptability resources are essential in assisting individuals to cope with tasks, participate in working life (Santilli et al., 2014), and adapt to unexpected changes in work, only little research has been done on them, especially in testing the mediation effect of career adaptability between PCO and career success.

# 2.3.2.2 Mediation effect of career adaptability

In the recent decade, career adaptability (CAA) has been extensively studied as a mechanism with several positive or negative outcomes in career researches due to the importance of career adaptability resources (concern, control, curiosity, and confidence). Accordingly, Xie et al. (2016) investigated the mediation effect of CAA between calling and two positive outcomes that work engagement and subjective career success (career satisfaction) for 832 Chinese employees. The results revealed that CAA has a positive impact on employees' work engagement and career satisfaction (Xie, Xia, Xin, & Zhou, 2016). Furthermore, they also found that CAA is a significant mediator for the relationship of calling and both employees' outcomes (work engagement and career satisfaction) (Xie et al., 2016). Relatedly, Storme and Celik (2017) found that CAA is a significant mediator for emotional intelligence and academic satisfaction. In another study, career adapt-abilities resources showed a negative relationship to work stress and a positive relationship with orientations to happiness (Johnston, Luciano, Maggiori, Ruch, & Rossier, 2013). They also found that career adapt-ability mediates the relationship between orientations to happiness and work stress (Johnston et al., 2013).

However, control is considered as the only resource that acts as a significant mediator among other resources (concern, curiosity, and confidence). In an additional study, Ito and Brotheridge (2005) examined the mediation effect of CAA for autonomy and affective commitment and intentions to leave. The result showed that CAA positively mediates the relationship between autonomy and commitment. In contrast, CAA positively mediates the relationship between autonomy and intentions to leave (Ito & Brotheridge, 2005). CAA is also associated directly and indirectly to employees' intention to leave (Ito & Brotheridge, 2005). In a different context, Nilforooshan and Salimi (2016) examined the mediator role of career adaptability resources between personality and career engagement in Iran. Their study showed inconsistent results with personality dimensions. As a result, career adaptability resources were partially mediated the relationships between activity and career engagement, whereas they were a fully mediated between neuroticism and career engagement, and only curiosity fully mediated the impact of sensation seeking on career engagement (Nilforooshan & Salimi, 2016). Although career adaptability has been studied extensively as a mechanism, only a few studies have so far examined the mediation effect of career adaptability between protean career and career success.

# 2.3.3 Psychological Capital

According to Luthans et al. (2007), psychological capital (PsyCap) is a higher order core construct that integrates the essential personal resources related to positive organisational behavior (POB) criteria-meeting capacities. Furthermore, PsyCap is a multi-dimensional construct of self-efficacy, optimism, hope, and resiliency and has a positive impact on performance as general (Luthans, Youssef, & Avolio, 2007). Also, the rising popularity of positive psychology resulted in the increased use of PsyCap resources (optimism, hope, and confidence) that promote the human functioning and human competitive advantages (Luthans & Jensen, 2005). As of to date, the positive psychological capital has been mostly ignored by both business academics and practitioners even though "who we are" is every bit as important as "what we know" and "whom we know" (see figure 2.2). By stop being preoccupied with personal shortcomings and dysfunctions and start focusing instead on personal strengths and good qualities, today's leaders and their associates can develop confidence, hope, optimism, and resilience, thereby improving both individual and organisational performance (Luthans, Luthans, & Luthans, 2004).

Traditionally, economic capital in the form of financial and tangible assets such as plant and equipment is given all the attention, yet enlightened managers today recognise the importance of human or intellectual capital. Here, 'human' refers to the people working at all levels of the organisation and 'capital' refers to the resources withdrawn from consumption that are invested for future anticipated returns. Bill Gates once commented that the most important assets in his company walk out the door every night. In other words, he recognises that the collective knowledge, skills, and abilities of his employees represent a distinctive competency that has created value and set Microsoft apart from its competitors (Luthans et al., 2004).

Adopting Luthans and Youssef's (2004) three aspects of competitive advantage, this research takes a three-pronged approach to the study of career capital and addresses the influence of human capital, social capital, and psychological capital. As will be shown in the following paragraphs, these three forms of capital represent the functional, relational, and motivational elements of an individual's career capital (see figure 2.2). It reflects the importance of PsyCap resources in the workplace for both employees and employers. On one hand, PsyCap increases the employees' talent behaviour toward innovation (Hsu & Chen, 2017) and employees' creativity (Agarwal & Farndale, 2017), on the other hand, it increases the efficiency of leadership in the organisation and ensures a higher return on investment (Luthans, Avey, Avolio, Norman, & Combs, 2006). According to Chen et al. (2017), who investigated the influence of leaders' PsyCap on followers' PsyCap for 423 employees in China, the leaders' PsyCap positively influence their followers' PsyCap (Chen et al., 2017).

Previous literature showed that PsyCap is positively related to positive work outcomes and negatively related to adverse work outcomes (Malekitabar, Riahi, & Malekitabar, 2016). Hence, the findings asserted that PsyCap resources have a positive effect on psychological well-being (Malekitabar et al., 2016), career success (Ngo et al., 2014), work engagement (Costantini et al., 2017), employees' well-being and performance (Rabenu, Yaniv, & Elizur, 2016), intention to stay, organisational commitment, and job satisfaction (Luthans & Jensen, 2005; Schulz, Luthans, & Messersmith, 2014) and was negatively related to job burnout (Malekitabar et al., 2016; Peng et al., 2013), and intention to quit (Munyaka, Boshoff, Pietersen, & Snelgar, 2017; Schulz et al., 2014).



# Figure 2. 2: Expanding Capital for Competitive Advantage

# Source: Luthans et al. (2004)

However, Lee et al. (2017) found that employee's PsyCap has a direct negative relationship with customer value co-creation (Lee, Hsiao, & Chen, 2017). This result showed that there are missing links between employee's PsyCap and customer satisfaction (Lee et al., 2017). Similarly, Idris and Manganaro (2017) investigated the impact of PsyCap on job satisfaction and organisational commitment for 432 professional employees working in oil and gas companies in Saudi Arabia. The result indicated that no significant relationship existed between PsyCap and both job satisfaction and organisational commitment (Idris & Manganaro, 2017). This study, however,
contradicted the PsyCap literature stipulating that employees with high PsyCap tend to be dissatisfied and uncommitted to their job and organisation as well.

# 2.3.3.1 Dimensions of psychological capital

Psychological capital (PsyCap) is a relatively new personality construct in positive organisational behavior that is defined as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (Luthans, 2002). It has been operationalised with the four dimensions of self-efficacy, hope, optimism and resilience. PsyCap is a composite construct defined as "an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans, Avolio, Avey, & Norman, 2007).

# 2.3.3.2 Mediation role of psychological capital

Empirical studies revealed that PsyCap plays a significant mediation role for various types of attitudes and behaviors, whether they are positive or negative work-related outcomes. Accordingly, PsyCap acts as a significant full mediator between servant leadership and its positive outcomes (intention to remain and organisational citizenship behavior) and adverse outcomes (lateness attitude) (Bouzari & Karatepe, 2017). In other words, PsyCap helps employees by reducing their lateness attitude and enhancing their intention to remain and their organisational citizenship behavior in an organisational citizenship beh

(Bouzari & Karatepe, 2017). Ngo et al. (2014) examined the mediation effect of PsyCap resources (self-efficacy, hope, resilience, and optimism) between gender and career success in China. The result revealed that PsyCap resources positively mediate the relationship between gender and career success (Ngo et al., 2014).

However, no significant mediating effect was found for resilience on employees' career success (Ngo et al., 2014). In other words, resilience as PsyCap resource is negatively related to employees' career success. PsyCap resources showed contradicting results with positive work outcomes in different contexts. Here, Bergheim et al. (2013) had found that self-efficacy and resiliency are not significantly related to a positive outcome (e.g., safety climate). Similarly, Rego et al. (2016) found that PsyCap mediates the relationship between authentic leadership and organisational commitment. In contrast, they indicated that only three PsyCap's resources (i.e., self-efficacy, hope and optimism) have a positive mediation effect whereas resilience has a negative impact on organisational commitment (Rego et al., 2016). Luthans and Jensen (2005) also found that hope as one of the critical PsyCap resources has a negative relationship with nurses' commitment to the organisational mission (Luthans & Jensen, 2005).

Reviewing the literature showed that PsyCap has been studied for different career contexts such as medical career and nursing (Luthans & Jensen, 2005; Peng et al., 2013), sports (M. Kim, Perrewé, Kim, & Kim, 2017), aviation (Bergheim et al., 2013), and university students (Jo et al., 2017). However, only few studies have been done in the academics' career context. In addition, most studies that investigated the relationship of PsyCap with positive outcomes like commitment (Luthans & Jensen, 2005), work engagement (Costantini et al., 2017), psychological well-being and performance (Rabenu et al., 2016) in a western context. Thus, there is a lack of research that examines the

relationship between PsyCap and career success in a non-western context. Therefore, this research intends to investigate the relationship between PsyCap resources and career success for academics in the Sudan as well as the mediation effect of PsyCap between PCO and career success.

## 2.3.4 Islamic Work Ethics

In general, Islam is a way of life in any Muslim country, but the views of Islamic work ethics (IWE) differ from country to country (Ali, 1992; Ali & Al-Kazemi, 2007). Until recently, the role of religious belief and its potential connection with management practices and organisational outcomes have been largely ignored in the mainstream management research, despite the fact that anecdotal evidence has shown that religion constitutes an integral part of daily life (Mellahi & Budhwar, 2010). Thus, the published research in business and management considers organisations as belonging to the religion-neutral sphere and has not paid any attention to the possible association between religion and organisations (Mellahi & Budhwar, 2010). However, religious views play a significant role among the employees within an organisation due to certain ethical issues that necessarily arise at work. So far, only two religious work ethic concepts have been developed, namely the Protestant work ethics by Max Weber (1958) and the Islamic work ethics (IWE) by Ali (1988).

Islamic work ethics began to attract the attention of Muslim researchers in the late 1980s, yet since then it has not been investigated further and many gaps still exist (Mohamed, Karim, & Hussein, 2014). Islamic work ethics (IWE) constitutes a concept of ethics based on Islamic values and principles (Salahudin, Baharuddin, Abdullah, & Osman, 2016a). Islamic work ethics is vital for Muslim organisations in order to reduce the occurrence of unethical conduct and practices in the workplace such as corruption,

fraud, sexual harassment and other unethical behaviours (Abdi, Muhamad Nor, & Radzi, 2014). Similarly, Ali (2005) emphasised that IWE is built on four primary concepts: effort, competition, transparency, and morally responsible conduct. Previous studies have classified IWE under the divine command theory that uses the religious perspective as basis for identifying ethical behaviors (Salahudin et al., 2016a). IWE refers to the principle of right and wrong as advocated through revelation (Ali, 1992). Later, Beekun (1997) defined IWE as a set of moral codes and sound principles that differentiate right practices from wrong practices in the workplace from an Islamic perspective.

Originally, IWE is derived from the two primary sources of Islam, the Qur'an and the Sunnah of Prophet Muhammad (Peace Be Upon Him), and the two secondary sources of scholarly consensus (*Ijmaa'*) and analogy (*Qiyaas*). Ethics apply to every part of life including organisation management, and so do Islamic ethics. Ethical or morally right behavior includes behavior toward Allah and toward others. A Muslim behaves ethically correct by believing in Allah, testifying to His existence, and worshipping Him in the manner described in Qur'an and in the example of the Prophet Muhammad (Peace Be Upon Him). A Muslim behaves ethically correct by deal ethically with others in various transactions by dealing with them respectfully, kindly and fairly (Abuznaid, 2009). Interestingly, in Islam, work can be considered as a virtue or a vice depending on whether it is identified as lawful or unlawful, beneficial or harmful (Abuznaid, 2009).

The Qur'an instructs Muslims to actively engage in the pursuit of an activity with the purpose of earning a living, act responsibly and be accountable for their work. To that end it is stated, "He [God] has also made subservient to you all that is in the heavens and the earth" (Qur'an, 45:13) (Ali & Al-Owaihan, 2008). The believers are warned not to be tempted by Satan to commit acts of deceit and dishonesty for fear of poverty and are

reminded to do good deeds and receive their sustenance from Allah: "The Devil threatens you with poverty and bids you to conduct unseemly. God promised you His forgiveness and bounties." (Qur'an, 2:268). Prophet Muhammad (Peace Be Upon Him) taught in this respect that honest effort and hard work caused sins to be absolved and that "no one eats better food than that which he eats out of his work" [has earned through his own effort] and that "work is worship" (Ali & Al-Owaihan, 2008). That articulates the relationship between working with Allah as worship and with people as exchanging benefits.

On the other hand, IWE is contradicted by theory X that proposes that man is by nature lazy and disinclined towards work (Tufail et al., 2016), which means that religion is needed to motivate people to work by emphasizing that work is a virtue in light of man's needs and a necessity to establish equilibrium in one's individual life and social life (Ali, 1992; Ali & Al-Owaihan, 2008). Several Qur'anic verses and authentic *hadiths* have advocated the importance of work. For example, Allah (SWT) says: "It is He Who has made the earth manageable for you, so traverse ye through its tracts and enjoy of the Sustenance which He furnishes: but unto Him is the Resurrection (Qur'an, 67:15).

In the recorded Sunnah, there is a *hadith* on how to perform the work properly to earn a living in the Islamic way. Prophet Muhammad (Peace Be Upon Him) said: "If someone goes out to seek nourishment for his small children, he is in the way of Allah. And if he works for his old father and mother, he is in the way of Allah. And if he works for himself for modesty, it is in the way of Allah, but if he works for pride and boasting, he is in the way of Satan" (Tabarani).

Moving on to the religion of Christianity and Christian tradition, the so-called Protestant work ethics (PWE) developed by Max Weber (1958) deserve to be mentioned although they do not support the religious point of view, rather the notion of western capitalism. Therefore, although PWE has a seemingly religious approach, it fundamentally differs from IWE as documented in earlier works such as Ali (1988; 1992) and more recent works such as Maaz-ud-Din, Farooq, and Khan (2017) and Kumar and Che Rose (2010).

The term 'Protestant work ethics was coined by the German economic sociologist Max Weber in 1958 and became a popular and generally accepted notion in western thought as it supported the idea of capitalist development (Kumar & Che Rose, 2010). His idea is criticized by Muslim scholars for not adding any value to Islamic countries in developing their economies. According to Kumar and Che Rose (2010), "Islam counters Weber's thesis that Muslim societies could not develop their economy." Moreover, Weber proposed a causal relationship between PWE and the development of capitalism in western society (Yousef, 2000). In other words, Weber understood the western notion that a person has a 'duty' to work and be productive to its originally Protestant character and thus asserted the existence of a relationship between Protestantism and the development of modern capitalism (Khalil & Abu Saad, 2009). However, IWE is found to be analogous to the concept of 'Islam Hadhari' (as applied in Malaysia since 2003) that emphasises the importance of cooperation in work and mutual consultation in overcoming obstacles and avoiding mistakes that meet individual's needs and establish equilibrium in his/her social life (Kumar & Che Rose, 2010). IWE stresses that responsibility, creativity, adaptability and innovativeness in work serve as valuable sources of happiness and accomplishment (success) as well as adaptive performance (Javed, Bashir, Rawwas, & Arjoon, 2017). IWE is also oriented more toward life fulfilment than life-denial and holds business motives in the highest regard (Ali, 1992, Yousef, 2000).

Therefore, IWE and PWE are similarly based on religion and spirituality as well as emphasis on hard work, commitment and dedication to work, work creativity, avoidance of unethical methods of wealth accumulation, cooperation and competitiveness at the workplace as well as adaptability to change (Javed et al., 2017; Yousef, 2000). However, IWE differs from PWE by considering the intention as more important than the result. This singular approach is based on the saying reported from Prophet Muhammad (Peace Be Upon Him) who stated, "Actions are recorded according to intention, and man will be rewarded or punished accordingly". This tradition establishes a firm link between outward and inner behavior whereby inner behavior is determined by one's honest intention and ultimately determines the outer actions. IWE advocates all good deeds from employee and employer in the work environments such as justice, mutual respect, freedom, and generosity (Ali & Al-Owaihan, 2008; Yousef, 2000) and has a positive impact on engagement in economic activities and commitment to organisation in terms of reducing job stress and turnover intention and increasing the overall level of accomplishment and success (Maaz-ud-Din et al., 2017).

When exploring the importance of IWE, empirical studies underlined the value of the construct and its ability to increase employee intrinsic motivation for achieving their positive outcomes (success, commitment and OCB) while being negatively related to counterproductive behaviour. However, the literature on IWE is still considerably limited and scarce, with only a few recent publications in Malaysia and Pakistan. IWE has been studied with various work outcomes such as organisational commitment (Salahudin et al., 2016a), job satisfaction and organisational performance (Hayati & Caniago, 2012), and organisational citizenship behaviour (Tufail et al., 2016). These studies revealed that there is a positive relationship between IWE and work outcomes. According to Salahudin et al. (2016) who investigated the effect of IWE on SMEs organisational commitment in

Malaysia. The result showed that IWE has a significant effect on organisational commitment and its three dimensions (affective, normative and continuance). These findings reflected the value of IWE as a significant predictor for organisational commitment meaning that when employees have high affective commitment, they will be more satisfied and successful in their career.

In the different socio-economic context of Pakistan, Tufail et al. (2016) examined the impact of IWE on female academic staff's organisational citizenship behaviors (OCB) mediated by employee engagement. The results revealed that a significant direct and indirect relationship exists between IWE and OCB, through employee engagement as mediator. In other words, individuals with IWE are more engaged in their work and have high OCB in the workplace. Maaz-ud-Din, Farooq, and Khan (2017) studied the effect of Islamic work ethics on employee well-being, job stress, and turnover intention. The findings showed that IWE has a positive impact on employee well-being, yet has only insignificant effect on turnover intention and job stress, which means that employees with IWE are more committed to their career and thus will enjoy more well-being. On the other hand, IWE reduces the employees' feelings towards job stress and turnover intention. In summary it can be said that IWE has a significant effect on the individual and organisational outcome, yet more studies are needed to explore its impact on career success. Also, IWE has been examined as an independent variable in the majority of the existing studies and not as a mediator or moderator (Yousef, 2001). Therefore, this research is employing IWE as a moderator beside its predication role for increasing the individual career success in Sudanese universities.

# 2.3.4.1 IWE dimensions

The scale of Islamic work ethic has emerged on the basis of Ali's work (Scaling an Islamic Work Ethic, 1988) who subsequently reduced his original scale of 46 items to 17 items (Ali, 1992). The adoption of his later scale makes sense when measuring IWE as this scale is more frequently cited in the IWE literature, followed by Cronbach's alpha coefficient that also ranks high between 0.76 to 0.89 (Ali, 1992; Maaz-ud-Din et al., 2017; Yousef, 2001).

Although the validity of IWE scale that developed by Ali (1992), it faced various criticism in literature. The first point is that a lack of capturing all the aspects of IWE (Chanzanagh & Akbarnejad, 2011). For example, the current IWE measures may measuring a part of overall Islamic work ethics which based on the primary two Islamic sources that are the holy Qur'an and the Sunnah of His Prophet Muhammad (Peace Be Upon Him). This because previous literature of IWE provided many examples for general Islamic ethics based on the Qur'an and Sunnah such as khavr (goodness), birr (righteousness), *qist* (equity), 'adl (justice), haqq (right), ma'ruf (approved), and taqwa (piety) (Salin, Ab Manan, Kamaluddin, & Nawawi, 2017). Ali and Al-Owaihan (2008) suggested other dimensions of IWE that include work is virtue, honesty, truthfulness, permissibility, precision, efficiency, fulfilment, self-control, obedience, cooperation, discipline, dignity, justice, safety, responsibility, accountability, humanity, mutual consultation, effort, competition, transparency, teamwork, and morally responsible conduct. Ali (1992) suggested a deep comparison between IWE and PWE to identify items that generate significant differences and similarities. Although Ali and colleagues suggested new dimensions for IWE in their more recent work, they did not update the IWE scale accordingly.

Another point is that, the current IWE scale is more similar to Protestant work ethics (PWE). For this reason, Chanzanagh and Akbarnejad (2011) have attempted to renew the IWE measurements by proposing a new IWE scale that contains the seven (7) dimensions of "Work Intentions", "Trusteeship", "Work type", "Work results for Islamic Ummah", "Justice and fairness", "Cooperation and collaboration" and "Work as the only source of ownership" (Chanzanagh & Akbarnejad, 2011). However, these dimensions focus more on society and personal intention that is measuring the relationship between the individual and surrounding community in terms of cooperation, justice, and trust, as well as the individual intention that is reflecting the relationship between a person and his/her God (worship). However, the study of Chanzanagh and Akbarnejad (2011) was conducted in very few sample in Iran and it is very difficult to generalise overall Muslim community due to the socio-cultural differences. And also, the statistical result indicated that the IWE items valid only for six dimensions instead of the seven, and these six factors explain only 59% of the variances in 'observant' (Chanzanagh & Akbarnejad, 2011). In addition, so far, and according to the best knowledge of the researcher, these suggested dimensions were not replicated in any published study.

Therefore, the main scale as developed by Ali in 1992 has remained popular and continues to be employed in IWE research (Ali & Al-Kazemi, 2007; Noor et al., 2017; Rozali, 2013). Hence, this research adapts the prominent IWE scale that developed by Ali (1992) due to the high replicability in various countries and statistical reliability.

## 2.4 Underpinning Theories

## 2.4.1 Self-Determination Theory (SDT)

Recently, self-determination theory (SDT) has gained considerable attention among scholars in the field of management. The roots of SDT are grounded in cognitive evaluation theory research on the effects of intrinsic and extrinsic work motivation relating to need fulfilment (Deci & Ryan, 2000). This theory is concerned with motivation and personality within social contexts, which is associated with the assimilation of goals, values, and identities (Ryan & Deci, 2012). Moreover, SDT focuses on the content or the quality of an individual's goals (Deci & Ryan, 2000). In other words, individuals evaluate their future career success based on inner motivations by satisfying the proposed needs of autonomy, competences, and relatedness of career.

Specifically, SDT distinguished between intrinsic objectives such as contributing to the community, affiliation, and self-development, and extrinsic objectives, such as accumulating wealth, acquiring fame and pursuing attractive physical looks (Vansteenkiste et al., 2007). For example, when an employee puts a solid effort in the work, he/she may be trying to fulfill a central goal as a higher ranked job in the future will offer new challenges and growth opportunities. He/she may, however, also be trying to achieve an extrinsic goal as such a higher ranked job will likely provide status and social recognition. Thus, the basis of SDT is forming by defining the psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000). Therefore, people are innately self-directed and act following three fundamental needs (the 'why' of goal motivation) involving autonomy, competence and relatedness, all of which are seen as essential understanding human motivation (the 'what' of goal motivation) (Deci and Ryan, 2000).

However, SDT recognises that the motivation to fulfil these needs varies among people. Notably, individuals who are intrinsically motivated are more likely to engage in activities that satisfy their autonomy, competence and relatedness needs (Gatling, Kim, & Milliman, 2016). SDT also proposes that intrinsic motivation increases when a person's

work orientation or environmental context is congruent with his/her needs and desires for growth and self-actualisation at work (Gatling et al., 2016). In line with SDT logic, the protean career orientation suggests that a person is self-directed and values-driven in pursuing his/her career to achieve psychological success (Hall, 2004). Empirical studies have supported SDT's assertion that the intrinsic motivation arising from the fulfilment of these three core needs is more positively related to numerous life and work attitudes, including job satisfaction, work dedication, job vitality and intent to remain with one's organisation, than work values associated with extrinsic motivation (Vansteenkiste et al., 2007).

Therefore, this research is guided by these central tenets of SDT whereby human beings have three core innate psychological needs of autonomy, competence and relatedness and are inherently and naturally motivated to fulfil them; individuals need psychological motivation to achieve career success. Also, SDT research proposes that intrinsic work values indicate people's expressions of their natural desires for growth and self-development (Vansteenkiste et al., 2007), which are also central aspects of what individuals are seeking to achieve. Finally, SDT shares its empirical approach and encompassing view on individuals' well-being and behaviour with the general positive psychology movement (Gulyani & Bhatnagar, 2017). Based on this result, career success is an essential predictor for an individual's well-being.

# 2.4.2 **Protean Career Theory (PCT)**

The protean career theory (PCT) is defined as "a process which the person, not the organisation, is managing" (Hall, 1976, p. 201), 'process' here meaning the role of self-direction and the centrality of intrinsic values (Hall et al., 2018). Various researches have concluded that being occupationally proactive and self-driven leads to higher levels of

job satisfaction and career success perception (Hong, 2012). Regarding this, PCT focuses more on subjective career success (psychological success) than on objective career success (Briscoe et al., 2006). However, the empirical findings asserted that PCT influences not only the subjective career success but also affects the objective career success, organisational commitment, and other personal resources such as career adaptability (Hall et al., 2018) (see Figure 2.3).

Furthermore, protean career theory constitutes as a core subject of research in contemporary career issues. According to Hong (2012), individuals who adopted a protean orientation were more satisfied in their jobs. Similarly, Kiong and Yin-Fah (2016) found that PCO is positively related to employability and career success for academic staff. Moreover, Grimland et al. (2012) have found that PCO has a positive influence on internal and external career success as well as organisational commitment. On the other hand, PCT has an indirect effect on career success through personal resources such as career adaptability (Hall et al., 2018) (see Figure 2.3). According to Xie et al. (2016), career adaptability can act as a mechanism between personal factors and career psychological success, and Direnzo et al. (2015) pointed to the possibility of introducing career capital (human capital, social capital, and psychological capital) as a mechanism between PCO and positive work-related outcomes.



Figure 2. 3: Key mechanisms in the protean career process Source: Adapted from (Hall et al., 2018)

This research employs PCT for guiding the research framework for three reasons: firstly, the PCT emphasises autonomy and defines career success as one that is personally meaningful (Hong, 2012). In other words, PCT is process-based, which focused on personal resources and values for helping an individual to achieve his/her goals (Hall et al., 2018). Secondly, the model of study is not only constructed on PCT but also on self-determination theory (SDT) as supporting theory for PCT because SDT and PCT are similar and strengthen one another (Hall et al., 2018). Finally, PCT is a valuable theory that can be used to explain academics' career success through increasing the inner employees' motivations and resources (see Figure 2.3). It is clear that academics' career is unique and strongly related to protean attitudes as academicians manage their career personally based on their intrinsic values and self-direction (Baruch & Hall, 2004).

## 2.4.3 Conservation of Resource Theory (COR)

The conservation of resource (COR) theory devised by Hobfoll (1989) is considered as one of the major theories that has emerged during the last two decades. COR deals with objective reality or 'common appraisals' shared by groups of people, organisations, and culture and focuses on circumstances related to stressors and challenges. Initially, the theory was devised to deal with life stress (Hobfoll, 2011). However, COR theory soon became a prominent theory in the field of burnout as well as the emerging areas in positive psychology. The basic tenet of this theory is that individuals strive to obtain, retain, foster, and protect their resources (Hobfoll, 1989, 2011).

Further, COR theory posits that the issues that possess a central value for the individual relate to health, well-being, peace, family, self-preservation, and a positive sense of self, even if the latter differs culturally (Hobfoll, 2011). It entails that the organisation should work hard to increase the motivation resources available to its employees in order for them to remain. Empirically, COR theory predicts that people are motivated to develop and maintain their existing resources and to acquire new resources. In other words, the presence of adequate personal resources such as one's skills, social networks, material wealth, and free time all constitute factors that contribute to one's well-being (Alarcon et al., 2013). Thus, Newman et al. (2018) argued that COR theory assists in promoting a diversity climate, which in turn changes the relationship between organisations and employees by influencing their work attitude through fostering positive psychological resources (hope, optimism, resilience and self-efficacy) known in the literature as psychological capital or PsyCap (Newman et al., 2018).

An additional assumption of COR theory is that resources need to be protected against resource loss (Spurk et al., 2019). The availability of resources enhances the ability of people to overcome the challenges and hurdles in career development and to achieve success (Ng & Feldman, 2014). More specifically, in the current career context that is increasingly volatile and uncertain, many such resources are needed for coping with

expected and unexpected challenges and traumas and attain favourable career outcomes (Spurk et al., 2019). Remarkably, the COR theory is explicitly dynamic and does not assume a static view of available resources. A core tenet of COR theory is that people actively strive to obtain, retain, foster, protect, and utilise resources that help them to achieve valued aims (Hobfoll et al., 2018). Hence, an additional theoretical explanation for achieving career success based on COR theory is that people develop resource management behaviors and attitudes to optimise the achievement of career success.

In line with COR logic, this research model is guided by the basic tenets of this theory wherein academic staff strive to gain, maintain, and foster the positive resources, which in turn help them to achieve their career success and psychological well-being. According to Alarcon et al. (2013), an individual with high psychological capital resources can be thought of as having a vast reservoir of resources at his/her disposal and are therefore more likely to experience a higher level of psychological and physical well-being than those with low psychological capital resources (Alarcon et al., 2013). In other words, this model involves personal psychological resources (PCO, PsyCap, CAA, and IWE) which work as personal motivators for guiding academic staff in achieving their career success. Therefore, the theory of COR plays a significant role in explaining the model understudy (see Figure 2.4).

