

CAPACITY DEVELOPMENT PROGRAMMES BEST PRACTICE IN THE SOUTH AFRICAN PETROLEUM INDUSTRY: A KEY FACTOR FOR SOCIO-ECONOMIC TRANSFORMATION PROCESS IN SOUTH AFRICA

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ABSTRACT

This paper explored capacity development programmes best practice in the South African petroleum industry as a key factor that can contribute to socio-economic transformation in South Africa. The socio-economic environment in the African continent, as well as, the South African society is challenged by numerous factors that are causing stagnation and lack of improvement/development from a lot of efforts and resources that are engaged to promote organisational, institutional and socio-economic transformation process. Therefore, in most cases, the political, economic and social components of the PESTIE factors are amongst the major variables that promote or affect organisational, institutional and socio-economic transformation process in Africa, including South Africa. But, specifically, understanding the role of capacity development programmes on human capital capacity development in the petroleum industry was the focus of this study in order to promoting sustainable socio-economic transformation in South Africa. Mostly, the main problem or phenomenon examined in this study involved “the critical issue of technical skills shortages” or “scarcity of technical skills”, which is affecting currently the petroleum industry development and consequently, the socio-economic transformation process in South Africa.

In addition, the deficit of positive human capital capacity and skills waste were also explored as the critical factors obstructing the attempt to organisational/institutional and socio-economic transformation in South Africa. Therefore, the triangulation methods facilitated the gathering of quantitative and qualitative data from petroleum companies, members of the South African Petroleum Industry Association (SAPIA). The results of this study indicated that (84.2%) capacity development programmes best practice in the petroleum industry can facilitate competitive advantages, increased productivity and performance, as well as opportunities for community lifestyle change; and that 77.6% of respondents attested that capacity development could promote socio-economic transformation by addressing the issue of skills development within sectors such as energy, trade, health, education, industries, politics, housing, agriculture, transportation, communal services, and tourism and recreational improvements, etc. Accordingly, this paper alert the South African community in general and particularly, major stakeholders involved in the petroleum industry about the necessity to addressing capacity development programmes as a key socio-economic factor amongst others, that could alleviate issues such as technical skills shortages, skills waste and the deficit of positive human capital capacity development in the public and private sectors. Thus, in this paper, the best practice of capacity development programmes in the South African petroleum industry was addressed as the locomotive of human capital capacity development in the workplace and as the engine of socio-economic transformation in the country.

Keywords: Capacity Development Programmes, Technical Skills Development, Human Capital Capacity Development, Petroleum Industry Development and Socio-Economic Transformation.

INTRODUCTION

Capacity Development Programmes Best Practice in the South African Petroleum Industry: A Key Factor for Socio-Economic Transformation Process in South Africa

Capacity development programmes in the workplace, whether in the public or private sectors play a strategic role through increasing the ability of people, organisation and society to cope with or adapt to challenging and adverse circumstances/situations that affect organisations or systems

societies depend upon. Capacity development programmes is an approach that address in a continuous manner specific issues at institutional/organisational, individuals, socio-economic, environmental, and infrastructure levels, with aim of improving the delivery of adequate services, boosting organisational competitive advantages, improving productivity and meeting sustainable development goals (Erasmus, 2014; Smit, 2016). Therefore, capacity development in the workplace is expected/assumed to be a significant socio-economic resource and a foremost key factor that can guarantee the development of employees' skills, abilities, talents, performance and values, as well as to enabling organisational perspective for improved innovation, efficiency and sustainable growth. This study examined capacity development programmes as a tactical approach, suitable to tackling and bridging the gaps of technical skills shortages, skills waste and the deficit of positive human capital capacity affecting respectively the South African society and petroleum industry.