# 2.5 Theoretical Framework



**Figure 2. 4: Research Theoretical Framework** 

The model of this research involves one dependent variable (career success), one independent variable (protean career orientation), two mechanisms (career adaptability and psychological capital), and one moderator (Islamic work ethics). Moreover, this model is conceptualised based on the protean career theory (Hall, 1976) and conservation of resource theory (Hobfoll, 1989) as main underpinning theories, in addition to self-determination theory (Deci & Ryan, 2000) as sub-theory for explaining all the model's constructs. Ultimately, the researcher used all the related empirical findings and the logic of theories to justify all relationships among constructs for developing the research hypotheses to test this model understudy.

## 2.5.1 Protean Career Orientation and Career Success

Protean career orientation (PCO) is widely considered as a contemporary career model, even though empirical studies in analysing the model are still scarce (Gubler et al., 2014). In relation to career success it is suggested that PCO has a strong association with career success; more empirical evidence is needed to demonstrate this (Vos & Soens, 2008). Further, PCO is an attitude that acknowledged as an important determinant of career success and it can also act as a key driver in affect career outcomes through actual behaviour (Briscoe et al., 2006; Volmer & Spurk, 2011). Volmer & Spurk (2011) argued that putting a higher value on protean career attitude might achieve higher goal-setting and maximise the investment of efforts since the individual feels responsible toward his/her career and drives it according to his/her own values and aspirations.

To clarify the relation between PCO and career success, it should be viewed through both components of career success (objective and subjective) based on the fact that some studies

demonstrated a relationship between PCO and subjective career success (Vos & Soens, 2008; Wong et al., 2017) and others studied the effect of PCO on objective career success (Abele & Spurk, 2009a) and the relationship between PCO and all career success dimensions together (Volmer & Spurk, 2011).

#### 2.5.1.1 Protean career orientation and subjective career success

Hall (2004) argued that the notion of success in career has moved away from the traditional objective parameters (salaries and hierarchical advancement) toward a new definition based on psychological success parameters (career satisfaction). In relation to PCO, Hall (2004) stated that PCO is related to psychological success as it values individual work responsibility and freedom growth on the career path. Accordingly, empirical evidence demonstrated a positive association between PCO and subjective career success (Volmer & Spurk, 2011). In similar vein, Vos and Soens (2008) studied the relationship between protean career attitude (self-directed career management) and career success outcomes (career satisfaction and perceived employability) for 289 Belgian employees. The result showed that a protean career attitude is a significant predictor of subjective career success.

In contrast, Volmer and Spurk (2011) observed that too few studies addressed the relation of PCO and its dimensions (values-driven and self-directed) and subjective career success. Their result demonstrated that PCO acts as an important antecedent for subjective career success and perceived employability. Similarly, Volmer and Spurk (2011) investigated the relationship between protean and boundaryless career attitudes with subjective and objective career success for 116 professionals in Germany. The result showed that the components of the protean career attitude (values-driven and self-directed) were more related to subjective career success than objective success. However, Enache et al. (2015) examined the impact of protean and boundaryless career attitudes on subjective career success for 150 professionals in Spain and found that the PCO dimensions (self-directed and values-driven) produced contradictory results. Self-direction in managing one's career and vocational development has a significant impact on achieving subjective career success, whereas valuesdriven has a negative relationship with subjective career success. Thus, Enache et al. (2015) attributed this contradicting result in the low fit of people's value to organisational values. He thus reasoned that one's values fitting the organisational value leads to higher subjective career success.

Therefore, the PCO has a significant relationship with subjective career success in line with Hall's (2004) view that PCO leads to greater psychological success. Overall, the empirical findings of the relationship between protean career attitude and subjective career success are scarce and inconclusive, although some studies detected a positive correlation between protean attitude and subjective career success (Volmer & Spurk, 2011).

# 2.5.1.2 Protean career orientation and objective career success

Earlier work has demonstrated a positive relationship between protean career orientation (PCO) and objective career success (e.g. Abele & Spurk, 2009 and Volmer & Spurk, 2011). According to Volmer and Spurk (2011), individuals with protean career attitude report a higher level of subjective and objective (salary) career success. This result supports that of Valcour and Ladge (2008) who investigated the protean expectations for working mothers' objective and subjective success. They found that traditional and protean perspectives are integrated and have a positive effect on their career success. Moreover, they also found that

career income (objective success) is related to subjective career success. Here, Hall (2004) describes protean career orientation as the 'career learning cycle' in which the person with a protean career mindset tries to achieve psychological success, and this learning cycle increases one's career self-management behaviors (Vos & Soens, 2008). This in turn (Hall, 2002) "should translate into objective career success as they meet current job requirements and because these persons act more adaptable and optimistic in unforeseen career situations" (Volmer & Spurk, 2011).

Similarly, PCO showed a positive relationship with salary, self-efficacy, proactive personality, and proactive career behavior as well (Abele & Spurk, 2009b; Briscoe et al., 2006; Herrmann et al., 2015). Other studies, however, showed that PCO is not associated with objective career success. Hall (2004) argued that people are pursuing their "path with a heart", which contradicts the traditional career path (organisational ladder), and indeed, protean career orientations have been found to be significantly positively related to intrinsic, social, and status work values and negatively associated with extrinsic or material work values (Abessolo et al., 2017).

In contrast, Valcour and Ladge (2008) argued that there is a link between extrinsic and intrinsic indicators of career success as some variables may affect subjective career success through their impact on objective career outcomes. In this regard, Stumpf and Tymon (2012) found a strong influence of past promotions and a lesser influence of salary change on subjective career success. Accordingly, Vos and Soens (2008) called future research to include objective career success as an outcome of PCO. He also pointed to the interdependence between objective and subjective career success in earlier studies and

suggested that an investigation of PCO and both forms of career success would add important new sights for PCO implication. Relatedly, Kiong and Yin-Fah (2016) have studied the impact of PCO on career success in Malaysia. The result showed that PCO is positively related to employees' career success (Kiong & Yin-Fah, 2016), which supports earlier studies establishing that PCO has a significant positive relationship with internal and external career success as well as positive career outcomes as general (Direnzo et al., 2015; Grimland et al., 2012).

In 2018, Hall and colleagues published a PCT model in which career success represents an important outcome for PCO in the workplace (Hall et al., 2018) (see Figure 2.3). Based on the aforementioned evidence, this research concerns with investigating the indirect relationship between PCO and career success outcomes (objective and subjective) since there is a lack of research addressing this issue and since the majority of PCO literature was developed in the western cultural context (e.g. Abele & Spurk, 2009 and Volmer & Spurk, 2011).

## 2.5.2 Protean Career Orientation and Career Adaptability

The Protean career model is flexible in the way it explains how individuals adapt to different types of careers through intrinsic motivation, which enables 'old' workers to continue learning and excel in their jobs (Haber & Bertone, 2016). Thus, Hall (1996) argued that individuals must develop new meta-competencies to manage themselves and their career. They must also have the ability to continue learning how to build self-knowledge and adaptability. Insecure workers must be flexible in maintaining their employability by continued learning and adapting to occupational transitions (Savickas, 2013). Accordingly,

protean career theory addresses career adaptability (CAA), and PCO motivates employees to adapt their mental plan for achieving their career success in the specific organisation (Hall, 2007). Moreover, Hall (2007) found that individuals are taking more personal responsibility for their career development. This result confirms the basic tenet of new career theory (i.e. PCO) (Arthur & Rousseau, 1996; Hall, 1996), which assumes that individuals are more responsible and proactive for achieving their career development through learning and adaptation to changing the environment. Building on this foundation, Chan et al., (2015) examined the relationship of two contemporary mindsets (boundaryless and protean career) with career adaptability among 852 university students in Singapore and found that career adaptability is more strongly related to boundaryless mindset and protean attitudes.

Furthermore, Johnson (2018) generated a systematic review of antecedents, mediators, and outcomes of CAA and confirmed that CAA has a positive relationship with proactive personality in general and PCO meta-competences in particular (Johnston, 2018). In a different context, Stauffer et al. (2018) examined the relationship between PCO and CAA among employees in Switzerland of whom 39% were employed in the public sector, 55% worked in the private sector, and 6% were self-employed. The findings showed that CAA was strongly related to PCO (Stauffer et al., 2018). In support, the recent studies backed by PCT stressed the link between PCO and adaptability resources (Hall et al., 2018). Therefore, it can be safely concluded that PCO has an impact on career adaptability resources.

H1: PCO is positively related to career adaptability.

## 2.5.3 Career Adaptability and Career Success

The career adaptability scale (CAA) was developed based on the career construction theory (CCT) (Savickas, 2002, 2005), which assumes that career development and adjustment is concerned with the employees' need to continue adapting to their social environment and achieve person-environment (PE) fit as well as subjective and objective career success. Thus, the theory reflects the process and outcomes of individuals working toward their aspirations and that of others to enjoy successful working lives and careers (Zacher, 2014). Rudolph, Lavigne, and Zacher (2017) performed a meta-analysis revealing that career adaptability is positively related to employees' positive work outcomes (career success and organisational commitment) and negatively associated with negative work outcomes (turnover intention and job stress) (Rudolph et al., 2017). A Chinese research team examined the influence of career adaptability on individual career success and organisational success in China (Haibo, Xiaoyu, Xiaoming, & Zhijin, 2018). and they found that career adaptability positively predicts supervisor job performance and individual career success and is negatively related to turnover intention (Haibo et al., 2018).

Related to this, Zacher and Griffin (2015) examined the relationship between career adaptability and job satisfaction using a sample of 577 older workers in Australia. The study revealed that older workers' career adaptability is positively related to job satisfaction and that career adaptability has a positive effect on changing their job satisfaction over time. This study confirms that career adaptability positively predicts career success since job satisfaction act as an important dimension in psychological success. Similarly, Zacher (2015) examined the daily influence of career adaptability resources (concern, control, curiosity, and confidence) on regular job and career outcomes for employees in two countries, Netherlands

(N=53) and United States (N=234) and found that daily career adaptability resources (concern, control, curiosity, and confidence) positively predicts daily task and career performance as well as daily job and career satisfaction (Zacher, 2015).

In a different context, Zacher (2014) investigated the relationship between career adaptability and subjective career success for 1723 employees in Australia. The findings showed that overall career adaptability acts as positive antecedent for career satisfaction and self-rated career performance. However, only concern and confidence are related to subjective career success (Zacher, 2014). In support, Konstam et al. (2015) have found that control and confidence are positively associated with life satisfaction and that subjective well-being is only significantly predicted by control, not confidence. In contrast, control has a negative effect on individual perception toward well-being since control is considered as "a contextual construct rather than a trait within the individual" (Konstam et al., 2015, p. 471). Hence, individuals perceive control in relation to the changing environment or external circumstances such as economic crisis and high levels of unemployment, which have a negative impact on their perception of control (Konstam et al., 2015).

Overall, the majority of empirical studies established that career adaptability is positively linked to positive career outcomes such as life satisfaction (Santilli et al., 2014), career success (Chan & Mai, 2015), employee retention, and work-life balance (Coetzee & Stoltz, 2015) while it is negatively related to negative career outcomes such as turnover intention (Chan & Mai, 2015). However, Duffy et al. (2015) found that moderate correlations exist between career adaptability resources (concern, control, curiosity, and confidence) and academic satisfaction while others confirmed that career adaptability has a positive relationship with turnover intention (Ito & Brotheridge, 2005; Safavi & Karatepe, 2018). In light of the stated evidence, employees with a higher level of career adaptability will positively achieve positive career outcomes (career success).

# H2: Career adaptability is positively related to career success.

## 2.5.4 Protean Career Orientation and Psychological Capital

During the last two decades, protean career orientation has emerged in response to the turbulent business environment and the effects of globalisation, which shifted the psychological contract from the organization to the individual. This shift in career structure encourages individuals to be more responsible for their career (Hall, 1996, 2004). In line with the current scenario (PCO), individuals have to understand that they need to set their own career goals independent from the organization and develop a broader perspective (Sen & Hooja, 2015). This new career orientation requires an intrinsic positive motivation to push the individual toward achieving his/her expected goals. This positive approach (psychological capital) can help individuals to overcome the challenges that may come their way and achieve their career goals (Sen & Hooja, 2015). Psychological capital contains four dimensions (self-efficacy, hope, optimism, and resilience) that act as motivators for individual success. Prior studies identified proactivity as the key feature of the self-directed approach (Briscoe & Hall, 2006; Vos & Soens, 2008). Hence, when the individual becomes PCO (self-directed) with proactivity, he/she needs more self-efficacy, hope, resilience, and optimism to attain his/her career success.

To date, only a few studies have examined the relationship between PCO and PsyCap (Krishna, 2016; Rowe, 2013; and DiRenzo, 2011). In the US, DiRenzo (2011) found that a

strong correlation exists between PCO and PsyCap and that PsyCap is related to subjective career success and work-life balance. This result is in line with Rowe (2013) who found that PsyCap has a direct effect on PCO dimensions (self-directed and values-driven) as a whole while Krishna (2016) found that a partial relationship exists between PsyCap and PCO. Furthermore, Li (2018) investigated the role of PsyCap as a mediator of PCO and well-being among 518 knowledge workers at three enterprises in China, and the result showed that PsyCap partially mediates that relationship (Li, 2018). Another study by DiRenzo observed that PCO is positively related to career capital (human, social, and psychological capital) in western culture (Direnzo et al., 2015). Therefore, this research is concerned with investigating the relationship between PCO and PsyCap in a non-western cultural context.

H3: PCO is positively related to psychological capital.

### 2.5.5 Psychological Capital and Career Success

Psychological capital was developed by Luthans and Youssef (2004) and defined as "an individual's positive psychological state of development" (Luthans, Avolio, et al., 2007; Luthans et al., 2004). Since then, PsyCap has been investigated with different outcomes like career success and work-life balance (DiRenzo, 2010) and performance and satisfaction (Luthans et al., 2007). It was found that PsyCap has a strong effect on individuals' career success and other positive outcomes in the workplace and PsyCap significantly predicts employability, career success, and work-life balance. In other words, an employee with high PsyCap is more likely to be successful in his/her career and committed to continue working in the organisation. PsyCap comprises of four valuable constructs (confidence or self-efficacy, hope, optimism, and resilience) that are grounded on positive organisational behaviour (POB) (Luthans et al., 2004).

Prior literature showed that there is a positive relationship between PsyCap and career success (Singhal & Rastogi, 2018). According to Luthans et al. (2007) who studied the relationship between psychological capital with performance and satisfaction for 174 management students at Midwestern University, there is a positive relationship between PsyCap and performance and job satisfaction. Also, when PsyCap's four components are interrelated, they act as a better predictor of these outcomes than investigated one by one. In a different context, Luthans, Avolio, Walumbwa, and Li (2005) investigated the relationship between psychological capital and performance for 422 workers in China. They investigated the workers' positive states of hope, optimism, and resiliency separately and combined into a core construct of psychological capital and found that they are significantly correlated with their performance, as rated by their supervisors. In the same context, Ngo and his colleagues (2014) found that PsyCap resources are related to career success in the case of 362 Chinese employees working in three large companies in different industries, including energy, telecommunication, and manufacturing of multimedia electronics (Ngo et al., 2014).

In another study, Karatepe and Karadas (2015) investigated the effect of PsyCap on job, career and life satisfaction mediated by work engagement. This study involved four and five hotels star in Bucharest, Romania, and the results suggested that optimism appears to be the best indicator of psychological capital, followed by resilience, self-efficacy and hope. Further, the finding revealed that employees with high psychological capital are more engaged and satisfied with their job, career and life (Karatepe & Karadas, 2015). It supports the earlier study of Schulz et al. (2014) who found that individuals with high PsyCap enjoy "higher levels of job satisfaction, commitment to their organisation, and most importantly

are less likely to quit" (Schulz, Luthans, & Messersmith, 2014, p. 628). Hence, the previous studies showed that PsyCap is linked to career success.

H4: Psychological capital is positively related to career success.

#### 2.5.6 The Mediation Role of Career Adaptability and Psychological Capital

Although there is strong evidence that suggests the association of protean career orientation with career success, little is known about the underlying mechanisms. Self-determination theory assumes that individual factors are linked to key individual-level outcomes via intrinsic motivation (Ryan and Deci, 2011). The presence of intrinsic motivation for work such as career adaptability (CAA) and psychological capital (PsyCap) fosters a goal of accomplishment (Gulyani & Bhatnagar, 2017) such as career success. When employees feel intrinsically motivated to work, proactively manage their careers effectively, they will be more satisfied with their careers compared to individuals with more passive career attitudes (Volmer & Spurk, 2011).

Moreover, self-determination theory suggests that intrinsically motivated employees are more likely to initiate the accomplishment of their career and organisational goals (Ryan, 2016). Similarly, Volmer and Spurk (2011) argued that self-directed is rewarded only in companies that value autonomy and proactive behavior. Thus, individuals with high PCO are expected to be self-determined in terms of taking the initiative for career development (Briscoe et al., 2006). Previous studies showed there is a possible mediation of both CAA and PsyCap between PCO and career success. Also, DiRenzo (2011) and DiRenzo et al. (2015) observed that PsyCap has a central role in linking PCO with actual work and life outcomes. CAA has been studied as an outcome of PCO. For instance, Chan et al. (2015) found that CAA is more strongly related to protean attitudes. Also, CAA has a significant correlation with career success (Zacher, 2014; Zacher and Griffin, 2015). Accordingly, Safavi and Karatepe (2018) have studied the mediating role of CAA between high-performance work practices (HPWPs) and hotel employee outcomes using four and five hotels in Iran. The result revealed that CAA played an essential mediator for the relationship between HPWPs and hotel employee outcomes (Safavi & Karatepe, 2018). Similarly, Hirschi et al. (2015) also documented that concern and control components of CAA functioned as a full mediator of the impacts of core self-evaluations and proactivity on several outcomes such as career planning and decision-making difficulties (Hirschi, Herrmann, & Keller, 2015).

In contrast, some empirical studies have found that CAA partially mediates the relationship between personality predictors and positive outcomes (Chong & Leong, 2017; Maggiori et al., 2013). For example, Storme and Celik (2017) have investigated the mediator role of CAA between the trait of emotional intelligence (EI) and academic satisfaction for 410 university students in France. The result showed that CAA's resources partially mediate the relationship between trait of EI and academic satisfaction (Storme & Celik, 2017). Similarly, Nilforooshan and Salimi (2016) examined the mediator role of CAA between personality traits and career engagement for 201 university students in Iran. The finding indicated that CAA resources partially mediate the relationship between personality traits and career engagement (Nilforooshan & Salimi, 2016).

Secondly, PsyCap has been studied in terms of its various effects. As mentioned above in the hypotheses 4 and 5, PsyCap has a positive effect on career success (Karatepe & Karadas,

2015), whereas DiRenzo (2011) and DiRenzo et al. (2015) suggested examining PsyCap as a mechanism between PCO and positive work and life outcomes. It was also found that PsyCap partially mediates the relationship between PCO and positive outcomes such as wellbeing and career satisfaction (Ngo et al., 2014; Li, 2018).

On the other hand, the resources of CAA and PsyCap can generate additional resources, which is in line with the basic tenets of conservation of resources (COR) theory (Hobfoll, 1989). Hence, introducing mechanisms such as CAA's resources (concern, control, curiosity, and confidence) and PsyCap's resources (hope, efficacy, resilience, and optimism) of PCO and career success help generate other personal resources to achieve individuals' career success (Hobfoll, Johnson, Ennis, & Jackson, 2003). In essence, Hall's model of protean career process in 2018 (p. 6.6) demonstrated the importance of personal resources as mechanisms of PCO and career success in the workplace. Therefore, based on COR theory, PCT, and the empirical studies outlined above, career adaptability and PsyCap can serve as mechanisms of PCO and career success.

# H5: CAA mediates the relationship between PCO and career success.

## H6: PsyCap mediates the relationship between PCO and career success.

## 2.5.7 The Moderation Role of Islamic Work Ethics

The role of religion in shaping people's philosophy and behavior in their work has recently attracted scholarly attention (Bakar, Cooke, & Muenjohn, 2016). Empirical evidence showed the effective role of religiosity towards several human resources and organisational outcomes (Bakar et al., 2016). Specifically, Islamic work ethic (IWE) has a prominent role in promoting employee commitment (Salahudin et al., 2016a), in addition to other intrinsic individual

values and motivations such as engagement to work (Tufail et al., 2016). Further, IWE forms a part of work ethics movement focusing on monetary and non-monetary rewards, the desire for career upward mobility, and organisational commitment and involvement activities (Yousef, 2001).

Originally, IWE has emerged from the Holy Qur'an and the authentic sayings and practices of Prophet Mohammed (Peace Be Upon Him) that emphasise on honesty and justice in trade and fair wealth distribution (Yousef, 2001). Regarding this, Muslim employees are expected to be responsible in their job duties and knowing that their reward is ultimately with Allah (SWT) since work is considered as a part of worship (Khan et al., 2013). Thus, it follows that employees viewed from the Islamic perspective have inner motivation to "perform their job with the idea that working is an act of worship", and Allah observes whatever they do (Tufail et al., 2016).

In today's world, there is an increasing need for understanding business ethics from the Islamic perspective. Firstly, about 22.5% of the world population is Muslim, which makes Islam the second largest religion after Christianity (Johnson & Grim, 2013), its growth rate being 1.5 times higher than the general population, especially in Africa and Asia (Johnson & Grim, 2013). Secondly, Muslim populations have generated industrial, financial, and educational institutions that contribute to the global economic growth (Sundararajan & Errico, 2002). Thirdly, the number of Muslim customers is growing worldwide as more and more multi-national companies (MNCs) are opening branches in Muslim countries (Saeed, Ahmed, & Mukhtar, 2001). Thus, the Sudan as context of this study seems appropriate as it is a Muslim majority county.

The importance of IWE in the workplace for increasing the employee satisfaction, commitment to the organisation, organisational justice, intention to stay, and organisational citizenship behaviour has been established in the literature (Khan, Abbas, Gul, & Raja, 2013; Murtaza et al., 2016; Yousef, 2001), and also, its role in buffering the effect of ambiguity, conflict, turnover intentions, and other counterproductive behaviors (Maaz-ud-Din et al., 2017; Yousef, 2000). Therefore, this research uses IWE as a moderator in the relationship between protean career orientation (PCO) and both kinds of personal resources, career adaptability (CAA) and psychological capital (PsyCap). Furthermore, the researcher assumed the existence of the moderated mediation of IWE on the indirect relationship of PCO with academics' career success through both CAA and PsyCap resources for the following reasons.

Firstly, IWE has dyadic characteristics which can be described as a contextual or personal resource that has a substantial impact on the individuals' resources, especially in Muslim countries or societies shaped by Islamic values (Khan et al., 2013; Yousef, 2001). In this regard, Sehhat et al. (2015) investigated the influence of IWE on PsyCap for Iranian employees in the public sector. The result revealed that IWE has a positive impact on employees' PsyCap (Sehhat, Mahmoudzadeh, Ashena, & Parsa, 2015). In other words, employees with high IWE increase their hope, efficacy, resilience, and optimism, which in turn increases their chances for achieving career success. Also, IWE has a positive relationship with employees' adaptive performance (Javed et al., 2017) and employee engagement (Bakar et al., 2016).

Secondly, there are inconsistencies in the findings regarding the relationship between PsyCap and career adaptability resources with a variety of proactive personality constructs that still need to be resolved (Ito & Brotheridge, 2005; Klehe, Zikic, Van Vianen, & De Pater, 2011). For example, Klehe et al. (2011) found that job satisfaction has a negative effect on CAA (Klehe et al., 2011) while Ito (2005) asserted that autonomy has a zero effect on CAA. In other words, there is no association between autonomy and CAA (Ito & Brotheridge, 2005), resilience (Obschonka, Hahn, & Bajwa, 2018) and CAA resources. In support, CAA has been found to partially mediate the relationship between PCO and career satisfaction (Stauffer et al., 2018). However, Nilforooshan and Salimi (2016) found an inconsistent relationship between personality traits and CAA resources, in addition to PsyCap resources having an inconsistent relationship with PCO (Li, 2018) and the PsyCap dimension of resilience being not related to authentic leadership (Rego et al., 2016).

This contradicts other studies confirming that PCO has a positive relationship with both CAA and PsyCap (Direnzo et al., 2015; Li, 2018; Stauffer et al., 2018). Konstam et al. (2015) suggested the possibility of the presence of contextual or personal factors that increase and decrease the individuals' career adaptability resources toward their achievement. In accord, Abele et al. (2011) argued that the employment context can work as a moderator for driving career success. In acknowledgment of the aforesaid, Islamic perspectives can control these problems of turnover intention and stress through increasing or regulate their psychological resources (Abbasi, 2015). Since the IWE asserts dedication to work, responsibility, justice, generosity, and creativity in organisations (Ali & Al-Kazemi, 2007), it is potentially playing an important moderator in the relationship between PCO and both CAA and PsyCap resources for assisting academicians to achieve their career goals. IWE constitutes part of the

Muslim individuals' belief system (Khan et al., 2013), that goes beyond the immediate satisfaction of a job well done due to its meta-physical implications (Amilin, 2016). Accordingly, an individual achieves inner balance in life by distinguishing between material, non-material, and spiritual satisfaction (Amilin, 2016). In this context, individuals with higher IWE will increase their PCO for maximising their CAA and PsyCap resources, which in turn helps them to achieve career success, whereas those with low IWE also have a low PCO towards their CAA and PsyCap resources.

Finally, the conservation of resource (COR) theory proposes that individuals invest their personal resources for dealing with threatening conditions and protect themselves from adverse work-related outcomes (Hobfoll, 1989). Further, Xanthopoulou et al. (2007) argued that personal resources generate other resources and contribute to the creation of resource caravans, which may result in positive outcomes. Likewise, IWE represents a personal resource that is capable of energising the employees' psychological resources (PCO, PsyCap and CAA) since COR theory suggests that "employees are motivated to protect their current limited resources and obtain the new ones" (Kim et al., 2017, p. 1641). Accordingly, IWE constitutes a personal resource that enables employees to cope with challenging situations and work strain to achieve success in the workplace (Kim et al., 2017). Based on COR theory, individuals with high IWE will be high in PCO, whereas those are low in IWE will be low in PCO towards both their CAA and PsyCap, which will ultimately affect their career success. As summarized by Schulz et al. (2014), "success builds success" (p. 628), which means that individuals who successfully manage their personal resources will achieve success in the workplace.

In sum, CAA and PsyCap constitute similar constructs and are psychological resources affected by context and culture (Nilforooshan & Salimi, 2016). One of the objectives of this research is to introduce IWE as a moderator between PCO and both PsyCap and CAA for boosting academicians' career success. Also, this research will do further analysis through adopting Preachers' and Hayes' (2005) method for analysing the moderated-mediation or 'conditional indirect effect' (Hayes, 2013a). This moderated mediation or mediated moderation concept is widely documented in the literature (Hayes, 2012, 2013a, 2015; Muller, Judd, & Yzerbyt, 2005; Preacher, Rucker, & Hayes, 2007). It means that academicians who believe in IWE become more adaptable toward their career success. Based on the aforementioned, the following six (6) hypotheses were drawn:

H7 & H8: IWE has a positive relationship with CAA and PsyCap.

H9 & H10: IWE moderates the direct relationship between PCO and both CAA and PsyCap such that relationship will be stronger when IWE is high.

H11 & H12: IWE moderates the indirect relationship between PCO and career success through both CAA and PsyCap such that indirect relationship will be stronger for individuals who high in IWE than those low in IWE.

# 2.6 A summary of Research Hypotheses

- (1) H1: PCO is positively related to career adaptability.
- (2) H2: CAA is positively related to career success.
- (3) H3: PCO is positively related to PsyCap.
- (4) H4: PsyCap is positively related to career success.
- (5) H5: CAA mediates the positive relationship between PCO and career success.
- (6) H6: PsyCap mediates the positive relationship between PCO and career success.
- (7) H7: IWE has a positive relationship with CAA.
- (8) H8: IWE has a positive relationship with PsyCap.
- (9) H9: IWE moderates the direct relationship between PCO and CAA such that the relationship will be stronger when IWE is high.
- (10) H10: IWE moderates the direct relationship between PCO and PsyCap such that the relationship will be stronger when IWE is high.
- (11) H11: IWE moderates the positive indirect relationship between PCO and career success through CAA such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.
- (12) H12: IWE moderates the positive indirect relationship between PCO and career success through PsyCap such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.

# 2.7 Chapter Summary

This chapter overviewed the career success concept in terms of historical background, definition, dimensions, and approaches (traditional and contemporary approach) in general. Further, this chapter highlighted the importance of positive psychological resources such as protean career, psychological capital, career adaptability, and Islamic work ethics. It also explained the theories underpinning the conceptual framework, in addition to the hypotheses development, which will be tested using smart-PLS and PROCESS macro for fulfilling the purpose of this research and bridging the research gap. Finally, the researcher shared some insight into the inconsistency between the IWE's questionnaire items and theoretical understanding.