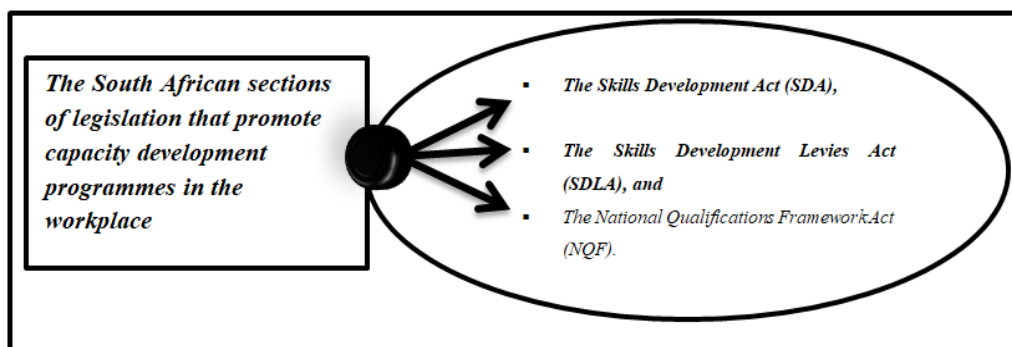
The vision and mission statement of capacity development programmes are to continually equip, build and develop positive, creative and innovative human capital capacity with functional, technical and behavioural capacities in order to convey organisational and societal change through supporting people knowledge, skills, talents, capacities or abilities improvement and development in various sphere of socio-economic activities (Anderson, 2015; Meyer, 2004). The focus of this study was to describe the role capacity development programmes could play in the petroleum industry for socio-economic transformation in South Africa, through the case study of the South African petroleum industry. It also examined the critical factors affecting the best practice of policies, programmes and strategic plans that support structures of human capital capacity development in the workplace and the challenges obstructing the effective best practice of capacity development programmes on job-related skills development of employees in the South African petroleum industry. Therefore, the triangulation methods assisted the researcher from using more than one approach as sources of data collection and analysis process and by approaching data with various theories or perspectives in mind to extend the possibilities of bridging the gaps of technical skills shortages, skills waste and the deficit of positive human capital capacity affecting the South African petroleum industry.

This method was useful in producing knowledge from having diverse viewpoints upon matters that were discussed in this study. The triangulation methods facilitated the researcher in terms of mixing or converging and analysing quantitative and qualitative data from petroleum companies, members of the South African Petroleum Industry Association (SAPIA). Therefore, the quantitative survey combined with qualitative in-depth interviews provided better understanding of information obtained. In this study, the PESTIE framework was applied in line with the aim and objectives defined. However, only the political, economic and social variables were examined in order to identify the challenges and effects of capacity development programmes in the process of developing technical skills, controlling/minimising skills waste and developing positive human capital capacity in the South African petroleum industry. Accordingly, based on the outcomes of this study, which revealed that challenges affecting the petroleum industry development and socio-economic transformation in South Africa are mostly caused by the lack of policies, programmes and strategic plans best practice to bridging the gaps of technical skills shortages; skills waste and the deficit of positive human capital capacity in the workplace (87.6%); and that 77.6% of respondents affirmed that policies improvement and best practice could be a vital key in promoting scarce skills development in the South African petroleum industry, etc., this paper aspired to increase more awareness from key players (policy-makers, decision-makers and stakeholders) in order to invest resources and efforts to supporting capacity development programmes that encourage scarce skills development process and strengthening employees' ability in the workplace, for them to deliver quality services and deal with unpredicted adverse events that could prevent the petroleum industry development and socio-economic transformation process in the country. Thus, in this paper, discussion includes stakeholders' awareness development to campaigning about capacity development programmes best practice in the South African petroleum industry, which could fuel the engine of technical, functional and behavioural capacities development, and put in place a locomotive of organisational improved competitive advantages (innovation, productivity and performance improvement) and socio-economic transformation.

Background to Capacity Development Programmes in the South African Petroleum Industry

Kruger (2019) postulated that in South Africa, skills development is one of the most important components of Broad-Based Black Economic Empowerment (B-BBEE), which is the government’s strategic initiative to promote socio-economic transformation in order to ensure meaningful participation by black people in the economy and business sector. Therefore, skills development as a key strategy for social change and business growth is an imperative element of the B-BBEE code of good practice that implicates private sector businesses which seek to get involved in private-public partnerships and which are also expected to contribute to the achievement of the objectives of B-BBEE. Therefore, approaches to skills development in the workplace-included learnership, apprenticeship, skills training programmes and other prescribed learning programmes, which involve structured work experience component, structured education and skills development (Hammond, 2011). However, apprenticeship involves working under the guidance of a qualified artisan in the workplace, while a learnership is a formal programme of structured learning and structured workplace experience, which is regulated by the Skills Development Act (SDA).

According to Erasmus (2018), the SDA (No. 97 of 1998) provides mechanism to improve the low skills in South Africa. Therefore, in supporting the development of low skills, the government of South Africa has promulgated three important sections of legislation that stimulate the practice of capacity development programmes at the workplace. Figure 1 highlights these legislation Acts (Erasmus, 2018).