#### **CHAPTER 3: RESEARCH METHODOLOGY**

### 3.1 Introduction

This chapter explains the philosophical research approaches and what is appropriate one for this study. Besides, the research methods and design of this research. Other sections related to the research procedures in terms of data preparations, data collection method and what are the important analysis criterions will be uitilised as well as research design, questionnaire design, sampling design, and research population.

#### **3.2** Philosophical Approach of Research

Although philosophical ideas do not appear in several studies, they still influence the practice of research and need to be identified (Creswell, 2014). Philosophical approaches include ontology and epistemology which underpinning worldviews about knowledge that guide actions in the research field (Creswell & Plano-Clark, 2011). Worldviews differ in their perspective of the nature of reality (ontology), the nature of knowledge (epistemology) and the role that values play in research (axiology), and the research's process/design (methodology) (Creswell & Plano-Clark, 2011). Hence, the stated notions need more elaboration in order to clarify the philosophical approach of this research, which will be discussed in the following section.

# 3.2.1 Ontology

Ontology is an essential starting point of all research that refers to the philosophical assumptions about the nature of reality (Creswell & Plano-Clark, 2011) and encapsulates one's assumptions about the way the world operates (Saunders et al., 2009). The literature showed that ontology has important assumptions that are made about the nature of social

reality, about what exists, what it looks like, what units make it up and how these units interact with each other. In brief, ontological assumptions are concerned with what author's believe constitutes social 'reality', and determines how researchers conduct their enquiries and the interpretation of data collected (Saunders et al., 2009).

Further, ontology is comprised of two aspects that are objectivism and subjectivism (Saunders et al, 2009). Objectivism assumes that social entities are external (Saunders et al., 2009), that is, social phenomena and their meanings have an existence independent of social actors (Bryman & Bell, 2003). On the other hand, subjectivism holds that social phenomena are created from perceptions and consequent action of social actors. This ontological position reveals that social phenomena and categories are not only produced through social interaction, but are also in an on-going state of revision (Bryman & Bell, 2003).

### 3.2.2 Epistemology

Epistemology, one of the core branches of philosophy, is concerned with the theory of knowledge, particularly in regard to its methods, validation and the potential ways of gaining knowledge of social reality, whatever it is understood to be (Saunders et al., 2009). It concerns what constitutes acceptable knowledge in a field of study (Saunders et al., 2009) or what is regarded as acceptable knowledge in a discipline. Thus, epistemology is about how we come to know what we know (Creswell, 2014).

#### 3.2.3 Worldviews (Paradigms)

This part of the methodology involves four distinct worldviews or paradigms which have been discussed by Saunders et al. (2009) as *Post-positivism*, *Constructivism*, *Participatory* and *Pragmatism*. These paradigms share common elements in the way reality is viewed, and how the elements and worldviews are translated into practice. This portion of the chapter discusses the worldviews in relation to the ontological and epistemological assumptions associated with each, and then states the worldview depicted in this research.

#### 3.2.3.1 Post-positivism

The *post-positivist* worldview is often referred to as the 'scientific method of empirical science' and post-positivism, which is also known as positivist/post-positivist research (Creswell, 2009). Ontologically, post-positivists have a tendency to view reality as singular and use one theory for explaining a single reality (Creswell & Plano-Clark, 2011). In postpositivism, researchers make claims on knowledge based on determination, in which the problems studied reflect the need to identify and assess causes influencing outcomes (Creswell, 2009; Creswell & Plano-Clark, 2011). It also advocates reductionism whereby ideas are reduced to a small, discrete set of ideas to test, such as the variables that comprise hypotheses and research questions. The other claim relates to empirical observation and measurement, in other words, the development of numeric measures of observation (Creswell & Plano-Clark, 2011). The next assertion relates to theory verification. Theories need to be tested or verified and refined to better understand the world. With regards to the methodological approach or the process of research used in post-positivist research, the researcher works from top-down meaning from a theory to hypotheses to data, either to further develop or contradict the theory (Creswell & Plano-Clark, 2011).

#### 3.2.3.2 Constructivism

The constructivist worldview is often combined with the data interpretation as part of qualitative research (Creswell, 2009). In this worldview, the understanding and meaning of

the phenomena of interest is formed through participants and their subjective views on a specific subject. Participants seek an understanding of the world they live and work, which follows that there are multiple participant meanings as individuals develop subjective meanings of their experiences (Creswell & Plano-Clark, 2011). Thus, the researcher relies on the participants' view of the investigated phenomena, and his/her questions are broad and open-ended, so that participants can construct the meaning of a situation (Creswell & Plano-Clark, 2011). Furthermore, subjective meanings are formed through interaction with others and through historical and cultural norms that are operational in the participants' lives (Creswell, Plano-Clark, Gutmann, & Hanson, 2003). Researchers inductively develop a theory or pattern of meaning, rather than starting with a theory as in the case of postpositivism. Constructivists suppose that the world consists of multiple individual realities, and hence they actively seek multiple perspectives from participants developed through multiple interviews (Creswell & Plano-Clark, 2011). In their research, constructivists tend to use a bottom-up approach, whereby the participants views are used to build and develop broader themes and generate a theory that interconnects the themes Plano-Clark, 2011).

### 3.2.3.3 Participatory Worldview

In the participatory worldview, researchers advocate an action agenda to help marginalised individuals (Creswell, 2009). This worldview is often associated with a qualitative approach rather a quantitative approach. This group of researchers claim knowledge through advocacy (Creswell, 2009) with the aim to improve society, and hence posit that issues such as empowerment, marginalization, hegemony, patriarchy that affect marginalized groups must be addressed (Creswell & Plano-Clark, 2011).

#### 3.2.3.4 Pragmatism

Pragmatism is a "deconstructive paradigm that debunks concepts such as 'truth' and 'reality' and focuses primarily on 'what works' as the thruth regarding the research question under investigation" (Teddlie & Tashakkori, 2003). With pragmatism, the focus is on elements including the consequences of the research, the primary importance of the question asked rather than the methods, and on the use of multiple methods of data collection to inform the problems under the study (Creswell & Plano-Clark, 2011). Ontologically, pragmatists view reality as both singular as well as multiple (Creswell & Plano-Clark, 2011). Singular reality suggests that there may be a theory that operates to explain the phenomena of study, however, multiple varied individual inputs can be assessed to investigate the nature of the phenomenon (Creswell& Plano-Clark, 2011). Consequently, pragmatism uses a pluralistic approach to derive knowledge about the problem and is oriented toward 'what works' and practical results (Creswell, 2009; Creswell & Plano-Clark, 2011).

## 3.3 The Current Research Paradigm

The three traditional research paradigm approaches are positivism, constructivism, and critical theory. A positivist research paradigm is usually associated with quantitative research that assumes there is only one actual reality that can be discovered using rigorous empirical study (Creswell, 2009) whereas the other two approaches concern with qualitative and mixed-methods research respectively (Creswell, 2009). According to the assumption underlying the positivist research paradigm that knowledge is based on verified hypotheses and an objective and true reality exists, the reality can be generalised, and researcher and reality are separated. Moreover, this research involves theory testing by developing and testing hypotheses after gathering and analysing primary data that are collected from the

academician work in public Sudanese Universities. On the other hand, the adopted approach (deductive) is concerned about standardised information to describe variables or to study relationships between variables, which is the main objective of this study to find the relationships between independent variables and dependents variables.



### **3.4** Research Design

Figure 3. 1: Showing the Research Design and Process

Sekaran and Bougie (2014) defined the design of research as a blueprint for the collection, measurements, and analysis of data, created to answer the research questions. The research design involves the philosophy of the phenomenon that is approached by the researcher, definition of the research problem, objective, time horizon, method of data collection, discussion of the findings, and conclusion. Hence, this research follows the post-positivist approach, which involves defining and redefining the research problem, formulating hypotheses, collecting, organizing and evaluating data, making deductions and reaching conclusions, and finally testing the hypotheses and conclusions to determine whether they fit the formulated hypotheses with the overall theory or not. Furthermore, this research designed is based on the cross-sectional research approach with a deductive research design, applies the quantitative research techniques, and involves a self-reported survey questionnaire for academic staff to investigate the impact of positive psychological resources on academic staff's career success in Sudanese universities (see Figure 3.1).

## **3.5 Method of Data Collection**

This quantitative research is based on primary data that can be adequately collected through a questionnaire. According to Sekaran (2003; 2016), the questionnaire is a prepared written set form of questions for participants in order to record their anticipated answers. It is widely used by scholars particularly in business management and social sciences (Rowley, 2014). Questionnaires can be distributed to the potential respondents by several channels such as post, e-mail, online, or by hand (Rowley, 2014). Therefore, for the study purpose, the researcher conducted the final survey by using the questionnaire as the primary method for data collection. In other words, this research utilised a self-administrated questionnaire that was adopted and adapted from the previous literature related to this research constructs.

# 3.6 Sampling Process

The process of sampling consists of selecting a sufficient number of the right elements for the target population (Sekaran & Bougie, 2016). This helps the researcher to gain a proper understanding of the sample's characteristics and facilitates the generalisation for population effect by phenomenon understudy (Sekaran, 2003). Thus, the main steps in sampling involve: (i) defining population; (ii) the determination of sample frame; (iii) determining the sampling design or technique; (iv) setting the appropriate sample size; and (v) executing the sampling process (Sekaran & Bougie, 2016).

### **3.6.1** Identifying the Population

A population is a group of individuals or organisations who have the same characteristics (Clark & Creswell, 2015). It can also be defined as the entire set of people, things, or events that the researcher has a desire to investigate to draw the findings and resolve the problem (Sekaran, 2003). Populations can be small or large depending on the objective of research and phenomenon understudy as well as the type of research. For example, quantitative research needs a larger population number than qualitative and mixed-methods studies (Clark & Creswell, 2015). The targeted population of this research is academic staff who are fully employed in public universities in the Sudan as teaching assistants, lecturers, assistant professors, associate professors, and a full-professors. All of them are academicians with a career success problem in terms of lack of research fund, training, publication, other financial support, and satisfaction (Gasim, 2010; Saeed & Fadlallah, 2015).

### 3.6.2 Sample Design

The researcher may need to use different types of sampling design or strategies to select an appropriate and representative sampling for a targeted population (Clark & Creswell, 2015). The two most popular sampling types among methodologists are probability and nonprobability sampling (Creswell, 2009; Sekaran, 2003).

Firstly, a probability sampling is done by following a random process to select individuals from the population (e.g., students in schools) so that every individual has an equal chance (or probability) of being chosen in the final sample (Clark & Creswell, 2015). It contains

three strategies (simple random, stratified random, and systematic random sampling) that give rigor to the research for generalisation (Sekaran, 2003). However, these strategies have been criticised for their difficulty in finding a complete list of population (Memon, Ting, Ramayah, Chuah, & Cheah, 2017; Saunders, Lewis, & Thornhill, 2009) and achieving a 100% response rate on all issues (Rowley, 2014).

Secondly, nonprobability sampling means selecting individuals who are available, convenient and meet some criteria or characteristics related to the specific phenomenon (Clark & Creswell, 2015) and suitable in those cases where the researcher does not have the complete population list (Saunders et al., 2009). Nonprobability sampling involves four strategies (quota, purposive, snowball, self-selection, and convenience sampling) and is recommended for its high fitness and accuracy when the purpose is to test the proposed theoretical assumptions (Hulland, Baumgartner, & Smith, 2017; Memon et al., 2017). Moreover, the objective of most academic research is not sample generalization but theory generalisation (Hulland et al., 2017; Memon et al., 2017). In other words, it is meant to contribute to knowledge that can be applied in various contexts rather than in a limited setting.

Thus, this research employs a non-probability sampling technique, more precisely, purposive sampling that concentrates on specific types of people who can provide the desired information (Sekaran & Bougie, 2016). Such a sampling technique is more helpful in heterogeneous, homogeneous, and critical cases (Saunders et al., 2009). Also, purposive sampling is appropriate when the selection of sampling strategy suits the sampling objectives and the scope of the research (Memon, Ting, Ramayah, Chuah, & Cheah, 2017).

Accordingly, Hulland et al. (2017) found that most of the studies in marketing and management use convenient sampling, which is appropriate for theory generalisation. However, most studies applying random sampling have a confused justification or incomplete (Hulland et al., 2017).

As mentioned earlier, the purpose of this research is to investigate the impact of psychological resources on career success for academic staff who have a full-time job in public universities in the Sudan. Since it is not possible to obtain the full list of all the academic staff in all public universities in the Sudan, it follows that purposive sampling is the appropriate technique for this research based on judgment and covering diverse academic positions.

### 3.6.3 Sampling Frame

The sampling frame constitutes the physical representation of all the elements in the targeted population that the sample is selected from (Sekaran & Bougie, 2016). This research concerns the public universities in the Sudan shown in Table 3.1, which contains all universities as listed by the Ministry of Higher Education, in addition to the numbers of employed academicians and their positions (teaching assistant, lecturer, assistant professor, associate professor, and full professor).

No.	University Name	Numbers of Academic staff
1	University of Khartoum	4,559
2	Omdurman Islamic University	1,447
3	Sudan University of Science and Technology	1,365
4	University of Gezira	1,084

Table 3. 1: Academic staff numbers in	public universities in	the Sudan
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No.	University Name	Numbers of Academic staff		
5	Al Neelain University	1,279		
6	University of Bahri	794		
7	University of the Holy Quran and Islamic Sciences	1,144		
8	University of The Qur'an And Taseel Of Science	278		
9	AL Zaim AL Azhari University	642		
10	University of Sinnar	399		
11	University of EL Imam EL Mahdi	56		
12	University of Bakht Al Ruda	461		
13	University of Blue Nile	165		
15	Red Sea University	374		
16	University of Gadarif	221		
17	Nile Valley University			
18	University of Dongola	499		
19	University of Shendi	537		
20	University of Kordofan	681		
21	Dalanj University	277		
22	West of Kordufan University	334		
23	Al Fashir University	652		
24	University of Nyala	347		
25	University of Zalingei	146		
26	Al Butana University	102		
27	Karary University	273		
28	Open University of Sudan	161		
29	Elsheikh Abdallah Elbadri University	86		
30	University of Technology - Abdul-Latif Alhamad	191		
	Total number of academic staff19,438			

 Table 3. 1: continued

# Source: Adapted from Ministry of Higher Education in Sudan (2016)

#### 3.6.4 Sampling Size

Previous literature revealed different practices for determining sample size in quantitative research. First, Krejcie and Morgan (1970) created a table that helps the researcher to determine the appropriate sample size based on population numbers (Krejcie & Morgan, 1970). Further, 'the Rule of Ten' was proposed by Chin and Newsted (1999) (Aguirre-urreta, 2015), which suggests that the acceptable minimum sample size should equal the number of

predictors multiplied by ten. Although these two methods have been recommended by methodologists (Sekaran, 2003; and Hair et al., 2010) respectively, they have received much criticism for their lack of statistical power.

No.	University Name	Academic staff's numbers	Targeted Sample size
1	University of Khartoum	4,559	176
2	Omdurman Islamic University	1,447	56
3	Sudan University of Science and Technology	1,365	53
4	University of Gezira	1,084	42
5	Al Neelain University	642	25
6	AL Zaim AL Azhari University	1,279	49
	Total academic staffs' numbers	10,376	400

Table 3. 2: Sample size determination from six (6) public universities in the Sudan

Source: Adapted from the Ministry of Higher Education report (2016)

Thus, subsequent scholars recommended G*power for sample size determination, particularly when using Smart PLS as statistical software for analysing the results (Aguirreurreta, 2015; Ringle, Da Silva, & Bido, 2014). Following this suggestion this research used G*power software for calculating the appropriate sample size that has reliable statistical power. The model of this study contains six predictors, and the researcher is looking for small effect size 0.15 error probability 0.05 and power probability 0.80 (see Figure 3.2).

The result of G*power showed that this study needs to collect 98 questionnaires from respondents to give good results. For reaching the optimal statistical power it is recommended adding additional digits to the final sample size or multiply the G*power result

(Ringle et al., 2014). Accordingly, the G*power result (98) was multiplied four times to reach the optimal statistical power. Thus, 400 questionnaires were collected from the higher ranked six (6) public universities in the Sudan (Khartoum University, Sudan University, Al Gazira University, Omdurman Islamic University, Alzaiem Alazhari University, and Al Neelain University) according to the population percentage in each university as classified in Table







### 3.6.5 Data Analysis Software Programs

The research hypotheses were tested based on structural equation modelling (SEM) using a Partial Least Squares (PLS) approach (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). PLS involves excellent features and characteristics that are considered as useful for the analysis part in order to draw accurate findings. For example, a robust PLS reduces the level of missing data to a reasonably low level. Also, it helps incorporate the reflective and 100 formative constructs measurement model. At the critical point, PLS is used to measure the exploratory model versus AMOS and estimate the confirmatory model (Hair et al., 2014) (see Table 3.3).

No.	Use PLS-SEM When	Use CB-SEM when
1	Predicting key target constructs or identifying key 'driver' constructs.	The goal is theory testing, confirmation, or the comparison of alternative theories.
2	Formatively measured constructs are part of the model under study.	Error terms require additional specification.
3	The complexity of the model (many constructs or indicators).	The structural model has non-recursive relationships.
4	Small sample size or the data are non- normally distributed.	The research requires a global goodness fit criterion.
5	The plan is to use latent variable scores for doing extra analysis.	

 Table 3. 3: The Rules of Thumb for Choosing PLS-SEM and CB-SEM

# Source: Adapted from Smart PLS book of Hair et al. (2014)

Accordingly, this research applied a Smart-PLS software to analyse the data by applying a bootstrapping technique to determine the significance levels for loadings, weights, and path coefficients (Ramayah, Yeap, & Ignatius, 2013). Moreover, this research applies extra analysis for hypotheses (H9 & H11) on Macro PROCESS version 3.2 (Hayes, 2013) for moderated-mediation analysis (Hayes, 2013a). Besides these two types of software, SPSS 22.0 also will be used for the description of data and common method bias.

#### **3.7** Questionnaire Design

The questionnaire is divided into three sections to achieve proper and sufficient answers from the respondents. Section (A) is about the dependent construct, section (B) explains the independent constructs, and section (C) addresses the demographic information. Eventually, all questions are given in a close-ended format to achieve the study goal.

## 3.7.1 Section A

This section focuses on explaining the dependent construct of this study, which is career success. It includes nine (9) items that form the two dimensions of the career success construct (objective and subjective success). Earlier studies focused mainly on objective career success, while more recent studies focused more on subjective career success. However, several authors (such as Vos and Soens, 2008) urged the research community to bridge the gap in career success literature by combining the two dimensions into one single construct in order to present a more comprehensive picture of career success. Relatedly, among the most frequent measures used in career success literature are the scales developed by Greenhaus et al. (1990) and Turban and Dougherty (1994). These two scales are similar in content but the first scale measures career success as a unidimensional construct (i.e., subjective success) while the second scale operationalises career success as a multidimensional construct.

More specifically, the objective career success dimensions are salary, promotion, perceived employability, bonuses, hierarchal position, publication, or any tangible career attainment (Abele et al., 2011; De Vos & Soens, 2008; Turban & Dougherty, 1994), while subjective career success is operationalized as job and career satisfaction, internal

marketability, or any psychological satisfaction (Abu Said et al., 2015; Greenhaus, Parasuraman, & Wormley, 1990; Turban & Dougherty, 1994). Although career success is being operationalised and measured widely as two dimensions (objective and subjective) in different cultures and contexts (see Table 3.4), Sun and his colleagues developed a new threedimensional scale presented by 21 items and applied it to Chinese context. The findings revealed that employees' criteria of career success rely on the three dimensions of intrinsic fulfilment, external compensation, and work-life balance (Zhou, Sun, Guan, Li, & Pan, 2013). However, this scale is not much used in the literature and seems to be more readily applicable to Chinese culture.

Therefore, this research applied the most validated measures used to measure academics' career success. The career success construct constitutes a higher order formative construct and contains objective and subjective dimensions. For academics' objective career success, there are four categorical items (position, pay, promotion, and publication) that have been adapted from Abu Said et al. (2015).

More specifically, table 3.4 (below), showed the current position is operationalised as (1= teaching assistant; 2= lecturer; 3= assistant professor; 4= associate professor; and 5= full professor) (see Appendix A for all scale items). For subjective career success, among the five items adapted from Greenhaus et al. (1990) is "I am satisfied with the success I have achieved in my career" (see Appendix A for all scale items). Based on the above, the final items will be applied in the Sudanese context for collecting primary data from the respondents who worked as academicians in public universities. This type of data has been recommended

(Spurk et al., 2013) for extending the evidence of career success application, particularly in the context and pattern of academic staff in universities.

No	Author(s)	Career success	Country	
110.	Author(s)	Objective	Subjective	Country
1	Vos and Soens (2008)	Perceived employability	Career satisfaction	Belgium
2	Abele and SpurkSalary and hierarchal(2009b)status		Career satisfaction	Germany
3	Abu Said et al. (2015)	Salary, promotion, current position, and publications	Career satisfaction	Malaysia
4	(Spurk et al., 2013)	Salary, bonuses, promotion, and external marketability	Career, job satisfaction, and internal marketability	Germany
5	(Abele, Spurk, and Volmer, 2011a)	Salary and hierarchal position	Job and career satisfaction	Germany
6	(Turban & Dougherty, 1994)	Salary and Promotion	Career satisfaction	US
7	(Greenhaus et al., 1990)	)	Career satisfaction	US

 Table 3. 4: Career Success Measurements

# Source: Adapted from career success literature (2018)

# 3.7.2 Section B

This section consists of a question regarding the independent variables adopted and adapted for achieving the purpose of this research, which is discussed below.

# 3.7.2.1 Protean career orientation measures

The first validated scale of protean career orientation (PCO) was published by Briscoe et

al. (2006) and provided a valuable contribution to the only six existent publications (Hall et

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al., 2018). This scale includes two dimensions: self-directed career management attitude and values-driven career attitude (Briscoe et al., 2006). On the other hand, other scales have been developed focusing on contextual and cultural aspects. Baruch (2014a) developed a unidimensional scale for PCO focusing on self-direction and career success that was validated in the USA, Europe, Asia, and Oceania, which involved five items using a Likert scale ranging from "strongly disagree" (1) to "strongly agree" (7) and Cronbach's  $\alpha$  value of 0.71. Furthermore, Porter et al. (2016) created a short-form version seven scale for measuring PCO by using two dimensions (self-directed and values-driven), yet did not apply it in different contexts (see Table 2.1, adapted from Hall et al., 2018).

Therefore, this study applies Briscoe et al.'s (2006) scale as the scale most widely used and applied across different contexts and cultures and as recommended by established researchers such as Hall et al. (2018). Accordingly, for the final questionnaire 12 items are adapted from Direnzo et al. (2015) for measuring PCO which includes self-directed success as in "It is up to me to find and create opportunities for career progression," and valuesdriven success as in "It is important that my career helps me fulfill my life values" (see Appendix A for full scale). The items were rated on a Likert-scale ranging from 1= "strongly disagree" to 5 = "strongly agree" ( $\alpha$ =.87) (Direnzo et al., 2015).

### 3.7.2.2 Psychological capital measures

The psychological capital questionnaire (PCQ) was founded by Luthans, Youssef, et al. (2007) as 24 items and validated by Luthans, Avolio, et al. (2007). Psychological capital (PsyCap) is a higher order construct that contains the four subscales of hope, efficacy, resilience, and optimism (HERO), with each dimension consisting of six items. All items

were measured using a 5-point Likert scale of agreement with response options ranging from 1 = "strongly disagree" to 6 = "strongly agree". In contrast, some studies have applied different scales such as Paek, Schuckert, Kim, & Lee (2015) who used a 7-point Likert scale in their study of Korean hotel employees.

The scale items were adopted from well-established and thoroughly tested scales. Firstly, the hope items were adapted from Snyder et al. (1996) such as "There are lots of ways around any problem," and "Right now I see myself as being pretty successful at work." Secondly, the efficacy items were adapted from Parker's (1998) work (Avey, Luthans, Smith, & Palmer, 2010), among them "I feel confident analysing a long-term problem to find a solution," and "I feel confident presenting information to a group of colleagues." Thirdly, the resilience items were adapted from Wagnild and Young's (1993) measure such as "I usually manage difficulties one way or another at work," and "I feel I can handle many things at a time at this job." Finally, the optimism items were adapted from Scheier and Carver's (1985) measure of optimism (Avey et al., 2010). Examples of items for optimism scale are "I'm optimistic about what will happen to me in the future as it pertains to work" and "I approach this job as if 'every cloud has a silver lining." Accordingly, Avey et al. (2010) found that the PCQ-24 reliability and construct validity was  $\alpha = .93$  specified as (hope  $\alpha = .87$ , efficacy  $\alpha = .87$ , resilience  $\alpha = .72$ , optimism  $\alpha = .78$ ) (Avey et al., 2010). In a different context, Agarwal and Farndale (2017) reduced the PCQ-24 to 20 items by removing four items due to their poor model fit and achieved a high reliability of 0.912 (Agarwal & Farndale, 2017).

Therefore, this research applies PCQ-24 adapted from Luthans, Luthans, & Jensen, (2012), which constitutes the updated and validated version of the original one created by

(Luthans, Youssef, et al., 2007). Among the subscale items measuring hope is "There are lots of ways around any problem concerning my work in university," resilience includes "I usually manage difficulties one way or another concerning my work in university," optimism is presented by "I always look on the bright side of things regarding my work in university," and efficacy is measured by "I feel confident setting targets/goals for my schoolwork." The reliability of these instruments was 0.90. Moreover, all items are measured using a 5-point Likert scale of agreement ranging from 1 = "strongly disagree" to 5 = "strongly agree" (see Appendix A for full PCQ-24 items).

# 3.7.2.3 Career adaptability measures

Career adaptability (CAA) "is a personal non-cognitive strength that individuals can bring to bear on career-related problems to enable successful solutions to those problems" (McLennan et al., 2017 p. 179). The Career Adapt-Ability Scale (CAAS) is considered an international scale based on the work of Savickas and Porfeli (2012) who validated the scale by collecting data for 13 countries representing all continents. Their CAAS has been widely used in CAA literature. It includes 24 items for the four subscales or 4Cs (concern, control, curiosity, and confidence), each subscale containing four (4) items. The reliability of these items is high with values around 0.93 (McLennan et al., 2017).

Furthermore, CAA enhances individual strength at the workplace as demonstrated in previous studies in which CAAS was translated into various languages (German and Chinese) and achieved a reliability over 0.90. According to Guan and his colleagues who used the Chinese version of CAAS created by Hou, Leung, Li, Li, and Xu (2012), the high coefficient  $\alpha$  was .94 for the 24 items (Guan, Zhou, Ye, Jiang, & Zhou, 2015). In a different

context, Neureiter and Traut-Mattausch (2017) used the German version of CAAS, and their Cronbach's alpha indices ranged from 0.86 to 0.88 for the subscales.

Therefore, this research adapted the international version of CAAS-24 items created by Savickas and Porfeli (2012), which are well-validated instruments and suitable for all cultural contexts. The scale consists of 24 items divided equally among the dimensions of concern (e.g., "thinking about what my future will be like"), control (e.g., "counting on myself"), curiosity (e.g., "becoming curious about new opportunities"), and confidence (e.g., "overcoming obstacles") (see Appendix A for full version). The reliability or Cronbach's alpha score is 0.93 (Savickas & Porfeli, 2012).

#### 3.7.2.4 Islamic work ethics measures

The most validated scale most frequently used in Islamic work ethics (IWE) literature is that developed by Ali (1992) whose measures comprise of 17 items. Moreover, this scale has already been used in different cultures and contexts (Saudi Arabia, Kuwait, US, Pakistan, Iran, and Malaysia). However, the authors adapted the scale, used the short version containing a reduced number of items (Khan & Rasheed, 2015; Mohamed et al., 2014) or increased the scale from 5 to 6 or 7-point Likert scale (Salahudin, Baharuddin, Abdullah, & Osman, 2016b; Tufail et al., 2016). Relatedly, Aldulaimi (2016) created new instruments for IWE, yet did not validate them empirically.

Therefore, this research has adapted Ali's (1992) scale as found in Tufail et al. (2016) and reduced the original version containing 17 items to 12 items as five items showed poor factor loadings for validity and reliability statistical test. The overall reliability coefficient is over 0.90. Among the IWE items are "dedication to work is a virtue" and "good work benefits

both one's self and others." Besides, the present research utilised a 5-point Likert scale to obtain responses ranging from 1 = "strongly disagree" to 5 = "strongly agree" (see Appendix A for the full scale).

### 3.7.3 Section C

The demographic information was presented according to age, income, experience, and place of work, the questions in categorical format such as age according to 1= "less than 25 years"; 2= "above 25 and below 35 years"; 3= "above 35 and below 45 years"; 4= "above 45 years". Also, specific instructions were given in every part of the questionnaire, in addition to the guarantee given on the first page about their anonymity the utilisation of their data for academic purposes only.

#### **3.7.4** Translation of Instruments

A representative sample of the Arabic-speaking Sudanese working population was drawn based on the purposive sampling technique in the top five public universities in Sudan. The researcher followed the technique of back-translation (Brislin, 1970). The instruments were translated into Arabic and then translated back into English by three Sudanese experts in management translations. The first expert translated the questionnaire items (82 items) from English to Arabic language and the second expert translated the Arabic version into English. Finally, the two language versions were reviewed and verified by the third expert.

Although the items were many, the expert comments were only minor. He suggested to improve the questionnaire by adding the proper definition of every construct before drawing the construct's items in order to avoid confusion on part of the respondents. Thus, all requested adjustments were made accordingly to finalise the questionnaire. Concerning the Sudanese version of the CAAS, PsyCap, PCO, IWE, and CS scales, all corrections suggested by the translators and experts were executed. In addition, the CAAS and PsyCap experts (Luthans, Luthans, & Jensen, 2012) recommended the application of these constructs in different cultures, contexts or countries in a way that ensures robust validity and reliability. Recently, several PsyCap and CAAS resources were translated into various languages, the result being a Portuguese version (Antunes, Caetano, & Pina e Cunha, 2017), a German version (Spurk et al., 2015), and a Chinese version (Xie et al., 2016). Hence, this research intended to validate an Arabic version of the psychological resources (CAAS, PsyCap, PCO, IWE, and CS) in the Sudanese context, particularly among academic staff in public universities.

### **3.8 Pre-testing Process**

Pre-testing application constitutes an essential process for addressing the aspect of common method variance (CMV) or 'common method bias' (CMB) that may occur due to language ambiguity or misunderstood items related to the questionnaire design (Memon et al., 2017). Sekaran (2003) understands pre-testing to be imperative for any questionnaire survey in order to confirm that there is no ambiguity or misconception in the questions and more importantly that the respondents understand the questions in the way they are designed and intended. However, "the lack of understanding about pre-testing will likely lead to poor data quality" (p. iv), and the researcher may decide to delete many items during the adjustment of model assessment (Memon et al., 2017).

In addition, the purpose of pre-testing is to ensure that (i) the wording of questions is correct; (ii) the sequence of questions is correct; (iii) the questions are clearly understood by

the respondents; (iv) any misconceptions are removed, and decide whether additional questions are needed (Memon et al., 2017). Therefore, the researcher applied cognitive interview as the recommended method for handling pre-testing issues (Blair & Conrad, 2011; Memon et al., 2017) by preparing semi-structure interviews with 23 academic staffs (including experts) working full-time in Sudanese universities to ensure that the questions are clear and well-understood by adding or removing some words that may be problematic, particularly in the Arabic version (see Table 3.5). Consequently, a number of suggestions and recommendations were made regarding the poor understanding some respondents had of some items. The researcher dutifully acknowledged these comments and corrected the respective items in the final questionnaire version accordingly (see Appendix B for experts' evaluation forms).

Respondent ch	aracteristics	Comments received dur process	ing the pretesting
Academic staff	20		
Experts	3		
7		Acceptable	12
		Long items and Scale	3
		Language and Revision	8
Total	23	Total	23

Table 3. 5: Pretesting results based on debriefing interview

# **3.9 Data Collection Procedures**

There are some procedures that need to be followed before collecting the data to ensure their quality. Accordingly, a researcher should bear in mind the ethical considerations in all the stages of data collection: before data collection the researcher needs to obtain the consent from the respondents or the institutions; during the data collection process, the researcher has to explain in detail the purpose and benefit of the study to the respondents and how to answer the questions; finally, the researcher should tell the respondents how their data will be stored and protected from misuse. In the following section all these procedures will be discussed thoroughly.

#### **3.9.1 Ethical considerations**

Recently, ethical approval is a vital process that helps researchers decide whether (a) the type of data is sensitive or not; (b) the respondents are dependent (minors; below 18 years of age) or independent (adults); and (c) the level of contribution is original. For these purposes, the University of Malaya (UM) has created the Research Ethics Committee (REC) for verification and providing approval for academic research before any actual survey is conducted.

Therefore, the researcher applied in March 2018 for the REC approval regarding the research proposal entitled "The influence of positive psychological resources on academics' career success in Sudan". This proposal contained the introduction, problem, purpose, expected contribution, designed questionnaire, and list of universities that would be investigated for the final survey with characteristics of population to ensure that the research is conducted ethically, observes the principles of informed consent, ensures privacy and truthfulness, avoids conflict of interest, and respects cultural sensitivity. In September 2018, the REC approved the proposal as mentioned earlier under the reference number UM. TNC2/UMREC – 326 (see Appendix C). Therefore, the current research complies with the

rules and principles established by the REC and pertaining to the privacy of respondents' participation and data protection.

#### 3.9.2 Participation

All participants are aware that their participation is voluntary and can be withdrawn at any stage of the research. They are informed about this matter in the provided information sheet and consent form before they participate in the drop-off survey (self-administered).

## 3.9.3 Protection

All questions are generic. There are no sensitive or personal questions except for demographics data. The participants are treated as anonymous, and no answers regarding specific practices and culture are required from them. The principles of privacy and confidentiality are acknowledged. Hence, for privacy issues, the researcher explained the nature of the variables of the study, and the respondents are free to participate or withdraw at a later date. Also, the researcher provided his contact address in case the respondents wish to correct or clarify any piece of the information included in the questionnaire.

### 3.10 Data Analysis Procedures

To examine the research model, several software programs were used: SPSS for data profile and common method bias (CMB); structural equation modelling (SEM) by using Partial Least Square (PLS) analysis technique through applying Smart-PLS software version 3.2.6 developed by Ringle et al. (2015) in order to analyse the hypotheses H1, H2, H3, H4, H5, H6, H7, and H8; the last four hypotheses (H9, H10, H11, and H12) were analysed using PROCESS Macro version 3.3 developed by Hayes (2019) specifically for testing simple moderation and moderated-mediation hypotheses. Hence, the most complex and challenging

part of the analysis was done using Smart-PLS based on two-stage analytical theory (Anderson & Gerbing, 1988) for measuring the structural equation model (Sarstedt, Ringle, & Hair, 2017) where the researcher needed to test the measurement model and the structural model.

#### 3.10.1 First Stage of SEM Theory of Measurement Model Analysis

According to SEM measurement theory and based on empirical studies done by statisticians, particularly Smart-PLS scholars (Hair et al., 2014; Ramayah, Jasmine, Ahmad, Halim, & Rahman, 2017; Sarstedt et al., 2017), the measurement model in PLS was assessed depending on the construct's nature that can be categorized into the following two groups:

#### 3.10.1.1 Reflective construct measurement

(A) Internal Consistency Reliability is assessed based on the three tests of Cronbach's alpha, composed reliability, and Dijkstra–Henseler's rho. In the past, Cronbach's alpha ( $\alpha$ ) was prevalently used to measure the internal consistency of the data (Ramayah, Cheah, Chuah, Ting, & Memon, 2018). According to Cronbach (1971), a construct with high Cronbach's alpha value indicates the construct's items have similar range and meaning (Ramayah et al., 2018). However, other researchers suggested using other internal consistency tests rather than Cronbach's alpha value due to certain deficiencies. For example, Cronbach's alpha assumes that all indicators are equally related to the construct concerned in terms of score loaded to the construct (Werts, Linn, & Joreskog, 1974) whereas in SEM assuming equal value (loadings) for all indicators is considered inappropriate (Hair, Hult, Ringle, & Sarstedt, 2017; T. Ramayah, Cheah, Chuah, Ting, & Memon, 2018). Also, Cronbach's alpha value relies on the number of items in the construct, in other words, when

the item number is increased, the Cronbach's alpha value will increase as well (Ramayah et al., 2018). Besides, it is also more limited to population (Hair et al., 2014). Thus, McNeish (2017) advised researchers to stop applying Cronbach's alpha. For measuring internal consistency in SEM, it is recommended to use composite reliability (CR) rather than Cronbach's alpha value as CR deals differently with outer loadings of indicators and varies between 0 and 1, with higher values indicating higher levels of reliability. Hence, CR is interpreted typically as Cronbach's alpha in general (Hair et al., 2014) based on the following criteria: (i) values higher than 0.60 are acceptable in exploratory research; (ii) values between 0.70 - 0.90 can be regarded as satisfactory; (iii) values higher than 0.90 are not acceptable since this means that all the indicators measure the same phenomenon (Ramayah et al., 2018).

(B) Convergent Validity is the extent to which a measure positively correlates with alternative measures of the same construct (Hair et al., 2014). In other words, it is the degree to which single indicators reflect a construct converging in comparison to indicators measuring other constructs (Ramayah et al., 2018). According to Hair et al. (2014), it is necessary to take into account the outer loadings of indicators. Besides, the average variance extracted (AVE) to establish the convergent validity properly.

First, the purpose of assessing the construct's outer loadings (indicator reliability) is to understand to which extent the indicator or a group of indicators is consistent with construct meaning (Ramayah et al., 2018). The higher the degree of outer loadings on a construct is, the more association between indicators they have in common captured by the construct (Hair et al., 2014). A common rule of thumb for assessing the standardised outer loadings is that they should reach 0.708 or higher (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Hair et al., 2017). The rationale behind this rule is to increase the understanding of standardised indicators' outer loadings after been squared. The square of a standardised indicator's outer loading represents how much of the variation in an item is explained by the construct and is described as the variance extracted from the item (Hair et al., 2014).

Thus, a latent variable should able to explain 50% of the indicator's variance (Ramayah et al., 2018). Therefore, according to Hair et al. (2014), the acceptable value for outer loading is greater than 0.708 or higher. However, lesser values also can be accepted in certain circumstances (Hair et al., 2014). According to Holland (1999), the loading values equal to and greater than 0.4 are acceptable if the summation of loadings increase in the loading scores and have a contribution on the AVE scores of more than 0.5 (Ramayah et al., 2018). Secondly, loading values equal to and above 0.5 or 0.6 are acceptable if their contribution in the AVE score is greater than 0.5 (Hair et al., 2014). Thirdly, loading values equal to or above 0.7 are acceptable as long as they increase the AVE score (Hair, Ringle, & Sarstedt, 2011). On the other hand, any loading value of less than 0.4 should be deleted immediately (Hair et al., 2014).

The objective of assessing average variance extracted (AVE) is to understand the grand mean value of the squared loadings of the indicators associated with the construct or the sum of the squared loadings divided by the number or indicators (Hair et al., 2014, p. 103). Similarly, Ramayah et al. (2018) and Hair et al. (2017) defined that AVE is the extent to which a latent construct explains the variance of its indicators. Thus, the acceptable score of AVE is equal to or greater than 0.50 since the construct explains more than half of the variance of its indicators. However, a low AVE ( $\leq 0.50$ ) means there is more error remaining in the items than the variance explained by the construct (Hair et al., 2014).

No	Assessment	Name of Index	Interpretation of Results
1	Internal Consistency	Composite Reliability (CR)	CR > 0.90 (Not Desirable) CR > 0.7 -0.9 (satisfactory) CR > 0.6 (For exploratory research)
2	Outer (Factor) loadings/ indicator Reliability	Indicator loadings	Loadings $> 0.708$ or higher is recommended Loadings $> 0.7, 0.6, 0.5, \text{ or } 0.4$ is acceptable if other items have high scores of loading to contribute to AVE and CR
3	Convergent validity	Average Variance Extracted (AVE)	$AVE \ge 0.50$
4	Cross load Fronell an Larcker C Discriminant validity HTMT Cr	Cross loading	Loadings of each indicator should be rank higher for their assigned constructs.
		Fronell and Larcker Criterion	The square root of AVE of a construct should be greater than the correlations between the construct and other constructs in the model.
		HTMT Criterion	<ul> <li>HTMT .085 (Kline, 2011) (Stringent Criterion).</li> <li>HTMT .90 (Gold et al., 2001) (Conservative Criterion).</li> <li>HTMT inference using bootstrapping technique (Henseler et al., 2015): Does 90% bootstrap confidence interval of HTMT include the value of -1 &lt; HTMT &lt; 1 (Liberal Criterion).</li> </ul>

 Table 3. 6: Reflective Measurements Model Analysis using PLS-SEM

Source: Adapted from PLS-SEM book 2018 (Ramayah et al., 2018, p. 86)

**(C) Discriminant validity** is concerned about the extent to which indicators are different across constructs. In other words, it is meant to check whether the construct is distinct from another construct understudy or there is a potential overlapping that may affect the correlation

between constructs in the future (Hair et al., 2014; Hair et al., 2017). For evaluating the discriminant validity in SmartPLS 3.0, three tests should be conducted, which are cross loading, Fornell and Larcker criterion, and the heterotrait-monotrait ratio of correlations (HTMT). In respect to the cross-loadings criterion it is said that "the loadings of indicators on the assigned latent variable should be higher than the loadings on all other latent variables" (Ramayah et al., 2018, p. 64). If the cross-loadings exceed the indicators' outer loading, it indicates the presence of a discriminant validity problem (Hair et al., 2011). It follows that the difference between loadings across latent variables should not be less than 0.1 (Ramayah et al., 2018). Another criterion developed by Fronell and Larcker (1981) compares the square root of the AVE values with the latent variable correlations. The basic idea underlying this method is that a construct shares more variance with its own indicators than with other constructs (Hair et al., 2014).

The third criterion in the form of Heterotrait-Monotrait's ratio of correlation is based on the criticism of Fornell and Larcker's criterion. Henseler and his colleagues proposed their method for accurately measuring a construct's discriminant validity through a multivariate and multimethod matrix. HTMT is defined as the mean value of the indicator correlations across constructs (Hair et al., 2017, p. 17). The purpose of assessing HTMT is to know the estimated true correlations between two constructs if properly measured (Ramayah et al., 2018). Here, high values of HTMT indicate the presence of discriminant validity problems between constructs, the acceptable threshold of HTMT value being 0.90 (Henseler, Ringle, & Sarstedt, 2015). If the constructs share similar concepts, the HTMT values will exceed 0.90 or contain the value of 1. However, if the constructs in the path model are distinct, the HTMT threshold values will be between 0.85 and 0.90 (Henseler et al., 2015). In other words, the discriminant validity can be established when 90% of HTMT bootstrap confidence interval does not include the value of 1 (Ramayah et al., 2018). Table 3.6 below contains all the procedures related to confirmatory factor analysis (CFA) in PLS for facilitating the understanding of all the stated measures for assessing a reflective measurement model using PLS-SEM.Formative construct measurement

Formative construct possesses different criteria from the reflective construct that include the three types of examinations of convergent validity, indicator collinearity, and statistical significance and relevance of the indicator weights.

i) **Convergent validity** is the degree to which a measure correlates positively with other measures/ indicators of the same construct (Hair et al., 2014). In order to evaluate formative measurement models, the formative construct should be correlated at a higher level with a reflective measure of the same construct (Ramayah et al., 2018). This type of analysis is known as redundancy analysis (Chin, 1998). In order to assess redundancy, analysis is needed to use formative construct as exogenous latent variable predicting the same construct operationalised by reflective indicators or making a single global item, which captures the core of the formative construct's indicators meaning. The acceptable redundancy value which shows the path coefficient linking the constructs has to be above 0.70 in order to support the convergent validity of the formative construct. A redundancy threshold that exceeds 0.80 it is considered as a satisfactory level (Hair et al., 2017).

ii) **Collinearity issues** is to ensure that the indicators are not essentially interchangeable. In other words, high correlations are not encouraged between indicators in formative measurement models (Ramayah et al., 2018). Hence, high correlations that are present between two formative indicators are known as collinearity (Hair et al., 2014). However, high levels of collinearity between formative indicators is considered as problematic as they have a negative impact on the estimation of weight and their statistical significance (Ramayah et al., 2018). Therefore, to evaluate the collinearity issues using PLS-SEM to check the Variance Inflation Factor (VIF), the critical value of VIF equal 5 or above indicates a potential collinearity problem (Hair et al., 2011) while VIF equivalent 3.3 or higher also indicates a potential collinearity problem (Ramayah et al., 2018).

iii) Assessing the significance and relevance of the formative indicators is done by determining the values of the outer weights. According to Hair et al. (2010), the outer weight is the result of multiple regression with latent variable score and the formative indicators as the independent variable (Hair et al., 2014). For assessing outer weight values, the researcher should obtain the results of bootstrapping. If the indicator is not significant (P value < 0.05), it can be retained based on content validity, and if the outer loading is <0.5 and not significant, it can be deleted (Hair et al., 2017). In other words, if the weights are significant, the indicators are acceptable but if the values are not significant, the researcher should look at loadings t value (1.96) to decide whether to retain or delete the indicators of the formative construct (see Table 3.7).

In summary, all these tests in the first stage pertain to the outer model indicators to confirm the construct reliability and validity and allow the researcher to proceed to the next analysis step related to the inner model for assessing the hypotheses of the research. These tests are discussed in the following section (see Figure 3.2).

### 3.10.2 Second Stage of SEM Theory of Structural Model Analysis

According to Hair et al. (2014), the second step of analysing PLS-SEM is about examining the inner model that related to path analysis. Since PLS-SEM does not propose a normal distribution analysis, the investigator needs to run the bootstrapping routine to determine the level of significance for each indicator weight. The purpose of bootstrapping is to resample the data by drawing a large number of subsamples from the original sample and estimate models for each subsample (Hair Jr et al., 2014). The number of resampled data can be 5,000 or more for extracting the value of model estimates that can be utilised to compute a standard error of each model parameter.

No	Validity Types	Criterion	Interpretation of Results
1	Convergent Validity	Redundancy Analysis	<ul> <li>If redundancy analysis result of path coefficient is 0.8 and above, it exhibits a high satisfactory level (Chin, 1988b).</li> <li>If redundancy analysis result of path coefficient if 0.7 and above, it exhibits a satisfactory level (Hair et al., 2017).</li> <li>If redundancy analysis result path coefficient is 0.6 and above, it can only be used for the exploratory study (Hair et al., 2017).</li> </ul>
2	Collinearity among Indicators	VIF	<ul> <li>If VIF is 5 or higher, it indicates a potential collinearity problem (Hair et al., 2011).</li> <li>If VIF is 3.3 or higher, it indicates a potential collinearity problem (Ramayah et al., 2018).</li> </ul>
3	Significance and Relevance of Outer Weights	AVE	Results from bootstrapping must indicate that the outer weight from each formative indicator is significant. If the indicator is not significant, it can still be retained based on content validity (Hair et al., 2017). On the other hand, researchers can omit the formative indicators when the outer loadings are <0.5 and not significant (Hair et al., 2017).

Table 3. 7: Formative Measurements Model Guidelines using PLS-SEM

# Source: Adapted from PLS-SEM book 2018 (Ramayah et al., 2018, p. 112)

In the reflective case, the researcher needs to use a standard error in order to account the significance of each parameter throughout the t-values threshold (one tail 1.28 or two tail 1.645). In contrast, the formative construct has different criteria through evaluating the weights of indicators to determine their relative contribution in forming the construct (Hair Jr et al., 2014). In some exceptional cases (such as when the indicator weight is not significant), the investigator has to assess the bivariate correlation (loading) between the (nonsignificant) indicator and the construct in order to decide whether to remove the indicator from the outer model or not (Hair Jr et al., 2014). For more interpretation, the important criterion for measuring the path model is discussed below.



Figure 3. 3: Explain the Outer and Inner Model

Source: Obtained from Hair et al. (2017)
### 3.10.2.1 Assessment of collinearity issues

Addressing the lateral collinearity issue is considered as the initial stage for structural model evaluation. Here, the lateral collinearity issue (predictor-criterion collinearity) needs to be addressed although they meet the criteria of discriminant validity or vertical collinearity (Kock & Lynn, 2012) since lateral collinearity issues may mislead the results by masking the strong causal effect in the model (Ramayah et al., 2018). This may occur when two constructs are hypothesized to be causally related and measuring the same construct. As a result, each set of predictor constructs should be examined separately for each subset of the structural model (Ramayah et al., 2018). Hair et al. (2014) asserted that collinearity evaluation is more important if the model includes formatively measured constructs. Hence, the collinearity issue can be assessed based on the rule of thumb that the VIF values should be less than 5. Some scholars suggest that the value of VIF should equal 3.3 (Ramayah et al., 2018) or less while others accept it as long as it is less than 5 (Hair et al., 2011). However, if the value of VIF exceeds 5, it indicates the presence of a potential collinearity problem (Hair et al., 2011).

#### 3.10.2.2 Assessment of the path significance in the structural model

To evaluate the significance of the relationships in the path model, the researcher needs to run bootstrapping to resample the data since the PLS-SEM stands on non-normality. In other words, PLS-SEM is a type of non-parametric analysis and does not have an assumption about the distribution of the data (Ramayah et al., 2018). If the data is not normal, the *t-values* will be inflated or deflated, which will lead to a type 1 error. So, the running of bootstrapping is important to obtain the path coefficient result for the final model evaluation because the bootstrapping result approximates the normality data (Ramayah et al., 2018). Thus, after

running a PLS model, the estimates are provided for the path coefficients, which show the hypothesised relationships linking the variables that form the model of understudy.

Path coefficient values are standardised on a range from -1 to +1, with coefficients closer to +1 representing strong positive relationships and coefficients closer to -1 pointing to strong negative relationships. Although values close to +1 or -1 are almost always statistically significant, a standard error must be obtained using bootstrapping to test for significance (Hair, Hollingsworth, Randolph, & Chong, 2017). Further, after ensuring whether the relationships are significant or not, the researcher needs to look at the relevance of significant relationships. In sum, the relevance of the coefficient is related to the size of the structural coefficients' values. Accordingly, Hair et al. (2014) argued that many types of research overlook this step and merely depend on the significance of effects (Hair et al., 2017). If this important step is omitted, researchers may rely on significant values, although it is too small to merit managerial attention (Hair et al., 2017).

### **3.10.2.3** Assessment of for the level of R² (determination coefficient)

The model's predictive accuracy should be evaluated through the coefficient of determination score or  $R^2$ . It statistically indicates to what extent the exogenous variables explain the endogenous variables of the model (Avkiran & Ringle, 2018), and its effect ranges from 0 to 1, with higher values indicating higher levels of predictive accuracy (Ramayah et al., 2018). Hair et al. (2011, 2017) offered a rough guideline for accepting  $R^2$  values given the variety of disciplines. Three different rules of thumb were suggested for an acceptable  $R^2$ : According to Cohen (1988), a  $R^2$  value of 0.26, 0.13, or 0.02 can be described as substantial, moderate, or weak levels of predictive accuracy (Ramayah et al., 2018);

according to Chin (1998), if  $R^2$  is 0.67, 0.33, or 0.19, it can be interpreted as substantial, moderate, or weak levels of predictive accuracy (Ramayah et al., 2018); and according to Hair et al. (2017), if  $R^2$  is equal to 0.75, 0.50, or 0.25, it can be described as substantial, moderate, or weak levels of predictive accuracy (Hair et al., 2017).

In contrast, the coefficient of  $R^2$  is sometimes problematic (biased) in the case of complex models where more paths are pointing towards the endogenous variable. So, the coefficient of determination needs to be judged in the context of the research project's discipline to evaluate the obtained  $R^2$  value is substantial (Hair et al., 2017).

# 3.10.2.4 Assessment of the level of effect size $(f^2)$

Cohen's  $f^2$  (1988) is the most crucial formula in calculating the effect size (Ramayah et al., 2018; Hair et al., 2017). It measures the importance of exogenous variables in explaining the endogenous variable and it re-calculates R² by excluding one exogenous variable at a time (Avkiran & Ringle, 2018). In other words,  $f^2$  denotes the change in R² of an endogenous variable throughout omitting one of the exogenous variables. To calculate the  $f^2$  value, two PLS models need to be drawn. The first path model must contain all the variables with all relationships as hypothesized before considering the R² of the full model.

The second model must be identical except that a selected exogenous variable is omitted from the model considering the  $R^2$  of the reduced model ( $R^2$  excluded) (Hair Jr et al., 2014). Relying on the  $f^2$  value, the effect size of the eliminated variable towards a specific endogenous variable can be determined by Cohen's (1988) criteria, which are 0.02, 0.15, and 0.35 represent small, medium, and large effects respectively (Hair Jr et al., 2014; Hair et al., 2017). Thus, if an exogenous variable has a substantial contribution for explaining an endogenous variable (the difference between  $R^2$  included and  $R^2$  excluded will be high), the  $f^2$  value will be high. Therefore, the  $f^2$  could be calculated utilizing the formula below:

$$f^{2} = \frac{R^{2}_{included} - R^{2}_{excluded}}{1 - R^{2}_{included}}$$

# 3.10.2.5 Assessment of the predictive relevance $(Q^2)$

Predictive relevance (Q2) or cross-validated redundancy represents a means for assessing the inner model's predictive relevance (Hair Jr et al., 2014). In PLS-SEM, Q2 can be calculated by using the blindfolding procedure, which is a resampling technique that systematically omits and predicts every data point of the indicators in the reflective measurement model (Ramayah et al., 2018; Hair et al., 2017). Hence, this procedure is used for comparing the original values with the predicted values. If the prediction is close to the original values, it indicates the existence of 'small prediction error' meaning that the path model has high predictive accuracy.

More specifically, blindfolding exchanges the data from the data set into a pre-determined distance value called D ranging from 5 to 12 (Chin, 2010). The only requirement is that the number of sample size should produce a round number (not an integer number) when divided by D (Ramayah et al., 2018). If the comparison result is greater than zero, this indicates that the exogenous variables have predictive relevance for the endogenous construct under examination (Hair et al., 2017).