Source: Adapted from Erasmus (2018)

FIGURE 1
IMPORTANT SECTIONS OF LEGISLATION THAT PROMOTE CAPACITY DEVELOPMENT PROGRAMMES IN THE WORKPLACE

Figure 1 describes key sections of the South African legislation that promote capacity development programmes in the workplace. According to (Erasmus, 2018), these Acts form part of the national skills development strategy, an advanced approach that targets to link learning to the demands of the world of work, to improve or develop the skills of existing workforces, and to enable employers to promoting organisational productivity and competitiveness. Unfortunately, despite this important sections of legislation that promote capacity development programmes in the workplace, there are still critical issues of technical skills shortages, lack of appropriate mechanism to ensure the retention of technical skilled employees in the workplace, skills waste and the deficit of positive human capital capacity whether in the petroleum industry or in many other sectors of the national economy.

However, research was conducted to identify the need for technical skills development in the South African petroleum industry. It was indicated that in the South African petroleum industry, there is a critical need for technical skills development and a robust learning infrastructure improvement with appropriate learning interventions to ensure the sustainability of skills into the future (SAPIA, 2012). In addition, research was conducted across the South African petroleum companies to quantify and understand the extent of scarce and critical skills issues and the requisite

learning interventions to breach these industry-identified skills shortages/challenges. The research findings indicated that petroleum industry employers have revealed a desire for a more technically-skilled workforce. This suggests that there are gaps or lack of available technically-skilled employees ready to occupy specific functions or positions provided by employers in the quest of a desired technical skilled workforce in the petroleum industry (SAPIA, 2012). Currently, in the South African petroleum industry, there is a strong demand of technical skills development in areas that include Electrician, Boiler maker, Mechanical engineer; Safety, Health, Environment and Quality (SHE&Q) practitioner; Programme or Project Manager; Programme or Project Manager.

Particularly, Mechanical Fitter, Electrical Engineer, Retail Pharmacist and Chemist, are in high demand in the petroleum industry (CHIETA Regional Skills Forums, February 2020). Unfortunately, it was indicated that the lack of a workable framework; a lack of an appropriate skills development model; and a lack of required efforts and willingness to implement the approved existing framework of skills development in the petroleum industry are amongst the critical challenges affecting technical skills development in the South African petroleum industry (CHIETA Regional Skills Forums, February 2020). Additionally, the lack of policies best-practice in supporting capacity development programmes was identified as a significant barrier to capacity development interventions, human capital capacity development and petroleum industry performance. Moreover, it is indispensable to emphasise that the lack of appropriate mechanism to identify skills priorities needs and needs for scarce skills development in the petroleum industry was identified as a key barrier amongst many others that are obstructing the South African petroleum industry development and socio-economic transformation process in the country. Therefore, this paper envisaged to explore, identify and examine issues affecting the development of “human capital capacity” (technical skills) in the South African petroleum industry, as well as to ensure that capacity development programmes best practice in the South African petroleum industry remains a key factor for competitive advantages and socio-economic transformation process in the country.

MATERIALS AND METHODS

Capacity Development Programmes Best Practice in the South African Petroleum Industry: A Key Factor for Socio-Economic Transformation Process in South Africa

Materials

In addressing capacity development programmes best practice in the South African petroleum industry as a significant key factor that can contribute to socio-economic transformation process in South Africa, the PESTIE variables of the macro-environmental factors were implemented. According to (Smit, 2016), the PESTIE variables stand for Political, Economic, Social, Technological, International and Ecological factors that influence the petroleum industry to a greater and lesser extent. According to (Erasmus, 2014), the petroleum industry, as well as several other businesses, is exposed to threats and opportunities that derive from macro-environmental factors. Thus, the PESTIE framework was applied in line with the main aim and objectives defined for this study, which consisted of exploring capacity development programmes for socio-economic transformation in South Africa, through the case study of the South African petroleum industry. However, only the political, economic and social variables were examined in order to identify the challenges and effects capacity development programmes could cause/have in the process of developing technical skills, controlling/minimising skills waste and developing positive human capital capacity in the South African petroleum industry. Furthermore, elements of the PESTIE framework were also necessary to analysing the possible socio-economic impacts that capacity development programmes best practice could have in line with the requirements for functional, technical and behavioural capacity development in the petroleum industry.