No.	Assessment	Name of Index	Level of Acceptance	Literature		
1				Diamantanaulas		
	Lateral	Variance Inflator	$VIF \leq 3.3$	& Sigouw (2006)		
	Collinearity	Factor VIF	VIE < 5.0	Hair et al. $(2017)$		
2			P value < 0.01			
2			t value > 2.58 (two-tailed)			
			t value > 2.36 (intervalue) t value > 2.33 (one-tailed)			
			P value < 0.05	-		
			t  value  > 1.96 (two-tailed)			
	Path	Path Coefficient	t value > 1.645 (one-	Hair et al. (2017)		
	Coefficient		tailed)			
			<i>P</i> value < 0.10			
			t value > 1.645 (two-			
			tailed)			
			t value > 1.28 (one-tailed)			
3			0.26 - Substantial			
			0.13 - Moderate	Cohen (1988)		
			0.02 - Weak			
		Coofficient of	0.67 - Substantial			
	R ²	determination	0.33 - Moderate	Chin (1998)		
		determination	0.19 - Weak			
			0.75 - Substantial			
			0.50 - Moderate	Hair et al. (2017)		
			0.25 - Weak			
4			0.35 - Substantial effect			
	$f^2$	effect size to R2	0.15 - Medium effect size	Cohen (1988)		
			0.02 - Small effect size			
			A value larger than 0			
		Stone - Geisser	indicates that exogenous	Hair et al. (2017),		
5	$Q^2$	Q2 Predictive	constructs have predictive	Stone (1974),		
		relevance	relevance for endogenous	Geisser (1974)		
			construct			

Table 3. 8: Indices of Structural Model Analysis using PLS-SEM

Source: Obtained from Ramayah et al. (2018)

### 3.10.3 Pilot Test Results

After the researcher has completed the pre-testing process, the respective pilot test has to be done to ensure the reliability and validity of the research instruments as adapted from the literature to be applicable in the context of the study. For the purpose of the pilot test, a total of 100 questionnaires were distributed among the random sample carried out with the lecturers who were full-time employees of seven public universities in the Sudan. Ultimately, only 65 questionnaires were completed by the targeted respondents. The time spent on the collection was two months (February to April 2018). The results of the pilot testing are listed below:

Second order	First order	items	Outer Loadings	rho_A	Composite Reliability	Average Variance Extracted (AVE)
<b>Career Success</b>	Objective	OCS1	0.918	0.903	0.917	0.735
		OCS2	0.806			
		OCS3	0.871			
		OCS4	0.829			
	Subjective	SCS1	0.784	0.865	0.898	0.639
		SCS2	0.871			
		SCS3	0.706			
		SCS4	0.856			
		SCS5	0.769			
РСО	Self-Directed	SD1	0.757	0.877	0.906	0.618
		SD2	0.792			
		SD3	0.837			
		SD4	0.781			
		SD5	0.764			
		SD6	0.782			
	Values-Driven	VD1	0.767	0.827	0.87	0.529
		VD2	0.822			
		VD3	0.754			

Table 3. 9: Composite Reliability (CR)

Second order	First order	items	Loadings	rho_A	CR	AVE
		VD4	0.685			
		VD5	0.672			
		VD6	0.649			
CAA	Concern	Coc1	0.720	0.899	0.917	0.649
		Coc2	0.887			
		Coc3	0.777			
		Coc4	. 764			
		Coc5	0.847			
		Coc6	0.825			
	Confidence	Confl	0.667	0.873	0.895	0.589
		Conf2	0.702			
		Conf3	0.781			
		Conf4	0.842			
		Conf5	0.766			
		Conf6	0.830			
	Control	Cont1	0.715	0.844	0.878	0.547
		Cont2	0.770			
		Cont3	0.792			
		Cont4	0.766			
		Cont5	0.767			
		Cont6	0.611			
	Curiosity	Cur1	0.752	0.851	0.882	0.557
		Cur2	0.754			
		Cur3	0.794			
		Cur4	0.787			
		Cur5	0.585			
		Cur6	0.786			
	IWE	IWE1	0.678	0.865	0.88	0.388
		IWE2	0.541			
		IWE3	0.692			
		IWE4	0.302			
		IIWE5	0.702			
		IWE6	0.747			
		IWE7	0.666			
		IWE8	0.694			
		IWE9	0.440			
		IWE10	0.650			
		IWE11	0.548			
		IWE12	0.662			

Table 3. 9: Continued

Second order	First order	items	Outer Loadings	rho_A	Composite Reliability	Average Variance Extracted (AVE)
PsyCap	Норе	H1	0.646	0.794	0.852	0.490
		H2	0.649			
		Н3	0.737			
		H4	0.684			
		H5	0.762			U
		H6	0.715			
	Optimism	01	0.611	0.818	0.862	0.512
		O2	0.691			
		03	0.797			
		O4	0.819			
		05	0.692			
		O6	0.660			
	Resilience	R1	0.711	0.824	0.859	0.508
		R2	0.871			
		R3	0.699			
		R4	0.696			
	•	R5	0.655			
		R6	0.615			
	Self-efficacy	E1	0.577	0.858	0.888	0.572
		E2	0.740			
		E3	0.845			
		E4	0.867			
		E5	0.730			
		R6	0.743			

Table 3. 9: Continued

	Concern	Confidence	Control	Curiosity	Норе	IWE	Objective	Optimism	Resilience	SD	Self-efficacy	Subjective	VD
Concern	0.805												
Confidence	0.626	0.767							0				
Control	0.463	0.728	0.739										
Curiosity	0.761	0.735	0.53	0.746			<u>S</u>						
Норе	0.606	0.712	0.683	0.586	0.7								
IWE	0.330	0.646	0.568	0.450	0.543	0.621							
Objective	0.085	0.017	0.205	0.029	0.058	0.045	0.843						
Optimism	0.563	0.652	0.625	0.507	0.619	0.483	-0.14	0.716					
Resilience	0.560	0.493	0.473	0.513	0.597	0.314	0.131	0.361	0.712				
SD	0.516	0.597	0.573	0.525	0.608	0.508	0.019	0.612	0.485	0.786			
Self- efficacy	0.600	0.547	0.442	0.482	0.488	0.348	0.065	0.586	0.352	0.503	0.757		
Subjective	0.351	0.149	0.295	0.134	0.307	0.004	0.113	0.361	0.23	0.279	0.386	0.799	
VD	0.366	0.553	0.399	0.312	0.526	0.633	0.103	0.558	0.358	0.616	0.482	0.104	0.728
					*Note.	: Smart-1	PLS outp	put					

# Table 3. 10: Fornell-Larcker Criterion

Second order construct	Frist order/ dimensions	Items	Construct Type	Weights	VIF	t-value Loadings	Sig
	Objective	Position		0.195	4.022	0.733	0.464
		Publications		0.237	1.71	1.461	0.144
		Promotion		-0.186	3.344	0.28	0.779
Caroor		Pay		0.043	2.707	0.461	0.645
Success	Subjective	Subjective1	Formative	0.176	2.308	6.631	0.000
Success		Subjective2		0.271	2.99	7.281	0.000
		Subjective3		0.18	1.582	5.173	0.000
		Subjective4		0.117	2.402	6.605	0.000
		Subjective5		0.381	2.018	4.767	0.000

Table 3. 11: Explain Formative Measurements Analysis

# 3.10.4 Final Report of Pilot Results

The pilot test results revealed that the items of all constructs were loaded well in terms of internal consistency (reliability and validity; see Table 3.9). The values of average variance extracted (AVE) were above the threshold (> 0.5), which indicates that the items have higher consistency, and the discriminant validity (DV) and correlation values were high (see Table 3.10). However, some items needed to be improved to achieve the targeted final result (see Table 3.12).

Construct	Dimension	Item no.	Correction	
Career success	Subjective success	1 – 5	Remove the redundancy	
Career	Curiosity	1 and 4		
adaptability	Confidence	4	Need more revision	
auaptability	Control	6		
IWE		8,9,10, &12	Need more revision	
Psychological	Resilience	3,4,5, &6	Nood rovision	
capital	Optimism	1		

Table 3. 12: Final Report based on the Pilot Results

### **3.11** Final Survey

The data collection process was conducted over a period of six (6) months (April to October 2018). Initially, the target was to collect the data from the academics' full-time employees of six Sudanese public universities (Khartoum University, Sudan University, Al Gazira University, Omdurman Islamic University, Alzaiem Alazhari University, and Al Neelain University). The researcher visited these universities in order to coordinate the research and make the necessary arrangements before proceeding with the data gathering process. These arrangements were agreed upon in a small meeting with faculty registrars, college deans, and department heads. While still in Malaysia, the researcher had obtained formal letters from the University of Malaya (UM) including the ethical report of keeping the data as confidential and the permission for data collection.

Moreover, the university officers offered the use of several facilities to the researcher, such as deciding the appropriate date and time when the maximum number of academic staff would be available. Accordingly, the sets of questionnaires were distributed amongst the academic staff and the responses were collected one to three weeks later. The questionnaires were distributed based on the population size in the university (see Table 3.1; 3.2) with 200, 100, 100, 100, 100, and 50 for Khartoum University, Sudan University, Al Gazira University, Omdurman Islamic University, Al Neelain University, and Alzaiem Alazhari University respectively.

# 3.11.1 Data Preparation

The date preparation processes included coding and data entry into a database, data filtering and finding any missing responses. Using the self-administrated survey (single

source), the data were entered into SPSS version 22.0 to be ready for screening, primary analysis and Smart-PLS. Out of the 650 distributed questionnaires, 398 valid questionnaire responses were entered and the uncompleted, incomplete or unreturned questionnaires discarded. The filtered data were analysed using SPSS and then transferred to Smart-PLS and PROCESS for the final analysis. The table below (3.13) shows the targeted measures to be conducted using a particular program. Ultimately, all the tests highlighted in Table 3.13 were applied for examining all research hypotheses and to achieve the research objectives.

**SPSS Smart-PLS** No Macro PROCESS Demographic statistical 1 Measurement model Simple moderation descriptive report Exploratory analysis for Moderated mediation 2 Structural model checking missing values analysis Common method bias 3 Mediation analysis 4 Cronbach Alpha

Table 3. 13 The measurement criteria used for every program

### 3.12 Chapter Summary

In this chapter discussed the methodological approach of this study, beginning with the explanation of the research paradigm, the description of the population, and simple size determination to suit the purposes of this study. Also, the questionnaire's items were improved through coding, wording, cognitive interviews, pre-testing, and a pilot study. Moreover, the researcher detailed the data collection procedures including ethical consideration approval. The questionnaire was translated into Arabic through back-to-back translation to ensure it was suited for the Sudanese participants. Finally, the analysis procedures and software to be utilised was outlined.

#### **CHAPTER 4: DATA COLLECTION AND ANALYSIS**

# 4.1 Introduction

This chapter describes the final survey procedures as well as the data analysis results. The data were analysed based on three different types of software programs: Statistical Package For Social Sciences (SPSS) version 22.0, Smart-PLS version 3.2.6 (Ringle et al., 2015; <u>www.smartpls.com</u>), and Macro PROCESS version 3.3 (Hayes, 2019) used to evaluate the final model of the study. Also, the model understudy was exploratory and comprised of reflective and formative constructs. For such a relatively complicated model, researchers recommended Smart-PLS (Hair et al., 2014) as useful software for achieving the intended research target. Multi-mediation and moderation required extra analysis through PROCESS where compatible for the moderated-mediation hypotheses. After the completed analysis, the researcher reported the factor analysis tests and path model tests to evaluate the model good-fit and the significant level of hypotheses.

#### 4.1.1 **Respondents Profile**

The data used in the final survey were gathered from 398 respondents who were full-time employees of six (6) public universities in the Sudan. They consisted of 241 males (60.6%) and 157 females (39.4%) and their age ranged between less than 25 years old and over 45 years old. The majority of the respondents were aged between 25 and 35 (41.5%), which indicated some level of working experience.

Furthermore, the demographic data also showed that most of the participants were married and had a working experience ranging from less than five (5) years to more than 15 years. Overall, the majority of participants was employed by the University of Khartoum (33.7%), married (56.3%), and held a Master's degree (44.5%) or a PhD (39.9%). It is assumed that the respondents' level of maturity and experience assisted them in dealing with the survey questions in a professional way (see Table 4.1).

Demographic	Frequency (n = 398)	Percentage (%)
Gender		
Male	241	60.6
Female	157	39.4
Age		
Less than 25 Years	45	11.3
25 - 35	165	41.5
36 - 45	121	30.4
More than 45 Years	67	16.8
Marital Status		
Single	164	41.2
Married	224	56.3
Divorced	10	2.5
Education		
Bachelor's degree	59	14.8
Master's degree	177	44.5
PhD	159	39.9
Other (specify)	3	.8
Working Experience		
Less than 5 Years	142	35.7
5 - 10	104	26.1
11 – 15	71	17.8
More than 15 Years	81	20.4
Working University		
University of Khartoum	134	33.7
Sudan University of Science and Technology	72	18.1
University of Gezira	49	12.3
Al-Neelain University	63	15.8
Omdurman Islamic University	65	16.3
Alzaiem Alazhari University	15	3.8

 Table 4. 1: Participants' demographic information

### 4.1.2 Descriptive Statistic of Instruments

Statistical software version 22.0 was used for extracting the mean, standard deviation, variance, minimum and maximum value for each indicator by running the descriptive statistics analysis to know the spreading of the data. Upon examination, the result indicated that the standard deviation values were average; some had low values and others had high values that spread out, as shown in Table 4.2 below.

	Construct	Indicator	Ν	Mini	Max	Mean	Std.
	Objective CS	Position	398	1	6	2.32	.941
		Publication	398	1	6	1.71	1.012
		Promotion	398	1	6	2.34	.964
		Pay (salary)	398	1	6	4.10	1.229
SSS	Subjective CS	Subjective1	398	1	5	3.63	1.144
reer Succ		Subjective2	398	1	5	3.39	1.093
		Subjective3	398	1	5	2.55	1.254
		Subjective4	398	1	5	3.30	1.099
Ca		Subjective5	398	1	5	3.56	1.072
	Норе	Ho1	398	1	5	4.20	.867
		Ho2	398	1	5	4.24	.865
		Ho3	398	1	5	4.13	.878
		Ho4	398	1	5	3.81	.982
		Ho5	398	1	5	4.05	.825
		Ho6	398	1	5	3.78	.963
	Self-efficacy	Se1	398	1	5	4.21	.839
al		Se2	398	1	5	3.80	.939
apit		Se3	398	1	5	3.80	.971
I C		Se4	398	1	5	4.13	.913
gica		Se5	398	1	5	4.06	.903
olo		Se6	398	1	5	4.31	.829
ych	Resilience	Re1	398	1	5	3.90	0.94
Ps		Re2	398	1	5	4.018	.795

Table 4. 2: Descriptive statistics for all indicators

		Construct	Indicator	N	Mini	Max	Mean	Std.
			Re3	398	1	5	4.00	.956
			Re4	398	1	5	3.95	.947
			Re5	398	1	5	3.98	.898
			Re6	398	1	5	4.00	.942
		Optimism	Op1	398	1	5	3.64	1.069
			Op2	398	1	5	4.08	.735
			Op3	398	1	5	3.98	.935
	PsyCap		Op4	398	1	5	4.08	1.013
			Op5	398	1	5	3.68	1.102
			Op6	398	1	5	3.85	1.081
		Concern	Cnc1	398	1	5	4.03	.924
			Cnc2	398	1	5	4.18	.810
			Cnc3	398	1	5	4.12	.813
			Cnc4	398	1	5	4.18	.848
			Cnc5	398	1	5	4.23	.769
			Cnc6	398	1	5	4.30	.784
		Control	Cntr1	398	1	5	3.85	1.026
			Cntr2	398	1	5	4.18	.827
			Cntr3	398	1	5	4.42	.683
			Cntr4	398	1	5	4.43	.733
			Cntr5	398	1	5	4.36	.760
			Cntr6	398	1	5	4.29	.807
		Curiosity	Cur1	398	1	5	3.80	.982
			Cur2	398	1	5	4.27	.786
			Cur3	398	1	5	4.26	.807
			Cur4	398	1	5	4.16	.761
			Cur5	398	1	5	4.24	.767
	lity		Cur6	398	1	5	4.21	.831
	abi	Confidence	Cnfd1	398	1	5	4.21	.758
	apt		Cnfd2	398	1	5	4.31	.697
	Ad:		Cnfd3	398	1	5	4.27	.746
	er .		Cnfd4	398	1	5	4.44	.707
	are		Cnfd5	398	1	5	4.15	.778
	Ü		Cnfd6	398	1	5	4.29	.695
	uc		SD1	398	1	5	3.99	.935
	n r tatic	Calf dimented	SD2	398	1	5	4.03	.886
	otes Nree ien	Sen-airectea	SD3	398	1	5	4.08	.889
	O Ca		SD4	398	1	5	3.84	.997

Table 4. 2: Continued

	Construct	Indicator	Ν	Mini	Max	Mean	Std.
		SD5	398	1	5	3.97	.911
		SD6	398	1	5	3.97	1.021
		VD1	398	1	5	4.29	.814
		VD2	398	1	5	4.23	.759
	Valua drivan	VD3	398	1	5	4.28	.803
Q	value driven	VD4	398	1	5	4.13	.900
PC		VD5	398	1	5	3.64	1.171
		VD6	398	1	5	3.85	1.090
		IWE1	398	1	5	4.64	.741
		IWE2	398	1	5	4.62	.666
		IWE3	398	1	5	4.42	.844
		IWE4	398	1	5	4.41	.785
		IWE5	398	1	5	4.62	.643
	Islamic Work	IWE6	398	1	5	4.21	.949
	Ethic	IWE7	398	1	5	4.56	.688
		IWE8	398	1	5	4.11	.946
		IWE9	398	1	5	4.12	.933
		IWE10	398	1	5	4.28	.871
		IWE11	398	1	5	4.51	.672
		IWE12	398	1	5	4.00	1.038

 Table 4. 2: Continued

# 4.1.3 Verifying Data Characteristics

This section is about data screening in order to verify the quality of the collected data. It constitutes a crucial step to ensure that the data used in the higher level of analysis are valid and complete for generating good results. Relatedly, there are a few analyses conducted for data verification such as descriptive statistics to know whether there are missing values or not, in addition to Harman's single factor to ascertain common method bias (CMB).

### 4.1.3.1 Missing data

Altogether 650 questionnaires were distributed targeting 400 respondents (see Table 3.2). However, after data cleaning and screening only 398 valid questionnaires remained. There were no missing values detected in the descriptive statistics test. In other words, all values of the missing column were 'zero', which confirmed that there was no missing data issue.

#### 4.1.3.2 Common method bias (CMB)

There are two common types of handling CMB: i) before or during the data collection process (procedural remedies); and ii) after the data collection during CMB statistical analysis time (statistical remedies) by using SPSS, SEM-PLS and/or AMOS. The CMB needs to be addressed in any research, particularly if the data are gathered through questionnaires for the individual level (single-source) method (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, Mackenzie, & Podsakoff, 2012; Tehseen, Ramayah, & Sajilan, 2017). Therefore, this research employed four methods of bias techniques to detect whether the data indicated potential CMB or not.

The temporal separation procedure (specifically psychological separation) was used for reducing the potential CMB during the data gathering process. This method was applied by adding two items between predictor and criterion items to reduce the salience of linkage between them. This type of separation should mitigate the participant's ability or motivation to use previous answers to fill in gaps by what is recalled, inferring missing details or answering subsequent questions (Podsakoff et al., 2003). Besides, the researcher also used a different scale technique in the predictor (1-5) and criterion (1-6) (see Appendix A) as recommended by Podsakoff et al. (2012) as a useful remedy for mitigating the CMB severity. Finally, in the stage of pre-testing, several other procedures were followed in developing the questionnaire that significantly reduced potential CMB, such as coding, wording, cognitive interview, consulting experts, and considering all corrections suggested based on the pre-

testing and pilot study results (see Tables 3.6 and 3.12). The two techniques that were applied after running the analysis tests in SPSS and Smart-PLS were Harman's single factor test and the multi-collinearity test (Kock, 2015; Podsakoff & Organ, 1986). The results of these tests are illustrated in the tables below.

#### (a) Harman's single factor test

This test is widely used in the literature (Podsakoff et al., 2003; Tehseen, Ramayah, et al., 2017) for detecting potential common method bias. According to Hair and colleagues (2017), Harman's single factor test is an acceptable method of assessing common methods bias. Correspondingly, Fuller (2016) recommended Harman' test for being fast and easy to apply and capable of detecting CMV at biasing levels (Fuller, Simmering, Atinc, Atinc, & Babin, 2016).

Thus, the objective of this test is to examine the result of the unrotated factor solutions to determine the number of factors accounting for the variance in the variables (Tehseen et al., 2017). According to these authors, common method bias is identified based on two conditions: 1) a single factor emerged from the factor analysis; and 2) one 'general' factor will account for a majority of the covariance in the independent and criterion variables. In general, the amount of variance accounted for common method biases varies according to the field of research (e.g., marketing, management, and psychology). For instance, studies that investigate behavioral related topics, common method bias exists when the co-variance accounted for that single factor is greater than 40.7 percent. In this research, all the factors were presented. The most co-variance explained by one factor is 26.6 percent, thus indicating

that common method bias is not a likely contaminant of the research results as the percentage is below 50 (see Table 4.3).

Component	]	Initial Eigenva	lues	Extraction	Sums of Squa	red Loadings
Component	T-4-1	% of	Cumulative	T-4-1	% of	Cumulative
	1 otal	Variance	%	Iotai	Variance	%
1	21.559	26.615	26.615	21.559	26.615	26.615
2	4.826	5.958	32.573			
3	3.683	4.547	37.120			
4	3.196	3.945	41.065			
5	2.327	2.872	43.938			
6	1.908	2.356	46.294			
7	1.841	2.273	48.567			
8	1.747	2.157	50.724			
9	1.627	2.009	52.733			
10	1.529	1.888	54.621			
11	1.467	1.811	56.432			
12	1.333	1.646	58.078			
13	1.300	1.605	59.682			
14	1.269	1.567	61.250			
15	1.155	1.426	62.676			
16	1.078	1.331	64.007			
17	1.060	1.309	65.316			
18	1.042	1.286	66.602			
19	.987	1.218	67.820			
20	.958	1.182	69.002			
21	.918	1.133	70.135			
22	.867	1.071	71.206			
23	.833	1.028	72.234			
24	.806	.995	73.228			
25	.784	.968	74.196			
26	.764	.943	75.139			
27	.747	.922	76.061			
28	.726	.897	76.958			
29	.682	.842	77.800			
30	.657	.811	78.611			
31	.642	.792	79.403			

 Table 4. 3: Harman's single factor test

Component		Initial Eigenv	alues	Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
32	.631	.779	80.182			
33	.618	.763	80.945			
34	.608	.751	81.696			
35	.595	.734	82.430			
36	.572	.706	83.136		C	
37	.551	.681	83.817			<b>J</b> ⁻
38	.524	.647	84.464			
39	.519	.641	85.104		$(\Lambda)$	
40	.503	.621	85.726			
41	.494	.610	86.336			
42	.478	.590	86.926			
43	.466	.576	87.502			
44	.445	.549	88.051			
45	.435	.537	88.588			
46	.423	.522	89.111			
47	.422	.521	89.632			
48	.408	.504	90.136			
49	.389	.481	90.616			
50	.377	.465	91.081			
51	.376	.464	91.545			
52	.364	.450	91.995			
53	.346	.427	92.422			
54	.337 <	.416	92.837			
55	.334	.413	93.250			
56	.326	.403	93.653			
57	.313	.387	94.039			
58	.308	.380	94.419			
59	.296	.366	94.785			
60	.287	.354	95.139			
61	.282	.348	95.488			
62	.274	.338	95.825			
63	.260	.321	96.146			
64	.251	.310	96.457			
65	.243	.300	96.757			
66	.240	.296	97.053			

Table 4. 3: Continued

Table 4. 3: Continued										
Component		Initial Eigenv	values	<b>Extraction Sums of Squared Loadings</b>						
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %				
67	.232	.287	97.340							
68	.226	.279	97.619							
69	.212	.262	97.881							
70	.206	.255	98.136							
71	.196	.242	98.378							
72	.191	.236	98.614							
73	.183	.226	98.840							
74	.169	.209	99.049							
75	.161	.199	99.247							
76	.150	.185	99.432							
77	.145	.180	99.612							
78	.138	.170	99.782							
79	.133	.164	99.946							
80	.035	.044	99.990							
81	.008	.010	100.000	*						

*Note: Extraction method of principal component analysis from SPSS 22.0

### 4.1.3.3 Control variables

The existing research in career success indicates the importance of introducing control variables that may have an impact on the proposed relationships in this study. Control variables are connected to the dependent variable (career success) to determine their effect on career success. The model of this study was controlled by the demographic variables of gender, education, experience, age, and marital status (Haibo et al., 2018; Turban, Moake, Wu, & Cheung, 2017) since all these variables are expected to have an impact on academic career success. Furthermore, in the post-hoc analysis, the control variables were treated as independent variables together with other latent variables understudy.

Therefore, the researcher ran a bootstrapping technique using PLS-SEM by adding all the control variables to the model. The result revealed that the value of R2 of career success increased from 0.204 (see Figure 4.4) to 0.512 (see Figure 4.1). This result indicated that the control variables had a significant effect on career success as the dependent variable in this research. In other words, 30% of this phenomenon was explained by control variables. Hence, the researcher controlled the effect of these factors in the final result in order to differentiate between the contribution of the independent variables and the control variable, as suggested by Haibo et al. (2018).



Figure 4. 1: Showing the control variable effect based on R2

### 4.2 Measurement Research Model in SEM-PLS

According to the theory of measurement model in SEM-PLS (Hair et al., 2011, 2012, 2017), the researcher used the analysis guidelines for evaluating the measurements' model

(see Tables 3.7 and 3.8). Moreover, specific tests have been suggested in the theory of measurement for establishing the constructs' reliability and validity in SEM-PLS. This research applied the principles of measuring reflective and formative constructs in SEM-PLS because any one of them has a different theoretical approach that leads to different treatment in the assessment.

#### 4.2.1 Reflective Measurement Model Using PLS-SEM

The model of this research contains reflective and formative constructs. In this section, the focus will be on the reflective constructs of protean career orientation (PCO), career adaptability (CAA), psychological capital (PsyCap), subjective career success (SCS), and Islamic work ethic (IWE) (see Figure 4.1). Thus, for evaluating the reflective measurement model for this construct, three essential assessment criteria had to be achieved: reliability of internal consistency, convergent validity (including indicator reliability/outer loading and average variance extracted), and discriminant validity (see Table 3.6) (Ramayah et al., 2017).

# 4.2.1.1 Convergent validity and consistency assessment

The convergent validity of the measurement is usually assessed by examining the two components of composed reliability (CR) used for assessing the internal consistency and indicator/outer loadings and average variance extracted (AVE) for convergent validity (Hair et al., 2014; Tehseen et al., 2017). Based on the results shown in Table 4.5, the outer loadings were almost equal to 0.7 and higher, the composite reliabilities (CR) were higher than 0.7 and the AVE of all constructs was higher than 0.5 as suggested in the previous literature (Hair et al., 2017). Therefore, these positive results confirmed that the reflective measurement items had excellent reliability and validity, which in turn led to generating a significant

structural path model in the final stage. However, there were some items that had to be deleted from various constructs to improve the AVE criterion to > 0.5. These items are listed in Table 4.4 for more detail.

Second order	First order	items	Outer Loadings	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
		SD1	0.725	0.863	0.864	0.898	0.595
		SD2	0.773				
	Self-	SD3	0.799				
Protean	Directed	SD4	0.769				
Career		SD5	0.759				
Orientation		SD6	0.800				
(PCO)		VD1	0.776	0.808	0.812	0.874	0.635
	Values-	VD2	0.827				
	Driven	VD3	0.838				
		VD4	0.742				
	Concern	Cnc2	0.747	0.850	0.851	0.893	0.626
		Cnc3	0.769				
		Cnc4	0.791				
		Cnc5	0.844				
	Confidence	Cnc6	0.800				
		Cnfd1	0.755	0.872	0.873	0.904	0.610
		Cnfd2	0.812				
G		Cnfd3	0.755				
Career		Cnfd4	0.794				
Adapt		Cnfd5	0.802				
(CAA)		Cnfd6	0.769				
	Control	Cntr2	0.747	0.821	0.825	0.882	0.652
		Cntr3	0.859				
		Cntr4	0.818				
		Cntr5	0.803				
	Curiosity	Cur2	0.734	0.811	0.812	0.876	0.639
		Cur3	0.834				
		Cur4	0.837				
		Cur5	0.789				

 Table 4. 4: Construct reliability and validity

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Second order	First order	items	Loadings	Alpha	rho_A	CR	AVE
	Hope	Ho1	0 788	0.758	0.761	0.846	0.579
	-	Ho2	0.720				
		Ho3	0.750				
		Ho5	0.784				
	Optimism	Op1	0.697	0.825	0.828	0.877	0.589
Cap	-	Op3	0.774				
Psy		Op4	0.803				
al (]		Op5	0.813				
pita		Op6	0.745				
I Ce	Resilience	Re1	0.826	0.767	0.779	0.851	0.588
ical		Re2	0.786				
log		Re5	0.721				
cho		Re6	0.730				
Psy	Self-efficacy	Se1	0.696	0.823	0.823	0.871	0.531
		Se2	0.720				
		Se3	0.735				
		Se4	0.782				
		Se5	0.733				
		Se6	0.702				
	Objective	Position	0.805	0.726	0.748	0.829	0.551
(CS	career	Promotion	0.692				
SSS (	Success	Publication	0.816				
ICCE	(OCS)	Salary	0.640				
r Sı	Subjective	subjective1	0.770	0.802	0.803	0.871	0.630
reel	Career	subjective2	0.838				
Ca	Success	subjective4	0.848				
	(505)	subjective5	0.711	0.950	0.964	0.901	0.506
			0.709	0.839	0.804	0.891	0.506
			0.390				
	1-1		0.738				
	Islamic Work Ethics (IWE)	1WE2	0.801				
			0.07/				
			0.000				
		IWE7	0.710				

Table 4. 4: Continued

*Note: VD5, VD6, Cnc1, Cntr1, Cntr6, Cur1, Cur6, Ho4, Ho6, Op2, Re3, Re4, Subjective3, IWE6, IWE8, IWE9, and IWE12 were deleted due to low loadings.

### 4.2.1.2 Discriminant validity

Hair et al. (2017) and Ramayah et al. (2017) suggested three criteria for assessing the discriminant validity: examining cross-loadings, Fornell-Lacker criterion, and HTMT. Firstly, for evaluating the cross-loadings, the outer loading of an item should be greater on its respective latent variable than its cross-loadings on other latent variables. For this model, Table 4.6 shows that the outer loadings of each indicator were greater on its respective latent variable than its cross-loadings on any other latent variables. In other words, the latent variables of one construct were highly correlated among itself and variated from the other latent variables. Accordingly, the latent variables of this model were significantly cross-loaded, which indicated that a higher discriminant validity was found among constructs understudy (see Table 4.5).