The Government/Political Factors

According to (Williams, 2016; Smit, 2016), the political/government factor includes the legislation, regulation and court decisions that govern and regulate business behaviour. The political factor takes into account elements of the country's politics, especially political pressures exerted by the ruling government and its institutions in the business environment (Smit, 2011). Therefore, the petroleum industry's decisions for performance, competitiveness and development are continually affected by the course of a country's politics. Moreover, as an essential component of the macro-environment, the government influences the petroleum industry primarily as a regulating force by promulgating and enforcing laws which influence the petroleum industry with measures that are usually politically directed to steering development and socio-economic policy in a certain direction (Smit, 2016; Smit, 2011). Government also influences the petroleum industry by means of the annual budget; taxes; import control; the promotion of export; price control in respect of petroleum products and services, the marketing of petroleum products; health regulations and incentives; as well as other measures to force change/development in a certain direction (Smit, 2011). In light of the aforementioned, it is reasonably essential to understand that the South African government can play a fundamental role in supporting and promoting capacity development programmes in the petroleum industry. By doing so, the government and petroleum industry could contribute to enhancing the skills of managers and workers in the petroleum industry so that they can become the locomotive of petroleum industry development, as well as the locomotive of socio-economic transformation in the country.

However, the government and the petroleum industry's failure in promoting capacity development programmes in the workplace or in supporting human capital capacity development in the petroleum industry could result in many consequences. These include for example the hiring of external competences; a lack of local human skills development; a lack of competitiveness; a lack of performance and development within the petroleum industry; and consequently, this could result in a poor contribution of the petroleum industry to economic growth and socio-economic transformation. According to Smit (2011), to an increasing extent, it remains the task of the petroleum industry's management to study and suggest capacity development programme activities or projects to the government so that government measures as well as political trends can positively influence petroleum industry development. Thus, the country's legislation and regulation that govern and regulate business behaviour can be an opportunity or a threat for capacity development programmes in the petroleum industry.

Opportunities arise when the government and the petroleum industry come together and upkeep human skills development as a priority amongst others in terms of tackling the issue of skills shortages in the petroleum industry and in terms of promoting petroleum industry performance/development and socio-economic transformation. In addition, an opportunity exists when both the government and the petroleum industry are committed to participating with available and practicable policies and funds that stimulate efforts to invest in human capacity development. Threats arise when the government or the petroleum industry are not much interested in uplifting workforce capacity/skills development through capacity development programmes, as well as when policies and funds are not sufficiently or properly used to implement capacity development programmes, whether in the petroleum industry or in any other sector of the economy.

Furthermore, the lack of awareness from both the government and petroleum industry in order to promote capacity development programmes best practice in the workplace can be considered a threat in terms of neglecting or ignoring the real problem affecting petroleum industry development and the socio-economic transformation process in the country. According to Smit (2016), managers in the petroleum industry and in different other organisation or institutions should be well-informed about changes in labour law, taxes, minimum wages, dispute resolution and the Competition Act 89 of 1998. Therefore, managers' and workers' capacity development is constantly required because management's decisions are continually affected by the course of the country's politics, especially political pressures exerted by the ruling government and its institutions in the business environment. However, managers in public organisations are also strongly required to develop and constantly improve their capacities/abilities because the perceived stability or not of a government and the

integrity or not of its leader and government officials have a major influence on the actions of investors. These perceptions either attract or deter local and foreign investors to invest in a country that plan to eradicate unemployment, poverty and inequality (Smit, 2016). According to Williams (2016), new laws and regulations should continually be put in place to impose additional responsibilities on public and private organisations. In the case of the South African petroleum industry, new laws and regulations are needed in terms of boosting the awareness of shareholders and stakeholders about fighting and resolving the issue of skills shortages, by promoting capacity development programmes or human capacity development in the petroleum industry and for the stimulation of socio-economic transformation.

Economic Factors

The economic environment comprises factors such as the country's growth rate, levels of employment, consumer income, the rate of inflation, recession, exchange rates, the interest rates, the monetary and fiscal policy of the government and many more that influence management decisions (Smit, 2016). These economic variables are constantly unstable factors that may cause an opportunity or threat to an organisation. Therefore, due to constant instability or uncontrollable conditions of economic variables, capacity development programmes in the petroleum industry could become a necessary tool that support and empower human capacity development in observing and preventing these economic forces that ultimately result in prosperity or adversity and have specific implications for an organisation and its management. Therefore, managers and workers in the petroleum industry will have to develop constantly their capacity to ensure that the adversity from economic factor instability is minimised and does not affect the organisation.

In addition, managers' and workers' capacity development is constantly required in taking advantage of economic factor adversity or instability to maximise profitable opportunities for the organisation. Managers' capacity development is required more when economic trends demand constant vigilance on the part of management, which may require them to re-visit the mission, goals and strategy of the organisation to assess whether they are still achievable (Smit, 2016). In addition, managers in public institutions are required to constantly improve their capacities to cope with the economic environment, which not only influences other environments and businesses, but also are they influenced by other trends such as crime, confidence in the government and investors' perception of a country's stability. According to (Manuel, 2011), South Africa's vision for the long-term consists of eliminating poverty; reduce unemployment and inequality by promoting sustainable socio-economic transformation. By referring to this long-term vision, the key factor that could contribute efficiently to socio-economic transformation in South Africa is economic growth.