Constructs	Concern	Confidence	Control	Curiosity	Efficacy	Норе	Optimism	Resilience	SD	VD	IWE
Cnc2	0.747	0.494	0.433	0.463	0.474	0.457	0.415	0.384	0.398	0.469	0.428
Cnc3	0.769	0.526	0.421	0.521	0.361	0.459	0.345	0.362	0.362	0.355	0.314
Cnc4	0.791	0.571	0.461	0.495	0.351	0.407	0.287	0.486	0.376	0.379	0.375
Cnc5	0.844	0.529	0.511	0.504	0.379	0.413	0.357	0.402	0.450	0.416	0.421
Cnc6	0.800	0.524	0.496	0.471	0.368	0.405	0.423	0.377	0.417	0.414	0.437
Cnfd1	0.519	0.755	0.529	0.523	0.383	0.479	0.308	0.414	0.350	0.425	0.525
Cnfd2	0.525	0.812	0.466	0.554	0.428	0.455	0.357	0.399	0.378	0.480	0.538
Cnfd3	0.548	0.755	0.426	0.505	0.364	0.483	0.400	0.377	0.415	0.426	0.444
Cnfd4	0.495	0.794	0.493	0.577	0.456	0.557	0.397	0.361	0.403	0.483	0.480
Cnfd5	0.560	0.802	0.500	0.571	0.363	0.484	0.365	0.509	0.442	0.415	0.399
Cnfd6	0.488	0.769	0.471	0.528	0.446	0.528	0.422	0.440	0.428	0.384	0.444
Cntr2	0.465	0.449	0.747	0.425	0.372	0.371	0.356	0.397	0.373	0.259	0.303
Cntr3	0.481	0.537	0.859	0.528	0.396	0.455	0.325	0.357	0.353	0.341	0.432
Cntr4	0.510	0.488	0.818	0.517	0.336	0.408	0.298	0.280	0.299	0.408	0.412
Cntr5	0.443	0.512	0.803	0.508	0.347	0.396	0.265	0.289	0.335	0.378	0.424
Cur2	0.555	0.501	0.489	0.734	0.416	0.434	0.322	0.297	0.261	0.384	0.443
Cur3	0.475	0.541	0.483	0.834	0.409	0.467	0.357	0.377	0.321	0.407	0.405

Table 4. 5: Articulating the items' cross loadings

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Table 4. 5: Continued

	Concern	Confidence	Control	Curiosity	Efficacy	Норе	Optimism	Resilience	SD	VD	IWE
Cur4	0 492	0 592	0 490	0.837	0.433	0 479	0 370	0 4 3 4	0 424	0.411	0.439
Cur5	0.463	0.588	0.502	0.789	0.396	0.486	0.313	0.404	0.375	0.435	0.434
Se1	0.375	0.439	0.413	0.418	0.696	0.511	0.328	0.352	0.259	0.298	0.314
Se2	0.281	0.322	0.273	0.322	0.720	0.416	0.359	0.347	0.189	0.277	0.182
Se3	0.336	0.357	0.231	0.362	0.735	0.419	0.412	0.290	0.294	0.281	0.231
Se4	0.375	0.421	0.340	0.386	0.782	0.446	0.362	0.323	0.292	0.351	0.290
Se5	0.376	0.337	0.332	0.356	0.733	0.386	0.338	0.333	0.326	0.251	0.179
Se6	0.385	0.393	0.373	0.418	0.702	0.426	0.351	0.312	0.234	0.356	0.356
Ho1	0.395	0.533	0.373	0.464	0.459	0.788	0.342	0.439	0.288	0.363	0.375
Ho2	0.487	0.493	0.390	0.432	0.451	0.720	0.365	0.400	0.297	0.358	0.324
Ho3	0.335	0.422	0.365	0.385	0.412	0.750	0.397	0.382	0.249	0.315	0.306
Ho5	0.427	0.489	0.410	0.492	0.491	0.784	0.495	0.460	0.422	0.385	0.340
Op1	0.249	0.275	0.190	0.203	0.301	0.320	0.697	0.371	0.300	0.237	0.131
Op3	0.415	0.426	0.383	0.406	0.386	0.442	0.774	0.393	0.414	0.412	0.328
Op4	0.391	0.382	0.372	0.367	0.407	0.428	0.803	0.299	0.351	0.375	0.298
Op5	0.326	0.352	0.255	0.314	0.382	0.410	0.813	0.298	0.390	0.362	0.207
Op6	0.374	0.391	0.257	0.330	0.405	0.419	0.745	0.347	0.406	0.350	0.216
Rel	0.422	0.439	0.339	0.384	0.382	0.453	0.411	0.826	0.425	0.312	0.288
Re2	0.441	0.432	0.379	0.438	0.406	0.508	0.388	0.786	0.406	0.334	0.334
Re5	0.324	0.351	0.278	0.336	0.286	0.385	0.271	0.721	0.224	0.293	0.256
Re6	0.362	0.411	0.234	0.275	0.279	0.330	0.265	0.730	0.320	0.280	0.275
SD1 SD2	0.403	0.406	0.362	0.313	0.257	0.36/	0.34/	0.429	0.725	0.362	0.350
SD2	0.3/6	0.381	0.410	0.378	0.245	0.273	0.280	0.353	0.773	0.330	0.352
5D3 5D2	0.3/1	0.412	0.314	0.372	0.324	0.338	0.356	0.328	0.799	0.410	0.3/6
5D3 5D4	0.3/1	0.412	0.314	0.3/2	0.324	0.338	0.330	0.328	0.799	0.410	0.370
5D4 SD5	0.410	0.403	0.279	0.301	0.292	0.313	0.419	0.307	0.709	0.310	0.251
SDS SD6	0.437	0.444	0.339	0.321	0.301	0.337	0.410	0.399	0.739	0.329	0.200
VD1	0.333	0.339	0.242	0.201	0.200	0.300	0.455	0.248	0.366	0.304	0.284
VD1 VD2	0.460	0.430	0.320	0.405	0.405	0.457	0.377	0.347	0.300	0.827	0.470
VD3	0.398	0.103	0.364	0.455	0.326	0.365	0.372	0.349	0.355	0.838	0.546
VD4	0.363	0.350	0.301	0.326	0.238	0.299	0.355	0.192	0.326	0.742	0.510
IWE1	0.358	0.353	0.364	0.363	0.324	0.351	0.199	0.280	0.202	0.425	0.709
IWE10	0.292	0.442	0.219	0.271	0.196	0.261	0.221	0.275	0.279	0.335	0.590
IWE11	0.433	0.458	0.412	0.405	0.250	0.311	0.195	0.319	0.350	0.491	0.738
IWE2	0.397	0.452	0.456	0.428	0.304	0.383	0.206	0.267	0.287	0.535	0.801
IWE3	0.284	0.414	0.314	0.397	0.196	0.276	0.207	0.290	0.263	0.458	0.697
IWE4	0.298	0.403	0.283	0.384	0.240	0.283	0.314	0.224	0.338	0.478	0.668
IWE5	0.424	0.488	0.381	0.433	0.260	0.322	0.242	0.271	0.300	0.528	0.758
IWE7	0.327	0.421	0.316	0.364	0.241	0.318	0.200	0.224	0.298	0.453	0.710

Secondly, there is another method for evaluating the discriminant validity of the reflective construct which is called the Fornell-Larcker criterion where the square root of AVE of each of the latent variables should be greater than its correlation with another latent variable (Hair et al., 2017). After obtaining the values using the Fornell-Larcker criterion in Table 4.6, the result showed that the square root of AVE of each of the latent variables was greater than its correlation with another latent variable.

Finally, Henseler (2017) and Henseler et al. (2015) suggested a new method for assessing the discriminant validity by examining the correlations of Heterotrait-Monotrait ratio (HTMT) which reveals the estimation of the true correlation between two latent variables (Ramayah et al., 2017) with a suggested threshold value of 0.90 (Henseler et al., 2015), any value above 0.90 indicating lack of discriminant validity. For the measurement of this model, as shown in Table 4.7, the result confirmed that the HTMT criterion was in line with the SEM-PLS rule of thumb meaning that all the values were less than 0.90. Therefore, the construct items of this model fulfilled the reflective measurement theory in terms of internal consistency, construct reliability and validity, and all the suggested discriminant validity criterions.

Items	Concern	Confidence	Control	Curiosity	Efficacy	Норе	IWE	Optimism	Resilience	SD	VD
Concern	0.791		_								
Confidence	0.669	0.781									
Control	0.588	0.616	0.808								
Curiosity	0.621	0.696	0.614	0.800							
Efficacy	0.487	0.520	0.449	0.518	0.728						
Норе	0.540	0.637	0.506	0.584	0.597	0.761					
IWE	0.499	0.603	0.489	0.538	0.356	0.442	0.711				
Optimism	0.461	0.479	0.384	0.427	0.492	0.528	0.312	0.768			
Resilience	0.509	0.534	0.408	0.474	0.448	0.554	0.378	0.444	0.767		
Self- directed	0.507	0.515	0.420	0.434	0.365	0.417	0.407	0.487	0.457	0.771	
Value- driven	0.513	0.558	0.431	0.512	0.416	0.468	0.655	0.456	0.399	0.458	0.797

Table 4. 6: Fornell-Larcker Criterion

**Table 4. 7: HTMT Articulation** 

Items	Concern	Confidence	Control	Curiosity	Efficacy	Норе	IWE	Optimism	Resilience	SD	VD
Concern											
Confidence	0.777										
Control	0.704	0.727									
Curiosity	0.749	0.827	0.752								
Efficacy	0.585	0.614	0.547	0.634							
Норе	0.675	0.784	0.640	0.743	0.754						
IWE	0.581	0.699	0.573	0.643	0.421	0.547					
Optimism	0.549	0.563	0.464	0.516	0.596	0.662	0.369				
Resilience	0.624	0.650	0.508	0.591	0.555	0.714	0.464	0.549			
Self- directed	0.594	0.595	0.502	0.517	0.432	0.510	0.473	0.576	0.553		
Value- driven	0.619	0.661	0.527	0.631	0.508	0.596	0.782	0.556	0.500	0.546	



Figure 4.2: Final research measurement model with all construct items

### 4.2.2 Formative Measurement Model Using SEM-PLS

To examine the discriminant and convergent validity for a formative construct, several tests have been suggested (Hair et al., 2017; Hair et al., 2014; Ramayah et al., 2017). After running the smart-PLS algorithm to identify the collinearity issues by way of assessing the inner variance inflation factor (VIF) values, bootstrapping is run to obtain weight values and t-values for each item in order to determine whether the weights are significant <0.05 or not. According to Table 4.8, the significance of all reflective-formative measurements was t-value >1.96 and sig value <0.000. This result indicated that there were no collinearity issues related to this reflective-formative construct based on the threshold value <5 (Hair et al., 2014). In other words, the indicators of career success were not correlated.

Second order	First order	Indicators	VIF
Career success	Subjective	Subjective1	1.695
		Subjective2	2.025
		Subjective4	2.029
		Subjective5	1.541
	Objective	Position	1.47
		Salary	1.272
		Promotion	1.772
<u> </u>		Publication	1.966

 Table 4. 8: Collinearity assessment (VIF)



Figure 4.3: Objective and subjective career success formative indicators

### 4.2.2.1 Convergent validity for formative construct

The two methods for evaluating the convergent validity for the formative construct or the career success's dimensions (see Table 3.7) are redundancy and collinearity. The primary method is called redundancy test and is performed by running the algorithm in PLS to obtain the path coefficient between the formative construct and the proposed reflective additional construct (global items) such as the overall question about the phenomenon of the study (Hair et al., 2017; Ramayah et al., 2018). According to the rule of thumb, the path coefficient result should be more than 0.8 or 0.7 (Hair et al., 2017). However, the researcher applied the second method of collinearity assessment since the first method is not as well established empirically as the second and is being applied in different fields and widely supported by researchers (Hair Jr et al., 2014; Hair et al., 2011; Hair et al., 2017; Tehseen, Sajilan, Gadar, & Thurasamy, 2017).

The multi-collinearity assessed through the value of variance inflation factor (VIF) should be less than 3.3 (Diamantopoulos & Siguaw, 2006) although less than 5 also is considered as acceptable (Hair et al., 2011). In line with that, the formative variable of objective career success indicators (objective and subjective) was less than 3.3 (see Table 4.9). Therefore, the measures of the formative construct were highly significant in convergent validity.

### 4.2.2.2 Outer weights and loadings

The outer weights evaluation is considered as an essential criterion since the results of outer weights determine the formative indicators that have to be deleted from the construct. This means that the values of the outer weights should be significant in order to keep the items in construct. The outer weights were calculated by running bootstrapping in SEM-PLS to obtain the t-value and p-value (see Table 3.7). If the result is significant it means that all the items have a necessary contribution in the formative construct.

However, if the indicators are not substantial it means they lack contribution to the constructs (Hair et al., 2017), which means the indicators have to be deleted. However, it is recommended to look at the outer loadings as another criterion for keeping or removing the indicators from the formative construct (Hair et al., 2017). If the outer loading is greater than >0.5 and significant in the level of t-value, the formative indicators should be kept. On the other hand, if the outer loadings are less than <0.5 and not significant, the formative indicators should be extracted from the final model. In line with the above mentioned, the researcher applied the outer weight and loading criteria on the objective career success indicators (see Figure 4.3).

Therefore, the result of outer weights was significant for all indicators at the level of t-value > 0.1645 (one-tailed), and p-value < 0.5 (see Table 4.9). The researcher also checked

the outer loadings for result confirmation. Hence, these two criteria assisted the researcher in deciding whether to keep the formative indicators or delete them.

Items	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
	(0)	(M)	(STDEV)	( O/STDEV )	
Subjective1 <- SCS	0.309	0.310	0.012	26.576	0.000
Subjective2 <- SCS	0.330	0.331	0.011	29.217	0.000
Subjective4 <- SCS	0.341	0.341	0.011	30.060	0.000
Subjective5 <- SCS	0.275	0.275	0.013	21.437	0.000
Position <- OCS	0.407	0.410	0.032	12.631	0.000
Promotion <- OCS	0.257	0.251	0.043	5.982	0.000
Publication <- OCS	0.365	0.364	0.030	12.324	0.000
Salary <- OCS	0.307	0.307	0.041	7.425	0.000

Table 4. 9: Outer weights outputs

Therefore, in order to assess the outer loading, it is necessary to look at the outer loading result after running the bootstrapping. The outer loadings result should be over 0.50 and significant at t-value >1.645 (one-tailed). In the case of career success formative indicators, the loadings' results for all indicators were significant at t-value > 1.645, and the outer loadings values were greater that >0.50 as well (see Table 4.10). Thus, if both rules of thumbs are met, the convergent validity test shows the significance of formative indicators and supports further analysis.

To sum up the formative convergent validity of career success indicators, the results showed the importance of objective and subjective indicators for forming the career success construct. This reflects the fulfillment of convergent formative validity for OCS indicators that may achieve a significant contribution with other predictors in the path analysis stage.

Items	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Position <- OCS	0.805	0.805	0.034	23.914	0.000
Promotion <- OCS	0.692	0.685	0.057	12.156	0.000
Publication <- OCS	0.816	0.812	0.044	18.381	0.000
Salary <- OCS	0.640	0.640	0.045	14.319	0.000
Subjective1 <- SCS	0.770	0.770	0.024	32.043	0.000
Subjective2 <- SCS	0.838	0.838	0.020	42.111	0.000
Subjective4 <- SCS	0.848	0.847	0.014	61.005	0.000
Subjective5 <- SCS	0.711	0.710	0.033	21.396	0.000

 Table 4. 10: Outer loadings output

# 4.3 The Structural Research Model

The following subsections discuss the structural model analysis. As discussed in the previous chapter, the validity of the structural model was assessed using four criteria are lateral collinearity (VIF), coefficient of determination ( $\mathbb{R}^2$ ), path coefficients, effect size ( $f^2$ ) and chi-square ( $\mathbb{Q}^2$ ). Moreover, in this section will also be discussed the role of mediations by applying bootstrapping in the indirect effect procedure (Preacher & Hayes, 2004; Preacher & Hayes, 2008), in addition to the moderated mediation examination (Hayes, 2015; Preacher et al., 2007) by applying the Hayes's Macro PROCESS and obtain the moderation of total effect.

## 4.3.1 Lateral Collinearity for Common Method Bias (CMB) in PLS

The later collinearity or variance inflation factor (VIF) is calculated to check the potential inflation or deflation in the data gathered. Kock and Lynn (2012) recommended the collinearity tests as due to the presence of collinearity issues the data may mislead the finding
although they meet discriminant validity, particularly when two constructs are hypothesised to be causally related and measuring the same construct (see Chapter 3). For the model of this study, the VIF values were obtained through applying the PLS-SEM algorithm test and then selecting only the inner VIF values. The result revealed that the independents variables (protean career orientation, Islamic work ethic, career adaptability, psychological capital, and subjective career success) were less than 3.3 (see Table 3.8). Hence, this result indicated that collinearity issues were not a concern with the items of these constructs (Hair et al., 2017) (see Table 4.11).

Constructs	CAA	IWE	CS	РСО	PsyCap
Career Adaptability			2.15		
Islamic Work Ethic	1.64				1.64
Protean Career Orientation	1.64				1.64
Psychological Capital			2.15		

Table 4. 11: Result of inner VIF values

*Note: VIF should be < 3.3

# 4.3.2 Path Coefficient

The model of this study was developed based on the hypotheses, which in turn were connected to each other based on the theoretical and empirical evidence (see Figure 2.4). For example, every predictor (PCO, PsyCap, or CAA) was connected with criterion CS. For assessing the path coefficient, the t-statistics values are needed in order to determine the

significance level and the relevance of the predictors towards the criterion variable. Hence, to obtain the t-values, running the bootstrapping function is necessary based on 5,000 resampling and one-tailed on the level of significance <0.05. The result of this model showed that all the predictors had positive relationships with their outcomes as shown in Table 4.12 below. When looking at the relative importance of the exogenous variables in predicting the dependent variables of objective career success (OCS) and subjective career success (SCS), it is evident that (PsyCap = 0.549) is a most critical predictor for career success. On the other hand, the other dependent variables (PsyCap and CAA) were highly predicted by (PCO = 0.639 and 0.673) respectively. This meant there was the strong effect on career success caused by the stated predictors of this model.

Constructs	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
CAA -> CS	-0.149	-0.151	0.072	2.074	0.019
PCO -> CAA	0.673	0.673	0.042	16.204	0.000
PCO -> PsyCap	0.639	0.64	0.046	13.866	0.000
PsyCap -> CS	0.549	0.553	0.072	7.614	0.000

Table 4. 12: Result of path coefficient

*Note: the significant level is; *t-value* > 1.645 (one-tailed), and *p-value* < 0.05

# 4.3.3 Coefficient of Determination (R²)

The coefficient of determination ( $R^2$ ) is considered as the primary evaluation criterion for the structural model to determine the level and significance of the path coefficients "because the goal of the prediction-oriented PLS-SEM approach is to interpret the endogenous latent variables' variance" (Hair et al., 2011, p. 147). Thus, when the  $R^2$  value is larger it increases the ability of prediction of the structural model. In other words, the key target in the structural model is that  $R^2$  of the construct should be high (see Table 3.8). Therefore, in this study, the Smart-PLS algorithm function was used to obtain the  $R^2$  values, whereas the bootstrapping was run for generating the t-statistics values. Meanwhile, the bootstrapping generated was 5,000 resampled from the 398 cases.

For this study, the results of  $R^2$  extracted from the structural model are presented in Table 4.13, and Figure 4.4. Accordingly, all  $R^2$  values were more than zero which indicates that the exogenous variables (PCO, CAA, PsyCap) could explain the amount of variance in the endogenous variables. Hence, CAA and PsyCap explained 20.4% of the variance in CS. It seems small but in management, psychology, and marketing field is considered even high (Hair et al., 2014). While, IWE and PCO explained 52.3% of the variance in CAA and 41.6% in PsyCap. Ultimately, the  $R^2$  results based on Cohen's criteria indicated that psychological capital and career adaptability had a moderate influence on overall career success since the total of  $R^2$  amount was 20.4% which is between 13% and 26% (Cohen, 1988). On the other hand, career adaptability and psychological capital were substantially influenced by IWE and PCO since the  $R^2$  exceeded the threshold of 26% with 52.3% and 41.6% respectively.

Constructs	R Square
CAA	0.523
CS	0.204
PsyCap	0.416

Table 4. 13:Result of R² values

**Note: R*² *reported was above zero* 



Figure 4.4: R2 values above zero

# 4.3.4 Effect Size $(f^2)$

According to Cohen's criteria for evaluating the effect size between the variables, the effect size  $(f^2)$  is used to confirm and evaluate the R² values. Thus, the  $f^2$  assesses the relevance influence of a predictor variable on the endogenous variable (Ramayah et al., 2018). More specifically, it explains to what extent these predictors contribute to the endogenous construct.

For evaluating the  $f^2$  results, Cohen's criteria need to be applied, which means that if  $f^2$  is 0.02, 0.15, and 0.35 considered as small, medium, and large size (see Table 3.8). Therefore, the results of this study showed that CAA has a small  $f^2$  on career success (0.013), PsyCap has a medium  $f^2$  on career success (0.18), and IWE has a small  $f^2$  (0.013) on PsyCap and it has a medium effect size (0.15) on CAA. Finally, PCO has a medium  $f^2$  on both CAA and

PsyCap (0.27 and 0.34), which means that PCO represents an essential predictor for enhancing the psychological resources for achieving the career success (see Table 4.14).

	CAA	CS	IWE	РСО	PsyCap
CAA		0.013			
CS					
IWE	0.15				0.013
РСО	0.27				0.34
PsyCap		0.18			

Table 4. 1414: Explain the result of  $f^2$  Values

*Note: 0.02, 0.15, and 0.35 are small, medium, and large effect size respectively

# 4.3.5 Chi-Square $(Q^2)$

 $Q^2$  is used to analyse the predictive relevance of the path model (Ramayah et al., 2018). Moreover, the evaluating criteria used in research are related to Stone and Geisser's  $Q^2$ (Geisser, 1975; Stone, 1974) whereby the resulting value of  $Q^2$  should be larger than 0 and indicate that the exogenous variables have predictive relevance for the endogenous variable (Hair et al., 2017; Ramayah et al., 2018) (see Table 3.8). Thus, for calculating the  $Q^2$  values, the researcher applied the blindfolding procedure for a specified omission distance D. The D value can be any number from 5 to 12 (Chin, 2010) and is available in the PLS program. In this study, the  $Q^2$  result showed that the exogenous variables had predictive relevance on the endogenous variable. CAA, CS, and PsyCap had a value of 0.351, 0.093, and 0.244 respectively, which indicated that the model had predictive relevance based on the three endogenous constructs whose  $Q^2$  values were considerably above zero (see Table 4.15).

	SSO	SSE	Q ² (=1-SE/SSO)
САА	1,592.00	1,033.49	0.351
CS	796	721.784	0.093
IWE	398	398	
РСО	796	796	
PsyCap	1,592.00	1,203.60	0.244

Table 4. 15: Explain the result of blindfolding (Q2)

*Note:  $Q^2$  should be greater than zero.

#### 4.3.6 Hypotheses Testing

For evaluating the model hypotheses (1,2,3, and 4), the bootstrapping routine was run in order to obtain the path coefficient value. According to Hair et al. (2014), the path coefficient value shows the result of the estimation of the relationship between two constructs or more. The result may be positive +1 or negative -1, which indicates the direction of the relationship. In other words, this shows the significance of the hypothesis. If the path coefficient is in line with the proposed hypothesis, it means the hypothesis should be accepted. However, if the path coefficient value is different from the proposed one, it means the hypothesis should be rejected.

Therefore, the path coefficient of the first four hypotheses was assessed based on the criteria of the t-value, p-value, and low and upper bias corrected value, in addition to  $R^2$ ,  $f^2$ , and  $Q^2$ . Thus, the results of H1, H3, and H4 were statistically significant based on the statistical inferences for H1, H3, and H4 that were ([ $\beta = 0.673$ , t = 16.232**], [ $\beta = 0.639$ , t = 13.959**], and [ $\beta = 0.549$ , t = 7.471**] respectively). This means that the protean career orientation had a positive relationship with both career adaptability and psychological capital,

whereas psychological capital was positively related to career success. In addition, the  $R^2$ , effect size, and the direction of lower and upper bias correct values showed the positive relation of these three hypotheses (H1, H3, and H4).

The results of these hypotheses were congruent with the proposed ones, which means that the researcher failed to reject the nil hypotheses since all three hypotheses were accepted. In contrary, the result of H2 was negatively significant on the level of [ $\beta$  = -0.149, t = 2.020*] at >1.645. In line with this result, career adaptability had a significant negative effect on career success. However, this result contradicted the proposed hypothesis, which assumed that career adaptability has a positive effect on career success. In contrast, the other analysis criteria showed that CAA -> CS had a weak effect size <0.02 (Cohen, 1988). So, the researcher rejected the null hypothesis of H2 since it was not supported. The results related to the output of path coefficient are shown in Table 4.16 and Figure 4.5.

Hypoth	Delationship	Std.	Std.	t value	Confidence Interval		Desision	<b>D</b> ²	£2	02
esis	Kelationship	Beta	Error	t-value	LL	UL	Decision	K ²	J	Ų-
H1	PCO -> CAA	0.673	0.041	16.232**	0.600	0.737	Supported	0.523	0.83	0.351
H2	CAA -> CS	-0.149	0.074	2.020*	-0.268	-0.029	Not supported	0.204	0.001	0.093
H3	PCO -> PsyCap	0.639	0.046	13.959**	0.558	0.710	Supported	0.416	0.69	0.244
H4	PsyCap -> CS	0.549	0.073	7.471**	0.424	0.668	Supported		0.18	

 Table 4. 16: Showing the hypothesis's bootstrapping (5,000) results

*Note: ***p*<0.001, **p*-value <0.05



Figure 4. 5: Shows the final path coefficient model

#### 4.4 Assessment of Mediation Analysis

Mediation models are widely used among social science researchers. The importance of a mediating variable was first highlighted by Baron and Kenny (1986) (Zhao, Lynch, & Chen, 2010) and is defined as "a third variable, which represents the generative mechanism through which the independent focal variable can influence the dependent variable of interest" (Baron & Kenny, 1986, p. 1173). In other words, a mediator determines how or by which means the relation between independent and dependent variables occurs. From a theoretical perspective, the prominent application for a mediator is to explain why a relationship between exogenous and endogenous construct exists (Hair et al., 2014). If the relationship between two variables (independent and dependent variable and translating them into the output that is a dependent variable (Hair et al., 2014). Hence, the role of the mediator construct is to determine the relationship between two original constructs (see Figure 4.6).



**Figure 4. 6: Explain the theoretical understanding of the mediator** 

Therefore, the researcher proposed two mechanisms for explaining the relationship between protean career orientation and career success, which are career adaptability and psychological capital resources. According to the protean career theory (Hall et al., 2018) the protean oriented individual requires more resources to achieve his/her career success. As a result, career adaptability and psychological capital increase personal adaptation, understanding, strength, and a clear further plan of his/her career. There are two different methods for testing the mediation effect that will be described in the section below.

# 4.4.1 Baron and Kenny's (1986) Method

Baron and Kenny's method is based on causal procedure or guidelines for testing a mediation effect among exogenous and endogenous constructs (Baron & Kenny, 1986). Their guidelines to establish a mediating effect include: i) the independent variable should significantly affect the dependent variable in the absence of the mediator; ii) the independent variable should significantly affect the mediator; iii) the mediator variable should have a significant effect on the dependent variable; and iv) the impact of the independent variable on the dependent variable during the presence of the mediator (see Figure 4.7).

Despite the popularity of the BK guidelines, they have been criticised by statistical experts such as Zhao et al. (2010) in *Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis* and by Hayes (2009) in *Beyond Baron and Kenny* and others. Admittedly, the BK method possesses certain limitations. For example, this method supposes that all four steps must be significant before mediation can be accepted (Ramayah et al., 2018). In other words, one has to stop analysis if any of the stated steps shows an insignificant result ('no mediation'). Also, the lowest power (Hayes, 2009) and multiple steps increase the occurrence of Type 1 error, which may indicate the existence of mediation whereas there is no mediation effect (Rungtusanatham, Miller, & Boyer, 2014). Furthermore, the BK method does not measure the magnitude of the mediation effect and accommodates models with inconsistent ¹⁶⁹

mediation (Hayes, 2009; Rungtusanatham et al., 2014; Ramayah et al., 2018; Zhao et al., 2010).



Figure 4. 7: Explain the Baron and Kenny's (1986) guidelines mediation analysis

# 4.4.2 4.4.2 Sobel Test Approach

The Sobel test constitutes the second most popular method (retrievable online at; <u>http://quantpsy.org/sobel/sobel.htm</u>). Although several authors have recommended this test, it earned some criticism due to the assumption of the normality distribution and sample size (Zhao et al., 2010; Ramayah et al., 2018), which means that the p-value of the Sobel test is derived by assuming normality of the sampling distribution of the indirect effect (mediation). Regarding this assumption, the sample should be large as smaller samples will not meet the normality criteria (Preacher & Hayes, 2004). According to Ramayah et al. (2018, the Sobel test is not recommended for this kind of study since the distributional assumptions do not hold for the indirect. Also, it depends on the general four steps (Baron and Kenny's method) whereby accounting the indirect effect becomes more complicated due to the presence of lower statistical power in the path X – Y (Preacher & Hayes, 2004). In summary, today's

established methodological scholars such as Hair et al. (2017) and Preacher and Hayes (2012) do not recommend the Sobel test for mediation analysis.

# 4.4.3 Bootstrapping of the Indirect Effect Method

Preacher and Hayes (2004; 2008) and Hayes (2009) identified several weaknesses of Baron and Kenny's method (causal procedure) and of the Sobel test for testing the mediation effect. The new direction taken focuses on testing the indirect effect rather than the direct effect since a significant direct relationship may not be found in a small sample size or due to other external factors (moderation) or due to the absence of sufficient power to predict the actual effect in the direct relationship (Preacher & Hyes, 2008; Ramayah et al., 2018; Zhao et al., 2010). Thus, Preacher and Hayes (2004; 2008) argued that the indirect path coefficient a*b will not be normally distributed (see Figure 4.8). They therefore suggested running the bootstrapping routine for indirect effect since it is not normally distributed plus avoiding the small sample size limitation.



Figure 4. 8: Showing the bootstrapping for the indirect effect

Therefore, this research applied the method of bootstrapping of the indirect effect for assessing the mediation effect, as recommended by established scholars such as Zhao et al. (2010), Hayes (2009), Preacher and Hayes (2004; 2008), and Hair et al. (2017). On the other

hand, this method suits with PLS-SEM since it has no assumption regarding the large sample size, normality distribution of the data, or the shape of the variable distribution. Accordingly, for this study, the mediation effect of career adaptability and psychological capital on the relationship of protean career orientation and career success (H5 and H6) was assessed by running the bootstrapping routine in order to obtain the indirect path coefficient result (t-value and p-value) and decide whether there is a mediation effect or not. Consequently, the result revealed that the indirect path coefficient was significant, which means that career adaptability and psychological capital positively mediated the relationship between protean career orientation and career success.

The statistical significance result revealed that CAA mediated the relationship between PCO and academic career success whereby the statistical inferences of the first mediated path through CAA were ( $\beta = -0.100$ , t = 2.040*, p < 0.021) whereas the inferences of the second mediated path through PsyCap were ( $\beta = 0.351$ , t = 6.437**, p < 0.000). All the statistical inferences were based on two-tailed which indicated that the t-value should be more than 1.96 (see Table 4.17; and Figure 4.9). More specifically, as recommended by Preacher, Rucker, and Hayes (2007), the bootstrap interval of the indirect effect of PCO on academics' career success was computed through both CAA and PsyCap to test the significance of the mediation ( $\beta = .25$ , 95% bootstrap confidence interval (CI) = [-0.198, -0.008, and 0.255, 0.469] respectively) because of this interval does not include zero. The researcher concludes that mediation was significant.

Overall, this result confirmed that H5 and H6 regarding the mediators were supported wherein the researcher failed to reject the null hypotheses that indicated the existence of the mediation effect of CAA and PsyCap in the model of this study.

Table 4. 17: Explain the bootstrapping (5000) results for mediation analysis

No.	Relationship	Std. Beta	Std. Error	<i>t</i> -value	Confi Interv	idence al (BC)	Decision
Н5	PCO -> CAA -> CS	-0.100	0.049	2.040*	-0.198	-0.008	Supported
Н6	PCO -> PsyCap -> CS	0.351	0.055	6.437**	0.255	0.469	Supported

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 



Figure 4. 9: Showing the bootstrapping of the mediation model (indirect effect)

#### 4.5 The Moderator Role of Islamic Work Ethics

According to the theoretical approach depicted in Chapter 2, Islamic work ethics (IWE) plays an important role in increasing the function of this model by elevating the direction of the relationships particularly, the direct effect of the IWE towards CAA and PsyCap. IWE is also expected to moderate the direct effect of the relationship of PCO towards CAA and PsyCap. Also tested was the indirect moderation effect of IWE on the relationship between PCO and Career success through both CAA and PsyCap. This section focuses on examining the direct effect of IWE as a predictor for CAA and PsyCap resources by using PLS-SEM. After running the bootstrapping, the result revealed that IWE had a direct effect on both CAA and PsyCap resources.

According to Table 4.18 and Figure 4.10, the IWE had a positive relationship with CAA and PsyCap resources at the significant level of t-values that were ([ $\beta = 0.340$ , t = 5.387**] and [ $\beta = 0.110$ , t = 1.916*]). Hence, the t-values were less than the threshold of 1.645 (one-tailed), and the direction of these relationships was positive based on the lower and upper bias corrected values. Hence, this IWE result supported the proposed hypotheses (H7 and H8) that expected the IWE to have a positive relationship with both CAA and PsyCap resources. These results confirm that employees with Islamic work ethic can increase their CAA resources (concern, control, curiosity, and confidence) and PsyCap resources (hope, self-efficacy, resilience, and optimism). Hence, that empirical evidence demonstrated the importance of IWE as a predictor for psychological resources among academic staff in Sudanese public universities.

Table 4. 18: Explain the bootstrapping result for IWE effect on CAA and PsyCap

		Std	Std		Confi	idence	
No.	Relationship	Siu. Doto	Stu. Stu. Doto Ernor t-val		Interv	al (BC)	Decision
		Deta	Error		LL	UL	
H7	IWE -> CAA	0.340	0.063	5.387**	0.237	0.445	Supported
Н8	IWE -> PsyCap	0.110	0.057	1.916*	0.021	0.210	Supported

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 



Figure 4. 10: The bootstrapping of the direct effect of IWE on CAA and PsyCap

# 4.5.1 Assessment of Simple Moderation Effect

Moderation is considered as a third variable that affects the relationship between exogenous and endogenous variable. In other words, moderation occurs when the relationship between independent and dependent constructs contingent with the values of another construct (Hair Jr et al., 2014). For example, Khan et al. (2013) studied the impact of procedural justice on turnover intention under the Islamic work ethic (IWE) contingent. The result demonstrated that employees with high IWE were unlikely to leave their organisations when procedural justice was high.

In contrast, those employees with low IWE are more likely to leave their organisations when procedural justice is high (Khan et al., 2013). This reflects the importance of the moderation effect on theory development. Thus, the methodologists have developed various approaches for estimating the moderating effects in PLS-SEM such as Judd and Kenny (1984), Baron and Kenny (1986), and Henseler and Chin (2010).

Moreover, Baron and Kenny (1986, pp. 1174, 1178) described the potential types and strategies for utilising a moderator, which can be either a qualitative variable (such as sex, race, or class) or a quantitative variable (such as level of reward) that affects the direction and/or strength of a relationship between a predictor (independent) and a criterion (dependent) variable. Also, the moderator variable can be introduced when there is heterogeneity among the groups and an unexpectedly weak or inconsistent relationship between a predictor and a criterion variable (Ramayah et al., 2018) (see Figure 4.11).

In this respect, Henseler and Chin (2010) studied several approaches of moderation in PLS-SEM in terms of their eligibility to reflective and formative measures, latent variables, statistical power or predictive power. They recommended using a two-stage approach in testing an interaction effect (moderator) when using PLS-SEM. However, in the case of observed/unidimensional variables, the two-stage method need not be applied. In addition, Preacher and Hayes (2004, 2008) argued that researchers need to go beyond the traditional

logic of moderating the direct relationship of a predictor and a criterion by analysing the effect of moderating the indirect effect of a relationship including a mediator. For example, if there is a model including X, Y, and M that is moderated by W, the effect of W on the indirect effect of X on Y through M (i.e.,  $X \rightarrow M \rightarrow Y$ ) should be analysed. That approach of a moderated indirect effect is called a moderated moderation effect (Hayes, 2013b; Preacher & Hayes, 2004; Preacher & Hayes, 2008) and can be analysed using the PROCESS macro software invented by Hayes (2013). Accordingly, this research applied the moderated moderated moderation effect of the model under study.



Figure 4. 11: Showing a moderated relationship

# 4.5.2 Assessment of the moderated-mediation effect

The idea of moderated mediation goes back to simple meditation and moderation expanding developed in the 1980s that is based on the description of how the indirect effect of predictor X on criterion Y through mediator M could be contingent on a fourth variable if that fourth variable called moderator W moderates one or more of the relationships (Hayes, 2018). This indirect effect is termed 'moderated mediation concept' and caught the attention of researchers and methodologists worldwide as it opened new ways for enhancing the knowledge and practices in the work environment (Hayes, 2013b; Preacher & Hayes, 2004; Preacher & Hayes, 2008). Practically, a moderated mediation occurs when the strength of an indirect effect relies on the level of some variable (Preacher et al., 2007) or in other words, when the relationship of mediation is contingent on the level of a moderator.

To analyse a moderated mediation effect, Hayes (2013) designed the new software called 'PROCESS macro' attached to SPSS for executing the function of testing a moderated mediation effect. PROCESS has become popular software that comes in different upgraded versions, the last version being released in 2019 called PROCESS v3.3 which covers all the previous limitations raised by statisticians (Hayes, 2017). In this study, the researcher needed to select the specific model congruent with his theoretical model among the 92 models that are available in PROCESS macro; models with multiple mediators that can reach up to 10 mediators simultaneously or with multiple moderators that can be placed in the first stage or the second stage in the model (see Figure 4.12).



**Statistical Model** 



Figure 4. 12: Showing the conceptual and statistical model no. 7 using PROCESS

Although PROCESS suits to the various kinds of moderating mediation models, there are limitation and misconceptions that need to be removed. According to Preacher et al. (2007,

p. 193), there exists considerable confusion regarding the description of the effect (mediated moderation vs moderated mediation) and the proper way to assess them. Also, Hayes (2015, p.7) identified the problem of latent continuous moderator, particularly in the first and second stage moderated mediation model. Another limitation is related to examining two moderators in one multi-moderated mediation model (Hayes, 2017, p. 5). Earlier, Hayes (2015) proposed conditional indirect effect instead of moderated mediation for removing the misconception between the Baron and Kenny method (1986) and the new method of moderated mediation. More recently, Hayes (2017; 2018) introduced a new terminology in relation to conditional indirect effect ("Partial, conditional, and moderated mediation: quantification, inference, and interpretation") for distinguishing the moderated mediation from the simple mediation.

Due to the importance of conditional indirect effect in psychology and social science literature, this research builds upon the above-tested multi-mediation model by examining the role of Islamic work ethic (IWE) as a moderator variable. Here, IWE moderates the direct and indirect effect (see Figure 2.4 in chapter 2) of protean career orientation (PCO) on the academics' career success through career adaptability (CAA) and psychological capital (PsyCap). For analysing the conditional direct and indirect effect, the researcher obtained the scores of the latent variables from PLS-SEM and transferred them to SPSS software using the PROCESS tool from the analysis list through regression icon in SPSS. Subsequently, model 7 was selected from the PROCESS screen to run other necessary tests for reporting the final moderation results. Usually, the PROCESS output is divided based on the examined outcomes. Here in this model there are two outcomes related to CAA and PsyCap which have classified as follows.

#### 4.5.2.1 Career adaptability (CAA) as an outcome

	Coefficient	SE	t-value	p value	LLCI	ULCI
Constant	0.151	0.323	0.4675	0.6404	-0.4841	0.7861
РСО	0.0576	0.3043	0.1893	0.85	-0.5406	0.6558
IWE	-0.0042	0.0089	-0.4714	0.6376	-0.0217	0.0133
Int_1	0.0173	0.0085	2.0367*	0.0423	0.0006	0.034

Table 4. 19: The interaction effect of IWE, PCO and CAA

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 



Figure 4. 13: Showing a moderator interaction between PCO and CAA

Firstly, the interaction effect of IWE on the relationship between PCO and CAA is measured wherein CAA is a mediator in the model of this study. According to Table 4.19, IWE has a positive interaction effect on the relationship between PCO and CAA since the statistical inferences revealed that [ $\beta = 0.0173$ , t = 2.037*, p = 0.04] were it met the threshold 180

that t-value was > 1.645 one-tailed and the p-value was <0.05. This means that when the IWE is high, the relationship between PCO and CAA will be stronger whereas that relationship will be weaker when IWE is low. In other words, the employees with high Islamic work ethics they are more proactive (PCO) to increase their career adaptability resources (concern, control, curiosity, and confidence) (see Figure 4.13). This result supports the previous prediction of hypothesis nine (H9), which suggests that IWE will moderate the direct relationship between PCO and CAA such as that relationship will be stronger when IWE is high and vis-versa.

# 4.5.2.2 Psychological Capital (PsyCap) as Outcome

	Table 4. 20:	The interaction	effect of IWE,	PCO and	l PsyCap
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	Coefficient	SE	t-value	p-value	LLCI	ULCI
Constant	0.4894	0.3335	1.4675	0.143	-0.1662	1.1451
РСО	-0.2653	0.3141	-0.8446	0.3988	-0.8829	0.3523
IWE	-0.0136	0.0092	-1.4784	0.1401	-0.0317	0.0045
Int_1	0.0254	0.0088	2.8981**	0.004	0.0082	0.0427

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 



Figure 4. 14: Showing a moderator interaction between PCO and PsyCap

Secondly, Table 4.20 shows the moderator interaction effect of IWE on the relationship between PCO and PsyCap. The result showed that IWE has a positive moderating effect on the relationship between PCO and PsyCap wherein the statistical inferences showed that [ $\beta$ = 0.025, t = 2.898**, p = 0.004] were it met the threshold that t-value was > 1.645 one-tailed and the p-value was <0.05. This result confirms that high IWE will strengthen the relationship between PCO and PsyCap whereas that relationship will be weaker when IWE is low. This means that employees with high IWE they are working hard through using their intrinsic values and proactivity (PCO) in order to increase their PsyCap resources (hope, self-efficacy, resilience, and optimism). However, those who low IWE are less proactive (PCO) toward increasing their psychological resources (see Figure 4.14). That result in line with the proposed hypothesis ten (H10), which supposes that IWE will moderate the direct relationship between PCO and PsyCap such as that relationship will be stronger when IWE is high and the relationship will be weaker for those low in IWE.

Direction	IWE	Effect	SE	t-value	p-value	LLCI	ULCI
Low	31.8798	0.6096	0.0483	12.618	0.000	0.5146	0.7046
Average	36.0503	0.6818	0.0373	18.2616	0.000	0.6084	0.7552
High	40	0.7502	0.0531	14.1227	0.000	0.6458	0.8547

 Table 4. 21: The conditional effect of the focal predictor at values of the moderator

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 

Direction	IWE	Effect	SE	t-value	p-value	LLCI	ULCI
Low	31.880	0.546	0.050	10.939	0.000	0.448	0.644
Average	36.050	0.652	0.039	16.906	0.000	0.576	0.728
High	40.000	0.752	0.055	13.715	0.000	0.644	0.860

*Note: **p*<0.05, ***p*<0.01, *BC*=*Bias Corrected*, *UL*=*Upper Level*, *LL*=*Lower Level* 

Thirdly, Tables 4.21 and 4.22 focus on the conditional effect of IWE on the relationship between PCO and both CAA and PsyCap resources. The PROCESS results indicated that IWE is a conditionally significant moderator for the relationship between PCO and both CAA and PsyCap because the t-value and p-value were significant wherein the t-value in all the moderation stages (whether low or high) exceeded the cut point of 1.96 and the p-value also was less than 0.05. this means that IWE is a significant moderator for such relationships on all levels of moderation.

#### 4.5.2.3 Conditional indirect effects of X on Y:

IWE	Effect	Boot-SE	BootLLCI	BootULCI
31.880	-0.086	0.050	-0.186	0.009
36.050	-0.096	0.055	-0.207	0.009
40.000	-0.106	0.062	-0.233	0.010

Table 4. 23: Indirect effect through CAA: PCO -> CAA -> CS

Finally, Table 4.23 shows the conditional indirect effect of IWE on the relationship between PCO on career success through CAA (PCO -> CAA -> CS). The PROCESS results pointed to an insignificant indirect effect of IWE on PCO -> CAA -> CS relationship since the effect was negative on all the levels of the moderation, whether it was low or high (see 'effect' in Table 4.23) and also the bootstrap of confidence interval (CI) included zero in between for both low (-0.0186 to 0.009), or high level (-0.233 to 0.010).

Table 4. 24: Index of moderated-mediation

	Index	BootSE	BootLLCI	BootULCI
IWE	-0.002	0.003	-0.009	0.001

Table 4.24 shows the moderated-mediation result which related to the moderated indirect effect of PCO -> CAA -> CS by IWE. The result was insignificant which indicated that IWE had no indirect effect on the PCO -> CAA -> CS since bootstrap of CI included zero (LLCI = -0.009, ULCI = 0.001). Hence, this result contradicted to the proposed hypothesis eleven (H11) which suggests that IWE will moderate the indirect relationship between PCO and career success through CAA such that the indirect relationship will be stronger for individuals with high IWE.

IWE	Effect	BootSE	BootLLCI	BootULCI
31.880	0.303	0.059	0.198	0.428
36.050	0.362	0.055	0.261	0.474
40.000	0.418	0.065	0.300	0.554

Table 4. 25: Indirect effect of PsyCap: PCO -> PsyCap -> CS

Relatedly, Table 4.25 illustrates the conditional indirect effect of IWE on the relationship between PCO on career success through PsyCap (PCO -> PsyCap -> CS). The PROCESS results pointed out that the significance of the indirect effect of IWE on the relationship between PCO -> PsyCap -> CS as the effect was positive throughout the levels of moderation effect, whether in low or high level (see 'effect'). The bootstrap CI values did not include zero since all the values of lower and upper of CI were positive an on the low level (0198 to 0.428) and high level (0.300 to 0.554). This means IWE played a vital role in the conditional indirect effect of PCO -> PsyCap -> CS.

Table 4. 26: Index of moderated-mediation

	Index	BootSE	BootLLCI	BootULCI
IWE	0.014	0.007	0.001	0.030

Interestingly, as shown in Table 4.26, there is a significant moderated-mediation effect was found since zero was not included in the bootstrap CI values between the lower and upper level (LLCI = 0.001, ULCI = 0.030). Accordingly, IWE was a significant moderator for the indirect effect on the relationship between PCO -> PsyCap -> CS. This result was in line with proposed hypothesis number twelve (H12) which supposes that IWE will moderate the indirect relationship between PCO and career success through PsyCap such as that the indirect relationship will be stronger for individuals with high IWE. Hence, this result

confirmed that the academicians who high in IWE, they are more proactive (PCO) and have psychological resources (PsyCap) for achieving their career success. However, those who are low in IWE, their personal resources (PCO and PsyCap) will be decreased in relation for achieving their career success.

No.	Hypothesis statement	Sig. level	Supported
H1	PCO is positively related to CAA.	Positively sig.	Yes
H2	CAA is positively related to career success.	Negatively sig.	No
Н3	PCO is positively related to PsyCap.	Positively sig.	Yes
H4	PsyCap is positively related to career success.	Positively sig.	Yes
Н5	CAA mediates the relationship between PCO and career success.	Significant	Yes
Н6	PsyCap mediates the relationship between PCO and career success.	Significant	Yes
Н7	IWE has a positive relationship with CAA	Positively sig.	Yes
H8	IWE has a positive relationship with PsyCap	Positively sig.	Yes
Н9	IWE moderates a direct relationship between PCO and CAA such that relationship will be stronger when IWE is high.	Positively sig.	Yes
H10	IWE moderates a direct relationship between PCO and PsyCap such that relationship will be stronger when IWE is high.	Positively sig.	Yes
H11	IWE moderates a positive indirect relationship between PCO and career success through CAA such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.	Insignificant	No
H12	IWE moderates a positive indirect relationship between PCO and career success through PsyCap such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.	Positively sig.	Yes

 Table 4. 27: A summary of Hypotheses Testing

#### 4.6 Summary of Research Questions, Objectives, and Hypotheses

Based on the research findings, the academics' career success predicted by several constructs were protean career orientation (PCO), career adaptability (CAA), psychological capital (PsyCap), and Islamic work ethics (IWE). These constructs were related directly (CAA and PsyCap) and indirectly (PCO and IWE) to academic career success. Further, the results showed that this research answered all the research questions and fulfilled the objectives, although some findings did not correspond with the proposed hypotheses (see Table 4.28). Notably, the hypotheses were tested using PLS-SEM and macro PROCESS software to achieve the research objective of examining the moderation effect of direct and indirect relationships. Thus, H1 – H8 were tested using smart-PLS, and H9 – H12 were evaluated using PROCESS for providing an accurate result of moderated-mediation.

The first research question and objective focused on the relationship between PCO, CAA, PsyCap, and academic career success. This question and related objective were addressed in the four hypotheses H1, H2, H3, H4. The result revealed that PCO has an indirect effect on academics' career success, whereas CAA and PsyCap have a direct effect on academic career success. The second research question and objective were related to the mediation effect of CAA and PsyCap between PCO and academics' career success. The result of hypotheses H5 and H6 indicated that CAA and PsyCap have a mediation effect on the relationship between PCO and academic career success. The third research question and objective focused on the direct relationship between IWE and both CAA and PsyCap. The findings of hypotheses H7 and H8 showed that IWE predicted CAA and PsyCap. In other words, IWE proved to be an important driver for psychological resources such as CAA and PsyCap resources.

The fourth research question and objective concerned the role of IWE as a moderator between PCO and both CAA and PsyCap. The findings of hypotheses H9 and H10 showed the interaction effect of IWE as a significant moderator for the relationship of PCO and both CAA and PsyCap. Finally, the fifth research question and objective focused on the moderated-mediation effect of IWE on the indirect relationship of PCO and academics' career success through both CAA and PsyCap. The result revealed that IWE has moderatedmediation effect in one indirect path of PCO and academics career success through PsyCap (PCO -> PsyCap -> CS). However, there is no moderated-moderation for the second path of PCO and academics' career success through CAA (PCO -> CAA -> CS).

#### 4.7 Chapter Summary

This chapter explained the data analysis procedures in structural equation modelling (SEM) using smart-PLS as a focal software for examining several hypotheses related to this model. Further, the researcher utilised PLS-SEM for estimating the measurement model by showing the convergent and discriminant validity of the construct understudy in the first stage. In the second stage, the researcher examined the path model to determine whether the proposed hypotheses were supported or not. The first eight hypotheses were assessed in PLS-SEM, and the results revealed that only H1 was not supported. The other hypotheses (H9, H10, H11, H12) were tested in PROCESS macro probing the direct moderation effect and moderated mediation (indirect effect moderation). The results showed that all the moderation hypotheses were supported except hypothesis eleven (H11) which related to the indirect path of CAA (PCO -> PsyCap -> CS).

	Research Questions, Objectives, and Hypothesis statements	Result			
<b>Research Question 1</b> : What is the influence of protean career orientation (PCO), career adaptability (CAAS), and psychological capital (PsyCap) on academics' career success?					
Resea adapta	<b>Research Objective 1</b> : To examine the impact of protean career orientation (PCO) on career adaptability (CAA), psychological capital (PsyCap), and academics' career success.				
H1	PCO is positively related to CAA.	Supported			
H2	CAA is positively related to career success.	Not supported			
H3	PCO is positively related to PsyCap.	Supported			
H4	PsyCap is positively related to career success.	Supported			
Resea	arch Question 2: Do PsyCap and CAA mediate the relationship between PCO and	career success?			
<b>Resea</b> betwe	<b>The order Objective 2</b> : To identify the mediation effect of CAA and PsyCap on the PCO and career success.	the relationship			
H5	CAA mediates the relationship between PCO and career success.	Supported			
H6	PsyCap mediates the relationship between PCO and career success.	Supported			
Resea	arch Question 3: What is the impact of Islamic work ethics (IWE) on CAA and I	PsyCap?			
Resea	rch Objective 3: To explore the impact of Islamic work ethics (IWE) on CAA a	and PsyCap.			
H7	IWE has a positive relationship with CAA	Supported			
H8	IWE has a positive relationship with PsyCap	Supported			
<b>Research Question 4</b> : To what extent does IWE moderate the direct relationship between PCO and both CAA and PsyCap resources?					
<b>Research Objective 4</b> : To examine a direct moderation effect of Islamic work ethic (IWE) on the relationship between PCO and both CAA and PsyCap.					
Н9	IWE moderates a direct relationship between PCO and CAA such that the relationship will be stronger when IWE is high.	Supported			
H10	IWE moderates a direct relationship between PCO and PsyCap such that the relationship will be stronger when IWE is high.	Supported			
<b>Research Question 5</b> : Is there any moderated mediation effect for IWE on the indirect relationship between PCO and except success through both mediators CAA and DayCan ²					
<b>Research Objective 5</b> : To investigate the moderated mediation effect of IWE on the indirect					
relationship between PCO and career success through both CAA and PsyCap.					
H11	IWE moderates a positive indirect relationship between PCO and career success through CAA such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.	Not supported			
H12	IWE moderates a positive indirect relationship between PCO and career success through PsyCap such that the indirect relationship is stronger for individuals high in IWE than those low in IWE.	Supported			

# Table 4. 28: Summary of research questions, objectives, and hypotheses

#### **CHAPTER 5: DISCUSSION AND CONCLUSION**

# 5.1 Introduction

This chapter provides a summary of the hypotheses in relation to the findings obtained as described in the previous chapter and forming the data analysis. The discussions of the hypotheses are based on five research questions and objectives detailed in the first chapter. In this chapter, the researcher compares the present findings with the published research to show the similarities and differences between the present study and former studies. Finally, this chapter reports the research limitations, theoretical and practical contribution, recommendations for future studies, and conclusion.



Figure 5.1: Statistical research model with t-values

#### 5.2 Discussion of the Survey Findings

In this section, the results of the self-administrated survey are presented according to the underlying research questions. The results are discussed and compared with related previous studies for reflecting the validity and reliability of these results.

# 5.2.1 The effect of protean career orientation, career adaptability, and psychological capital on academic career success

The results of first four hypotheses (H1, H2, H3, & H4) examined the relationship between protean career orientation (PCO), career adaptability (CAA), and psychological capital (PsyCap) on academic career success for answering the first research question. The empirical results revealed the significant effect of PCO, CAA, and PsyCap on academic career success wherein the t-values of H1, H2, H3, and H4 were 16.204**, 2.074**, 13.866**, and 7.614 respectively. These t-values were considered as significant >1.645 one-tailed. The results of these hypotheses are discussed as follows in more detail.

Firstly, H1 revealed that PCO has a positive relationship with CAA. This result is consistent with the previous research that examined the relationship between PCO and CAA. For example, in a systematic review, Johnson (2018) found that PCO was positively related to CAA. Furthermore, Stauffer et al. (2018) observed that CAA was related to PCO among Swiss employees. In Singapore, Chan et al. (2015) examined the relationship between PCO and CAA among university students, and their result revealed that PCO has a strong positive relationship with CAA (Chan et al., 2015). Hence, and in line with the stated evidence, the result of H1 confirms the positive effect of PCO on CAA, which is considered as more reliable and congruent with the previous findings and protean theory (Hall, 1976). According to protean theory, protean-oriented individuals will be more proactive through intrinsic 191

values and self-direction for obtaining their goal. Consequently, this result assumed that people who are protean-oriented can increase their CAA resources (concern, control, curiosity, and confidence) since the protean attitude enhances the self-direction and intrinsic values in people, which in turn leads them to be more focused on achieving their objectives.

Secondly, H2 indicated that CAA has a significant negative relationship with academic career success. This result contradicted the proposed hypothesis according to which CAA has a positive relationship with academic career success. However, the findings in the CAA literature are inconsistent; the majority of studies reported the positive relationship between CAA and positive work outcomes (academics' career success, career satisfaction and commitment) while it has a negative correlation with counterproductive behaviors such as turnover intention and work stress (Haibo et al., 2018; Rudolph et al., 2017; Zacher & Griffin, 2015). In contrast, other studies concluded that CAA has a negative correlation with positive work outcomes (career satisfaction) and a positive relationship with turnover intention (Ito & Brotheridge, 2005; Zacher, 2014). Therefore, the finding of H2 contradicts Haibo et al. (2018), Rudolph et al. (2017), and Zacher and Griffin (2015) who emphasised that CAA is positively related to academic career success. However, the research finding indicated that CAA resources were not associated with academic career success, as concluded by Zacher (2014), Safavi and Karatepe (2011), and Duffy et al. (2015) who supported that CAA was not related to positive outcomes including career success. As a result, this finding supports that individuals with CAA resources may not be able to achieve their success in their career.

This result is important as it reflects the actual situation of the academicians and their perception of career success in public universities in the Sudan, which is the actual context of the study. The Sudanese academicians felt that the resources at their disposal did not support their career success due to the low level of university ranking, pay, and publications. Relatedly, the evidence showed that CAA studies produced seemingly paradoxical findings on individual and organisational behaviors (Haibo et al., 2018), most likely due to the fact that CAA is affected by the investigated situation (the status quo). For example, the situation of academicians in Sudan was that they perceived the lack of career success due to the lack of objective and subjective career success indicators. They felt that their current CAA resources were not adapted to the work environment to achieve career success. In support, Savickas and Porfeli (2012) demonstrated that the outcome of career adaptation can be indicated by development, satisfaction, success, and stability.

In contrast, the career adaptability of academicians in Sudan did not predict their career success. The existing studies showed that career adaptability is an important resource to handle challenges across various situations by fostering person-environment fit (Guan et al., 2013). Therefore, in the case of academic staff in Sudan, there is a lack of no person-environment fit or in other words 'lecturer vs university support'. According to Saeed and Fadlalah (2015), there is a lack of university support in terms of salary, funds, training, and ranking. All these reasons caused academic staff to have a low level of CAA resources at their disposal, which in turn affected their future aspirations. In line with COR theory, academic staff need to acquire more psychological resources such as self-efficacy, hope, optimism, self-steam or any other motivational resource rather than CAA in order to overcome their present situation.