However, according to the OECD (2015), investment in skills development must be a key driver that support development, inclusive growth and helps to reduce inequality and poverty in the context of lifting and promoting inclusive growth. In addition, the Report for Human Resource Development Strategy for South Africa (HRD-SA) 2010 – 2030 (2009) argued that human capacity development is about taking purposeful action to increase the aggregate levels of skills in the workplace so that opportunities can be maximised for individuals, thereby benefiting society as a whole. Moreover, it is indicated that such development provides for increases in productivity, enhances competitiveness and supports economic growth. The HRD-SA Report 2010 – 2030 (2009) also emphasised that human capacity or skills are developed through capacity development programmes by two basic principles, namely: that the human being is at the centre of all development activities and that human resources are an essential means of achieving economic, social and development goals. However, according to the Report for Human Resource Development Strategy for South Africa (HRD-SA) 2010 – 2030 (2009), socio-economic transformation requires effective human capacity development. Furthermore, this Report indicated that there are five interacting components, which are major building blocks for effective human capacity development; including:

- Promoting the lifelong acquisition of knowledge, skills and competencies necessary for the performance of chosen roles that contribute economically and socially to the self and others;
- Facilitating the application of knowledge, skills and competencies in chosen roles in rewarding ways;

- Improving access to assets (such as land, shelter, capital and information) without which the development of human capabilities is often essentially stunted at the source;
- Sustaining human resources through policies and regulatory mechanisms that underpin broad inter-sectoral support for both the acquisition and the application of knowledge and skills; and
- Ensuring a modicum of the sense of individual, local and national security; peaceful political and favourable national and international economic conditions.

Additionally, the HRD-SA 2010 – 2030 (2009) indicated that these building blocks form the basis for deriving essential activities to accomplish the following goals:

- The vital importance of organisational capacity development in developing countries, particularly the critical importance of qualified personnel;
- The vital importance of cooperation between the public and private sectors through the effective implementation of policies, plans and programmes for economic development and the optimal use of resources to that end; and
- The vital importance of appropriate organisational and institutional policies and their implementation to promote human capacity development through the optimal use of resources, taking due account of the importance of capacity development programmes.

Economic Goals of Human Capital Capacity Development

The OECD (2015) stated that skills requirements or the demand for skills ultimately determine how productive each country's economy is or how productive and competitive an organisation can be. This implies that a healthy demand for high-level skills is also the basis upon which organisations/economies can pursue research and development and innovate, ultimately determining their long-term growth potential. According to (Viljoen 2017; Rodrik, 2007) and the Ugandan Ministry of Energy and Mineral Development Report (2011), economic of capacity development in the petroleum industry consists of increasing the technological capacity of production and improving the petroleum industry value chain activities; contribution to sustainable direct; indirect and induced job creation; and national GDP growth. Moreover, capacity development programmes could generate petroleum industry efficiency and maximise profits. Petroleum industry profits become part of the government's tax base or tax revenues from which the government can have its economic power maximised. It is also evident that the impacts of capacity development in the South African petroleum industry could be recognised through increasing opportunities for entrepreneurship or new initiative for small business development in the country. As a major source of energy, petroleum industry development could influence socio-economic activities in terms of petroleum products flow in the economy and fuel-related industry activities improvement (oil and gas field services improvement and development). The economic impacts from possible petroleum industry value chain development (including crude oil activities, Head office activities, refinery activities, distribution activities, storage activities, wholesales activities and retail activities) are job creation; government's increased revenue; industrialising industries or related industries development; and effects on enabling businesses and public and private sectors to generate sustainable national wealth.

Furthermore, the economic goals of skills development in the petroleum industry is for the performance and development of the petroleum industry and for the flow of petroleum products that may generate economic growth both directly through increase in productivity and indirectly by spurring innovation (OECD, 2015). Therefore, public and private organisational support of human capacity development can guarantee successful socio-economic activities. There is evidence stating that financial support of human capacity development can help models and frameworks for capacity development programmes to be appropriately structured (United Way of Calgary and Area Report, 2011). According to (Smit, 2011), capacity development programmes or human capacity development can boost:

- The petroleum industry's value chain development;
- The petroleum industry's governance: Leadership development, mission, goal and strategy improvement and achievement;
- Individual development: Skills training capabilities, technical capabilities and other areas of personal and professional development;

- Specific effects in all areas of economic, social, cultural and educational and spheres of life; and
- Human resource development: The process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.