Thirdly, H3 demonstrated that PCO has a positive relationship with PsyCap. This result indicated that people who have PCO are more engaged in increasing their PsyCap resources (hope, self-efficacy, resilience, and optimism). The result was consistent with Rowe (2013),

DiRenzo (2011), and DiRenzo et al. (2015) who found that PCO was positively linked to PsyCap's resources. However, Krishna (2016) and Li (2018) discovered an inconsistent relationship between PCO and PsyCap and concluded that PsyCap partially mediated the relationship between PCO and positive outcome. Otherwise, the bulk of findings were in line with the finding of this research that supports the positive relationship between PCO and PsyCap. This result is also in line with the COR tenets of resources gaining that may help in generating additional resources for achieving an expected goal. This means that the academicians who embrace PCO have self-directed and intrinsic values for increasing their PsyCap resources (HERO) and achieve career success.

Fourthly, H4 revealed that PsyCap has a positive relationship with academics' career success. This result agrees with that of Luthans et al. (2007), Li (2005), Ngo et al. (2014), Karatepe and Karadas (2015), and Schulz et al. (2014) who support the positive correlation of PsyCap with career success. However, other studies concluded that not all PsyCap resources are related to career success such as Ngo et al. (2014) who found insignificant mediating effect resilience on employee career success. In other words, resilience as one of the PsyCap's resources is negatively related to employee career success. On the other hand, the majority of findings agreed on the positive relationship between PsyCap and career success. Hence, the result of this study confirmed a significant positive relationship whereby individuals who possess a high level of PsyCap resources enjoy a high level of career success. In other words, academicians who possess PsyCap resources enjoy a high level of career success.

Finally, the objective of the discussed results is to address the first research question on the influence of PCO on CAA, PsyCap, and academics' career success. This question was
addressed based on the results of the four hypotheses H1, H2, H3, and H4. The findings confirmed that PCO has a positive significant direct relationship with both CAA and PsyCap and also has an indirect relationship with academics' career success. Also, PsyCap has a positive direct relationship with academics' career success. However, CAA has a negative direct relationship with academics' career success. However, CAA has a negative direct relationship with academics' career success. Thus, the first research question was answered by establishing the significance of those four hypotheses, and the objective one of this research was also achieved by supporting the importance of examining the impact of PCO on CAA, PsyCap, and academics' career success. Thus, the stated findings demonstrated that the first research objective was fulfilled by testing all four hypotheses, which revealed significant results in line with the previous literature and the theory underpinning this research.

# 5.2.2 The mediating effect of career adaptability and psychological capital

Hypotheses five and six (H5 & H6) assessed the role of mediating effect of career adaptability (CAA) and psychological capital (PsyCap) on the relationship between protean career orientation (PCO) and academics' career success and answer the second research question. The empirical findings of H5 and H6 demonstrated that CAA and PsyCap have a significant mediation effect between PCO and academics' career success, the t-values of H5 being 2.053*, and those of H6 6.375**. These two t-values are significant and more than >1.96 two tailed. Hence, the result established the mediation effect of CAA and PsyCap on the relationship between PCO and academic career success.

The stated results of hypotheses five and six were compared with the previous studies for more validation. Firstly, H5 indicated that CAA has a significant mediation effect on the relationship between PCO and academic career success, which is congruent with the finding 195

of Safavi and Karatepe (2018) and Hirschi et al. (2015) who observed a full mediating role of CAA between personality traits and positive work outcomes. However, other studies found a partial mediating role of CAA between personality and positive career outcomes (Chong & Leong, 2017; Maggiori et al., 2013; Nilforooshan & Salimi, 2016). Thus, an individual who is protean-oriented needs CAA resources for achieving his/her career success.

Secondly, H6 revealed that PsyCap has a significant mediation effect on the relationship between PCO and academics' career success. This result is consistent with the studies of DiRenzo (2011) and DiRenzo et al. (2015) who stressed that PsyCap has a mediating role on the relationship between PCO and positive work outcomes. Other studies, however, established that PsyCap has a partial mediating role on the relationship between PCO and positive work outcomes (Li, 2018; Ngo et al., 2014) and only few studies supported the availability of mediation effect of PsyCap between PCO and positive outcomes. Therefore, the finding of this research confirms the mediation effect of PsyCap between PCO and academics' career success. This means that protean-oriented employees need PsyCap resources (HERO) for achieving their career success. This result is in line with the COR theory principle that academicians with PCO meta-competencies can generate additional resources (PsyCap) for achieving success in their career.

Finally, the stated findings stressed the importance of CAA and PsyCap as mediators of the relationship between PCO and academics' career success in public universities in the Sudan. These results addressed research question two on the mediating role of both CAA and PsyCap between PCO and academics' career success. In addition to that, the findings fulfilled the research objective two, which was to determine the mediation effect of CAA and PsyCap on the relationship betwein other words, people who possess PCO orientation need the 196 motivational resources of CAA and PsyCap for achieving their career success, particularly in the academic environment.

# 5.2.3 The effect of Islamic work ethics on career adaptability and psychological capital

Hypotheses seven and eight (H7 & H8) examined the effect of Islamic work ethics (IWE) on both career adaptability (CAA) and psychological capital (PsyCap) for answering question three of this research. It was supposed that IWE has a positive relationship with CAA and PsyCap, and the empirical results revealed that IWE was indeed positively related to CAA and PsyCap since the statistical inferences for IWE on CAA and PsyCap were reflected as ([ $\beta = 0.340$ , t = 5.387**] and [ $\beta = 0.110$ , t = 1.916*]). This result is consistent with previous studies that affirmed the positive relationship of IWE with positive work outcomes such as job satisfaction, organisational commitment, and organisational justice (Khan, Abbas, Gul, & Raja, 2013; Murtaza et al., 2016; Yousef, 2001). In contrast, IWE has a negative relationship with ambiguity, work conflict, turnover intention, and other deviant behavior (Maaz-ud-Din et al., 2017; Yousef, 2000). Furthermore, Sehhat et al. (2015) investigated the influence of IWE on PsyCap for Iranian employees in the public sector and found that IWE was positively related to PsyCap resources (Sehhat et al., 2015). Similarly, Javed and colleagues investigated the impact of IWE on adaptive performance in Pakistan and found that IWE has a positive relationship with adaptive performance (Javed et al., 2017).

Acknowledging the stated evidence, the result of this research complies with the majority of research that IWE has a positive relationship with both CAA and PsyCap. In other words, employees who have high IWE increase their PsyCap and CAA resources and thus increase their chances for achieving career success. Therefore, these findings of H7 and H8 have properly addressed research question three and achieved research objective three. The third research question examined the impact of IWE on both CAA and PsyCap, in answer to which the researcher found that IWE has a significant positive impact on both CAA and PsyCap. Also, objective three to investigate the impact of IWE on both CAA and PsyCap was achieved through testing the relationship between IWE with CAA and PsyCap and confirming the impact of IWE on the resources of CAA and PsyCap.

#### 5.2.4 The moderating effect of Islamic work ethics

Hypotheses nine and ten (H9 & H10) were specifically designed to test a moderating effect of Islamic work ethics (IWE) on the relationship between protean career orientation (PCO) and both career adaptability (CAA) and psychological capital (PsyCap) for answering question four. Here, the researcher proposed that IWE has a positive moderating effect on the relationship between PCO and both CAA and PsyCap and that their relationships will be high if IWE is high and vice-versa. The result indicated that IWE has a positive moderating effect on the relationship between PCO and both CAA and PsyCap due to fact that the statistical inferences of CAA were [ $\beta = 0.0173$ , t = 2.037*, p = 0.04] and of PsyCap [ $\beta$ = 0.025, t = 2.898**, p = 0.004]. This result affirmed that IWE will strengthen the relationship between PCO and both CAA and PsyCap resources when is high while that relationship will be weaker when IWE is low. In other words, the academicians who high in IWE, they are more proactive, intrinsic values, and self-direction for using their personal resources in order to achieve their career success. However, those who are low in IWE, they rank low in increasing their personal resource for career success achievement. In comparison, the prior results were consistent with the present study which found that that IWE positively moderates the positive relationship and negatively moderates the negative relationship (Khan & Rasheed, 2015; Rawwas, Javed, & Iqbal, 2018). For example, Khan and Rasheed (2015) investigated the moderation role of IWE on the relationship between human resource management practices (HRMP) and project success in Pakistan and found that IWE has a positive influence on HRMP and project success (Khan & Rasheed, 2015). Also, Yousef (2001) studied the moderation effect of IWE on the relationship between organisational commitment and job satisfaction in the United Arab Emirates and concluded that IWE has a positive moderation effect on the relationship between organisational commitment and job satisfaction.

On the other hand, however, other studies indicated that IWE can alter the relationship based on the context or the Islamic principles such as turning the negative relationship into a positive one and visa-versa (Abbasi, 2015; Khan et al., 2013). For instance, Abbasi (2015) studied the role of IWE as a moderator between the relationship of work overload and job satisfaction, stress, and turnover intentions for 123 employees working in Pakistan. The findings showed that IWE altered the relationship of work overload to be positively related to job satisfaction, stress and negatively related turnover intentions. Khan et al. (2013), however, found a contradicting result whereby distributive justice was negatively related to turnover intentions for individuals low on IWE. In other words, individuals with low IWE perceived distributive unfairness while individuals with high IWE were not affected by the absence of distributive fairness (Khan et al., 2013).

The stated evidence showed controversial findings on the role of IWE as a moderator. Therefore, the result of this research is logically acceptable for three reasons. Firstly, according to Ali and Al-Kazemi (2007), IWE asserts dedication to work, responsibility, justice, generosity, and creativity in the work environment. These resources give the employees more motivation for generating additional resources such as (CAA and PsyCap). So, when academicians have high IWE, they will become more responsible committed and motivated to their career which in turn help them to increase their additional personal resources (PCO, CAA, & PsyCap) for attaining their success. Secondly, although IWE and PCO are personal resources, their source is distinct. The source of PCO is a person him/herself acquired from his/her education, self-learning, and accumulated experience that promote his/her intrinsic values and corrected his/her career direction. However, IWE is based on the two primary sources of the Holy Qur'an and the Sunnah of Prophet Muhammad (Peace Be Upon Him). These sources provide the basis for Islamic teaching all over the Muslim world. Hence, IWE is considered as a part of Muslim individuals' belief system (Khan et al., 2013) and shapes his/her work and life as a whole. Hence, IWE has a large portion in affecting the Muslim personal resources which lead that resources in higher direction. Finally, according to COR theory, people are motivated to acquire more resources because they are essentially hedonistic in nature (Ng & Feldman, 2014a, p. 157). This means that even though the current needs of individuals are fulfilled, they will still look for additional resources for potential needs in the future. Further, the theory confirmed that the acquisition of new resources is critical as individuals tend to lose valued resources over time (Ng & Feldman, 2014a). Regarding this, the acquisition of IWE resources will lead Muslims to work hard for developing their resources beforehand and looking for additional resources in order to achieve their goals in future.

Therefore, the results of H9 and H10 have addressed research question four on the moderation role of IWE on the relationship between PCO and both CAA and PsyCap resources. The results emphasised the significant role of IWE on that relationship wherein individuals with high IWE will be more protean-oriented for increasing their additional personal resources (CAA & PsyCap) for achieving their career success. In contrast, for those who rank low in IWE, their protean-orientation will be low toward their personal resources (CAA & PsyCap) for attaining their career success. Thus, these findings fulfilled the research objective four to investigate the moderation effect of IWE on the relationship between PCO and both CAA and PsyCap.

## 5.2.5 The moderated mediation effect of Islamic work ethics

Hypothesis eleven and twelve (H11 & H12) were proposed to measure the role of Islamic work ethics (IWE) as a moderated mediation for the indirect effect of the relationship between protean career orientation (PCO) and academics' career success through both career adaptability (CAA) and psychological capital (PsyCap) in order to address the fifth research question. The researcher assumed that IWE will moderate the positive indirect relationship between PCO and career success through both CAA and PsyCap such that the indirect relationship is stronger for individuals with high IWE than those low in IWE.

Interestingly, the empirical findings revealed two different results based on the model's paths. Where, the first path through CAA (PCO -> CAA -> CS) was not significant while the second path through PsyCap (PCO -> PsyCap -> CS) was positively significant. Hence, for the first path the statistical inferences showed that the bootstrap of confidence interval (CI) included zero for lower and upper level (LLCI = -0.009, ULCI = 0.001). This confirm that there is no moderated mediation found for PCO -> CAA -> CS. Thus may be related to the  $_{201}$ 

nature of CAA resource which is connected to the PE-fit. Due to the lack of support of Public universities management in Sudan. So, the academic staff feel more adaptable and that might lead them to think about looking for career success in different environment (turnover intention). This in line with Ito & Brotheridge (2005) and Zacher (2014) who found that CAA resource lead to turnover intention because the employees feel that were not fitted to the current environment.

In contrast, there was a positive moderated-mediation for the second path (PCO -> PsyCap -> CS). Where, the statistical results showed that the lower and upper confidence intervals does not include zero in between (LLCI = 0.001, ULCI = 0.030) based on INDEX criterion That can be explained as academic staff who high in IWE are more exposed to increase their personal resources (PCO & PsyCap) in order to achieve their career success. Because the stated resources include helping attitudes which lead to positive behaviours. For instance, PsyCap includes hope, self-efficacy, resilience, and optimism, whereas IWE perspective is about to induce people to be more positive, active, responsible, respect others, just, generous, proactive etc. All that IWE resources are able to drive other personal resources easily.

Moreover, IWE is characterised by having multi-functional values as it includes personal and contextual resources (Khan et al., 2013) from the religious perspective of Islam and as such, the domain of the people in the context of the study (Sudan). The Islamic perspective acknowledges job and career satisfaction as a part of the joys of this world, however, the true satisfaction and the true success (*Falah*) can only be experienced in the hereafter (Amilin, 2016), in reference to the Qur'anic verse (3:185): *"Everyone shall taste death. And only on the Day of Resurrection shall you be paid your wages in full. And whoever is removed away from the Fire and admitted to Paradise, he indeed is successful. The life of this world is only 202*  *the enjoyment of deception (a deceiving thing).*" Based on that evidence, it is argued that IWE contains several resources that rank higher than other personal resources which assist employee to use his/her current resources wisely based on ethical codes and also he/she can acquire additional resources. Another support based on COR theory, IWE works as a promoting resource for academicians' personal resources (PCO and PsyCap), so the presence of an IWE resource (gain) will flourish the role of PCO and PsyCap resources. Thus, people who gain an IWE resource, they will acquire additional resource for achieving their success in career because the IWE motivates and inspires Muslims to be successful in all aspects of life. Ultimately, the Muslim belief that IWE equally applies to all their deeds, which has a much wider scope than a mere condition related to a particular event or situation.

Therefore, these results have answered the research question five by finding two different results for every path in the studied model. First, there is no moderated-mediation of IWE on the indirect relationship between PCO and academics' career success through CAA (PCO - > CAA -> CS). However, the second path of this model has a positive moderated-mediation effect of IWE on the indirect effect of PCO and academics' career success through PsyCap resources (PCO -> PsyCap -> CS). Also, research objective five was achieved by examining the role of IWE as a moderator for the indirect relationship between PCO and academics' career success mediated by both CAA and PsyCap resources.

In summary, this section discussed all five research questions based on the research findings and compared them with the previous studies. Then, evidence for unsupported findings was given in order to provide more justifications for the sake of knowledge contribution. Overall, ten (10) hypotheses were supported and two (2) hypotheses were not supported based on the literature. However, these unsupported hypotheses give a new

direction for future research. Finally, all the research questions were addressed properly and the research objectives were fulfilled to identify an acceptable solution for the problem of this research.

# 5.3 Research Conclusion

In this section will be explained the theoretical and practical contribution of this research based on the reviewed literature and the study's own empirical findings that were examined in chapter four. The results were discussed in light of the previous works in the first part of this chapter. It is also meant to guide future research in terms of all areas captured throughout the variables that formed the model of this study which contributes to several areas of research such as human resource development, career development, positive psychology, Islamic work ethics, and career success. Finally, the limitations of this research and summary for this chapter will be drawn.

## 5.3.1 Theoretical Contributions

This research investigated the influence of PCO on academics' career success mediated by CAA and PsyCap and moderated directly and indirectly by IWE (see Figure 2.4). According to Hayes (2013) and Hair et al. (2014), such a multi-mediations model (having more than one mediator) is recommended for modern theory development. Hence, the theoretical contributions of this research model can be explained as below.

Firstly, by combining the career success dimensions; the researcher bridged the gap in the career success literature by examining the two prominent dimensions of objective and subjective career success. However, the previous studies focused on only one of the two dimensions. For example, Vos and Soens (2008) called for combining the two dimensions of

career success in one single study to create a full representation of career success. In this research, both career success dimensions were treated as a second-order formative construct in PLS-SEM for accurate analysis since the two dimensions are theoretically distinct. According to the best of researcher's knowledge, this constitutes the first study combining objective and subjective career success as a formative higher order construct in one model.

Secondly, using PCO as a predictor based on the protean career theoretical model (PCT) has to be considered as another theoretical contribution since the previous studies dealt with PCO as a predictor for subjective career success whereas this research dealt with PCO as a predictor for both objective and subjective career success. Further, Hall et al. (2018) released a theoretical model for PCO and the expected outcomes (see Figure 2.3). This constitutes the first study utilizing this model as a guide to place the research constructs. In contrast, the PCO theoretical model has not yet been tested.

Thirdly, the mediating role of CAA and PsyCap resources between PCO and academics' career success examined in this study, meant that the researcher introduced two important psychological resources (CAA and PsyCap) for explaining the relationship between PCO and academics' career success and succeeded in arriving at a significant interpretation of that relationship. The findings lunched new ways for individuals to be more successful in their career, especially for academicians as the population of this research.

Fourthly, the moderation role of IWE on the model of this research was established and its importance in theory and practice. The researcher introduced IWE as a moderator for the direct relationship between PCO and both CAA and PsyCap resources and the indirect relationship between PCO and academics' career success through both CAA and PsyCap. This IWE has been acknowledged in positive psychology research, which demonstrated that individuals with high IWE resource will be more protean-orientation (proactive and self-directed) for increase their CAA or PsyCap for achieving career success. In other words, the presence of IWE resource will increase academic staff personal resources at work (CAA and PsyCap).

In addition, for the moderated moderation findings, there are two different results have found based on the research framework paths (see Figure 5.1). The first path through CAA (PCO -> CAA -> CS) showed that there is no moderated-moderation has been found. In other words, IWE does not have any moderation effect for indirect relationship between PCO and career success through CAA. However, for the second path through PsyCap, this study confirmed that IWE has a moderated-mediation effect on the indirect relationship between PCO and career success through PsyCap (PCO -> PsyCap -> CS). Which means that academic staff with high IWE have a strong ability to increase their PCO and PsyCap resources for achieving their career success, while the academic staff who low in IWE are not willing for increasing their personal resources (PCO and PsyCap) for career success achievement. This is explained by the fact that IWE constitutes a multi-functional resource which can guide and increase other positive personal resources among academicians.

Finally, the underpinning theories were expanded, namely conservation of resources theory, self-determination theory, and protean career theory. All these theories deal with psychological resources as motivators for individuals to achieve their goals. Meanwhile, this research contributed to these theories by introducing a new model that involved a direct and an indirect moderator. Also, this research model was applied in the Sudan and thus extended the application of these theories from the western and Asian to the African context.

Furthermore, IWE as a personal resource has introduced a viable extension to COR theory since IWE acts as a multi-functional resource for Muslim employees meaning that when they gain the IWE resource, they may easily multiply their current resources and acquire additional resources in the future to achieve their goal. In comparison, COR theory stipulates that individuals who have access to resources nevertheless strive to obtain other resources or protect their current resources from loss (Hobfoll, 1989, 2011). Here, it is argued that there are other resources that have multi-functions and contain different sub-resources that help them to self-generate and self-protection.

### 5.3.2 Practical Contributions

The practical contributions consist of those related to the managers or higher education leaders in the Sudan and those directed to the academicians who are employed in the public universities.

## **5.3.2.1 Implications for university leaders**

Research findings provided essential implications for leaders of public universities who monitor and manage these universities. The results established that PCO increases the academicians' personal resources such as CAA and PsyCap resources. University leaders need to organize training, seminars and forums for their academic staff in order to encourage them to become more protean-orientated and become more independent in managing their own career development. PCO will help academic staff to actively increase their own skills and level of expertise in their field and achieve career success and ultimately their institution's success.

The significant association of CAA and PsyCap resources with academics' career success. Thus, the university leaders need to increase the available psychological resources and enhance COR theory among their staff to help them generate valuable resources for achieving their career success. The findings also showed the negative association between CAA resources and academics' career success which can be explained by the lack of personenvironment fit. In this regard, university leaders should work hard to improve their university's environment as general and research funds in particular.

Furthermore, IWE or work ethic in general is considered as one of the organisational core values which increases the individual's ability to balance his/her material and immaterial needs and achieve life satisfaction. The university leaders need to appreciate the importance of IWE as a multi-functional resource that helps academic staff to be more effective, patient, creative, confident, optimistic and balanced. The findings suggested that when employees gain more IWE that will help them to increase other personal resources and they will protect the current one from loss. Hence, Sudanese academic staff would benefit from more training to develop their understanding of how IWE may enhance their abilities to achieve career success.

#### 5.3.2.2 Implications for academic staff

In this research, the Sudanese academic staff was represented by a sample population. Based on their perception data, they are well-advised to adopt PCO for career development through personal resources rather than waiting for organisational support. Academic staff trying to succeed in today's highly competitive work environment require a high level of self-motivation, which can be achieved by increasing their CAA or PsyCap resources. More importantly, academicians need to increase their professional output in the form of academic publications on the basis of their personal resources in order to discover new opportunities.

In more details, academicians who embrace PsyCap resources, would be hopeful, selfefficient, resilient, and optimistic which increase their self-motivation towards their career success in universities. Further, when academician perceive the role of CAA resources, that increase their concern, control, curiosity, and confidence over their career. Hence, the PsyCap and CAA resource contains a variety of motivations that related to academicians' present success in their career such as resilience, self-efficacy, control, confidence, and concern, besides, other resources that concerned with their future success like curiosity, hope, and optimism. So, the universities need to apply those multi-resource in order to guarantee the academician loyalty and commitment which resulted in higher performance and retention.

In this regard, IWE is capable for enhancing other individual resources. As Muslims, Sudanese academic staff possesses a cultural and religious environment that encourages the utilisation of IWE as driving resource. When the academic staff become fully adapted to IWE, their sense of self-monitoring, self-confidence, self-accountability, and self-efficacy will be increased since they work for both rewards, the worldly and the spiritual, which necessitates honest effort and sincere intention. Also, this finding provides the academic staff with another option coming from the positive interaction for the IWE with protean career orientation. In other words, Muslim academic staff who have high IWE are high in PCO toward the career success achievement because IWE is more related to their personality and aspirations. Therefore, IWE will assist academicians to be more productive in every aspect of their career. It can reduce the problem of turnover intention and stress by elevating the

employees' motivation and keep them satisfied on their job, which in turn contributes to their university's sustainability and growth.

Overall, the leaders of public universities in Sudan should bear in their minds the importance of psychological resource (PCO, PsyCap, CAA, and IWE) which guided by well-known theories (PCT, COR, SDT) for assisting their academic staff for achieving their career success. Practically, the role of stated theories on increasing the psychological motivation of employees is well-established and such this motivation is needed by academic staff in terms of increase their intention to publish articles, writing books, staying employable with university, following their personal career development (trainings) and offering consultations for business companies.

#### 5.3.3 Future Research Avenues

This section discusses the theoretical and empirical limitations of this study. From the viewpoint of the result discussions, some potential directions for future research are suggested below.

Firstly, this research focused on investigating academics' career success from the new theoretical perspective. More specifically, the research applied a protean career orientation perspective for enhancing the psychological resources for achieving career success. However, the new career theory contains the two perspectives of protean and boundaryless career theory, and future studies may focus on examining the boundaryless career theory with academics' career success or combine both protean and boundaryless career theories in one study in order to determine which theory is more closely linked with academics' career theory to

explore career profile (Briscoe & Hall, 2006) and not career success, which means that there is still room for future research.

Secondly, this research was limited to six public universities in Sudan using academic staff as respondents. However, since career success is a contextual phenomenon, it can be applied in a different context. For instance, future studies need to replicate this model in different settings such as in Asian or Western countries because there are differences in culture and the universities level in terms of ranking, capacity, and financial resources. Future researches also can use theories other than COR or SDT in the replicated study that equally suit the model, for example goal setting theory or Herzberg's two-factor theory.

Thirdly, this research examined the role of IWE as moderator and both CAA and PsyCap as mediators. However, future studies can use IWE as main independent variable for driving other personal resources since IWE contains multi-functional resources that can be used much more than merely contingent variable. Furthermore, future work also needs to update the IWE measurements which have been criticised in some current literature by saying that the current measures are more relevant to general individual work ethics and do not accurately reflect all the aspects of the work ethics derived from Islamic primary sources. Only one study done by like Chanzanagh and Akbarnejad (2011) who attempted to come with accurate measures for IWE through creating seven dimensions validated in Iran but that scale was not replicated in any subsequent study.

Hence, in order to resolve this measurement problem, a new IWE scale has to be developed. In general, IWE is built on the four primary concepts of effort, competition, transparency and morally responsible conduct (Ali & Al-Owaihan, 2008). This means that

research needs to re-examine IWE as evidenced in the Islamic literature and compare the findings with the Holy Qur'an and Sunnah. The Islamic perspective entails that every action, word, or intention will be rewarded in the hereafter (life after death). In Islam, economic activities are viewed as a communal obligation that can be used as a platform for increasing the socio-economic welfare of society (Salin et al., 2017). These activities are considered not only as a divine calling but also necessary for human life and a source of social gratification (Ali & Al-Owaihan, 2008). Also, the intention behind every act plays a central role in Islamic ethics, which encourages self-monitoring. Eventually, work is not viewed as an end in itself, but as a means to foster personal growth and social relations.

Fourthly, positive psychology covers the three areas of positive emotions, positive individual traits, and positive institutions. This research contributed to the study of positive individual traits, which allows future studies to investigate the other two areas. In different context, there is a highly promising direction for future research is to explore the negative effect of objective and subjective career success on well-being and health. Here, few studies found a positive impact of career success on well-being and health (Spurk et al., 2019), which is in line with the COR assumption that people need to work hard and strive to gain additional resources for attaining their goals and protecting their current resources from loss, Time pressure, overload, resource drain (Spurk et al., 2019), work-family commitments, and other fields of life may be negatively affected by career success. In other words, when individuals focus hard on their career success, they may devote less attention to other important activities, which in turn may negatively affect their overall quality of life.

In terms of protecting resources, career success itself is considered as a resource (Spurk et al., 2019) that may prompt individuals to engage in unethical protective behavior. So, new

studies are needed to explore the darker aspects of career success in order to bridge the knowledge gap in this area.

Finally, the findings of this research were analysed using PLS-SEM and PROCESS macro software. However, future research can use more advanced software (such as Mplus) for analysing such a model as PLS-SEM and PROCESS have certain limitations. Furthermore, the paradigm of this research is post-positivist and quantitative in nature, and future studies can attempt to explore academic career success following a qualitative approach in order to bridge the knowledge gap regarding this phenomenon.

# 5.3.4 Concluding Remarks

This research investigated the impact of positive psychological resources on career success among academic staff in public universities in the Sudan. The model of this research consisted of protean career orientation (PCO) as independent variable, career adaptability (CAA) and psychological capital (PsyCap) as mediators, academics' career success as dependent variable, and Islamic work ethics (IWE) as a moderator for the direct and indirect effect for the relationship between PCO and both CAA and PsyCap resources. This model was developed in view of the existing literature relevant to the area of research. To achieve the objective of this research, the data were collected from academic staff who were employed full-time in six public universities in the Sudan. Purposive sample technique was used for collecting the 398 questionnaires. The data were analysed based on structural equation modelling (PLS-SEM), and PROCESS macro to moderate the mediation purpose. The results revealed there is a significant impact of psychological resources on career success among academic staff in public universities in the Sudan, more specifically as follows (see Figure 5.1 below);

- PCO has a direct positive influence on both CAA and PsyCap among the academic staff in Sudan whereas it has an indirect effect on academics' career success through CAA and PsyCap.
- CAA and PsyCap mediate the relationship between PCO and academics' career success.
- PsyCap has a positive effect on academics' career success while CAA has a negative impact on academic career success.
- IWE has a positive moderation effect on the relationship between PCO and both CAA and PsyCap.
- 5) IWE also has a positive moderated-mediation effect on the PCO and career success through PsyCap (PCO -> PsyCap -> CS). However, there is no any moderated-mediation found for another model's path through CAA (PCO -> CAA -> CS).

In sum, the study's empirical findings confirmed that this model can be applied in an academic environment in general and in Sudanese public universities in particular. The overall results were significant on the level of t-values, although some results contradicted the proposed hypotheses. It can be concluded that academic staff would benefit from adopting this model to increase their psychological resources and achieve their career success.

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## LIST OF PUBLICATIONS AND PAPERS PRESENTED

- Impact of protean career orientation on academics' career success; the mediating role of psychological capital, Journal of Technology Management and Business, Vol. 6, Issue 2 (2019), page 60 – 74.
- 2. The Effect of Islamic Work Ethics on Academics' Career Success: The Mediating Role of Psychological Capital Resources, Journal of Distribution Science (accepted).