Thus, effective human capacity development forms the basis for deriving essential activities to achieve the organisational goals and to boost capacity development's role in the petroleum industry. The following section emphasises the economic barriers to capacity development programmes.

Economic Barriers to Capacity Development Programmes

The United Way of Calgary and Area Report (2011) stated that without an appropriate structure supporting human skills improvement, capacity development programmes could be seen as disconnected and unrealistic. Therefore, the lack of financial support or the lack of investment in capacity development programme activities whether in the petroleum industry or in any other sectors of the economy could cause poor outcomes in the effort of improving human capacities? There is evidence, which suggest that little/limited resource investment in supporting capacity development services (providers, mentors or capacity builders) can result in poor quality services provision (United Way of Calgary and Area Report, 2011). In other words, offering services that focus on one or two areas of capacity will not produce expected impacts, which consist of reducing or eradicating the challenges related to skills shortages, skills waste or the deficit of positive human capital capacity. This also suggests that there could be significant low quality skills development, low performance of human contribution to organisational development and socio-economic transformation and low levels of satisfaction for capacity development services provision. However, increased awareness, efforts and available funds in supporting capacity builders or providers could be an essential ingredient for quality field expertise (knowledge of the organisation's requirements and its challenges) and content expertise (knowledge of skills programmes required by the organisation). According to the (United Way of Calgary and Area Report, 2011), organisations funding capacity development programmes activities pose significant challenge to developing and sustaining highly effective human skills development within the organisation. Funders are more interested in backing exciting new projects than in funding organisational skills programmes that can create competitive advantages, promote creativity, innovation, development and transformation.

The United Way of Calgary and Area Report (2011) indicated that investment from three to five years needs to be in place before meaningful improvement; change or transformation could be achieved. Moreover, in the South African petroleum industry, successful outcomes from capacity development programmes could be contingent upon where the activities are directed. Capacity development programmes efforts will have to focus on areas such as strategic planning and technical assistance, including financial management, under the assumption that this will improve organisational effectiveness. However, depending on the type of skills and programmes required in the petroleum industry, capacity development programmes activities for strategic planning or technical assistance could have higher correlations to organisational effectiveness when a strong support can be expected from stakeholders (government and the private sector). Thus, successful capacity development programmes usage will consist of implementing the learning from training activities that strengthen the petroleum industry. Therefore, the skills and systems will have to be incorporated into day-to-day operations so that they become part of the organisational culture (organisational culture refers to way in which things get done). The following section highlights the social factors that can promote or hamper capacity development programmes in the petroleum industry.

Social Factors

In the global environment, various social factors could be identified as barriers that obstruct the use of capacity development programmes in different sectors of the economy, including the petroleum industry. According to (Smit, 2016; Smit, 2011), the most important social factor that can affect or promote capacity development programme usage is organisational socio-cultural change.

(Smit, 2016) stated that socio-cultural change is very sensitive to cross-influences by other variables, especially technology and the economy. In the petroleum industry, socio-cultural change can affect management directly through employees' conduct and performance. The performance needed for a successful petroleum industry can be related not only to employees' skills development, but also to the organisational culture. For example, a better practice or usage of capacity development programmes (sustainable skills training programmes for human capacity development and better usage of available skilled employees in the area of activity where they can perform diligently or steadfastly) in the petroleum industry can one be that promote the culture of creativity, innovation, performance and development. However, people in particular communities, organisations or society can become products of the environment in which they are working, living and where they are spending most of their time (Smit, 2011). For that reason, the culture of effectiveness or competitiveness, which involves the philosophy of innovation, excellence or of doing well by doing well, can inspire employees in any organisation to adopt the language, values, faith, expectations and rules of the organisation. Therefore, according to (Williams, 2016), socio-cultural changes in employees' behaviour, attitudes and beliefs can also affect organisational socio-economic activities. A holistic approach that takes into account organisational culture is thus important. Moreover, the organisational culture or the way of life of employees' working in groups influences an individual's lifestyle. Employees values, behaviour, attitude, faith, expectations, way of life and habits can be a function of cultural and social change (Smit, 2011).

Therefore, capacity development programmes in the petroleum industry could serve not only as the locomotive of human capacity development, but also as the engine of social change, which can promote/improve employees' values, behaviour, attitude, faith, expectations, way of life and habits. This implies that capacity development programmes can promote the skills/abilities of employees as well as improve employees' values, behaviour, attitude, faith, expectations, way of life and habits. Consequently, capacity development programmes in the petroleum industry can contribute in stimulating a positive change of culture within employees through an improved philosophy (attitude, thinking, values, beliefs and way of life) of doing well by doing well. Through the positive change of culture, capacity development programmes in the petroleum industry could be at the centre of social change, changes in cultural values and contribute to keeping up with the major influences of social trends on the petroleum industry. However, the lack of capacity development programmes best practice in the petroleum industry can be a barrier that could reduce the effects of social change or decrease opportunity for changes in cultural values improvement.

In addition, the lack of improvement in cultural values could cause failure in the awareness for the best practice of capacity development programmes and for the development and retention of skilled workforce in the petroleum industry. According to (Buss, 2010), project evaluation and research studies sufficiently demonstrated that failure in the use of capacity development is mainly found in non-technological reasons and is very often related to a lack of awareness and lack of capable human resources. In other words, the lack of awareness and lack of capable human resources are barriers that obstruct the effective usage of capacity development programmes in the South African petroleum industry.

Social Goals of Capacity Development Programmes

Initially, it is important to acknowledge that the social goals of capacity development programmes in the petroleum industry consist of increasing human capacities at the workplace and eliminating the potential causes of skills shortages. According to (Folscher, 2006: 1), the shortage of critical skills in the petroleum industry or in any other socio-economic sectors, especially amongst the black population, is seen as a key impediment to the growth of the economy as a whole, as well as to the growth of individual companies. The goals of skills development interventions in the petroleum industry could be mainly for job competence development, affirmative action, and succession planning and economic growth. Table 1 comprises the description of certain goals related to skills development in the petroleum industry.

| Table 1 SOCIAL GOALS OF SKILLS DEVELOPMENT IN THE PETROLEUM INDUSTRY | |
|---|---|
| Job competence development | In the petroleum industry, capacity development programmes ensure that all employees are fully equipped and fully competent in their jobs and have the necessary skills to meet performance standards. Additionally, employees need to have a career path mapped out so that they can advance beyond their jobs, should they wish to do so. |
| Affirmative action | The outcome of effective action is a reasonable amount of diversity in all levels and categories of the workforce. The shortage of key skills in the petroleum industry need to be tackled with skills programmes that promote human capacity development. A specific skills programme that leads to performance has to be the key strategy for skills shortages in the petroleum industry. |
| Succession planning | In the current climate of technical skills shortages in critical positions, the petroleum industry should plan ahead to ensure it has access to the skills pool so that key positions are filled or can be filled without delay by competent people. |
| Economic growth | The generic scorecard sets very high employment equity and skills development targets. |

Source: Adapted from (Folsher, 2006)

In light of Table 1, a skills development programme is more effective when the world of learning and world of work are linked (OECD, 2015). This means that successful skills development programmes can bring together government, employers and work organisations to promote/improve human capacities. The implication is that capacity development in the petroleum industry could create opportunities that enhance human capacity development and develop managerial capacity in the petroleum industry and in the country (Viljoen, 2017). The main idea behind the social goals for capacity development usage in the petroleum industry consists of taking advantage of the opportunity to pair South African firms with leading international companies. Since international firms dominate the South African petroleum industry, capacity development programmes usage could contribute in training and transferring expertise and competences to South Africans. In turn, capacity development may be more efficient in contributing to unemployment, poverty and inequality reduction (socio-economic transformation).

According to the OECD (2015), investment in capacity development could help firms and the overall economy become more productive. Moreover, it could frequently foster a culture of achievement and innovation through skills acquisition and development, as well as promote the lifestyle improvement of many South Africans. Without a doubt, human capacity development can contribute to social dimension by means of implementing the best practice of skills acquisition from capacity development programmes. Secondly, it can also be acknowledged that capacity development programme goals are for boosting petroleum industry development and contributing effectively to economic and social transformation. The OECD (2015) stated that skill requirements or the demand for skills ultimately determine how productive each country's economy is. This implies that a healthy demand for high-level skills is also the basis upon which firms/economies can pursue research and development and innovate, ultimately determining their long-term growth potential. According to (Viljoen, 2017; Rodrik, 2007) and the (Ugandan Ministry of Energy and Mineral Development Report, 2011), the impacts of capacity development on the petroleum industry consists of increasing the technological capacity of production and improving petroleum industry value chain activities, contributing to sustainable direct, indirect and induced job creation and national GDP growth.

Furthermore, petroleum industry efficiency will maximise profits in the petroleum industry as petroleum industry profits become part of the government's tax base or tax revenues from which the government can have its economic power maximised. It is also evident that the impacts of capacity development in the South African petroleum industry could be recognised through increasing opportunities for entrepreneurship or new initiatives for small business development in the country. As a major source of energy, petroleum industry development could influence socio-economic activities in terms of petroleum products flow in the economy and fuel-related industry activities improvement (oil and gas field services industry improvement and development). The combined economic impacts of capacity development programmes from petroleum industry value chain development (including crude oil activities, Head office activities, refinery activities,

distribution activities, storage activities, wholesales activities and retail activities) are job creation, government's increased revenue, industrialising industries or related industries development and effects on enabling businesses and the public and private sectors to generate sustainable national wealth. Thus, the economic goals of skills development in the petroleum industry are to improve the performance and development of the petroleum industry and provide the flow of petroleum products that may generate economic growth both directly through increase in productivity and indirectly, by spurring innovation (OECD, 2015).

Social Barriers to Capacity Development Programmes

According to Buss (2010), one of the major barriers to capacity development programmes in the petroleum industry is convincing and getting the support of decision-makers (public or private sectors) for promoting capacity development programmes, which closely link to the lack of awareness or lack of sufficient know-how about the probabilities and risks of petroleum industry technologies development. This implies that organisational or institutional lack of awareness of capacity development programmes, added to limited capacity and a lack of policies/strategies best practices could stand as strong barriers inflating/fuelling skills shortages in the petroleum industry. According to the United Way of Calgary and Area Report (2011), challenges to capacity development best practice include several factors. These may include the lack of a clear understanding about capacity development programmes' roles or effects; little attention or effort to the framing of capacity development programmes initiatives in the petroleum industry or in any other socio-economic sector and the lack of appropriate support for effective activities; and mixed evidence supporting capacity development programme outcomes.

Institutional and organisational lack of consensus in framing a useful model/means to tackle factors causing barriers to capacity development programmes or human skills training programmes in the petroleum industry can be an additional challenge to capacity development programmes usage, petroleum industry performance and socio-economic transformation. However, the lack of an appropriate framework (unclear framework or model) for capacity development programmes usage in the petroleum industry can reduce innovative initiatives or opportunities to improve human capacity and to achieve the goals and objectives defined by the organisation. Without an appropriate framework, model or structure for capacity development programmes usage in the petroleum industry; human skills development can be seen as disconnected or incoherent. In other words, an appropriate model or framework for capacity development programmes and its best practices in the petroleum industry can boost skills programmes implementation, improve human capacity and eliminate the skills shortages issue in the petroleum industry.

Social Tools that can Promote Capacity Development Programmes in the Petroleum Industry

Smit (2016) stated that the culture of a particular country is not homogeneous. There are numerous sub-cultures based on nationality, religion, population group or geographical area, each of which modifies the environment and has implications for management. (Smit, 2016) also indicated that the organisation is at the centre of social change, because it contributes to social change and because it has to adapt to changing social trends. Furthermore, there are social problems that necessitate managers' capacity development, based on the fact that management cannot afford to ignore social influences (such as crime, violence, xenophobia, the collapsing of family structures, substance abuse, obesity, the HIV/AIDS epidemic and poverty, etc.) when making business decisions. Socio-economic transformation is also subject to human capacities development that brings about improvements that are responsible for changes in the environment. However, three successful social tools can promote capacity development programmes in the petroleum industry (the United Way of Calgary and Area Report, 2011: 8-9). The same tools can also have positive impact on socio-economic transformation. The concept of champions, culture and readiness are amongst the crucial tools that necessitate particular attention for improvement and change to take place in the

petroleum industry (the United Way of Calgary and Area Report, 2011). A description of these tools is provided below.

Champions

According to the United Way of Calgary and Area Report (2011), champions are the internal staff or members of the board who help drive the change forward within the organisation. In the South African petroleum industry, capacity development programmes (activities) will have to identify influential champions who are committed in guiding efforts to implement change strategies. These individuals (champions) will need to have the required skills or the capacity of planning the overall approach, driving the implementation of skills programmes and promoting it to everyone within the organisation. In tackling the issue of skills shortages in the South African petroleum industry, change efforts will need senior people who have the time and resources (skills) available to them to own the capacity development programmes initiative and ensure that the change is driven within the petroleum industry. One of the most important reasons of persistent skills shortages in the South African petroleum industry could be related to the lack of champions available to drive and promote capacity development programme best practices. Hence, change efforts often fail because of a lack of a champion with the skills, time and resources to make capacity development programme initiatives a success.

Organisational Culture

According to the United Way of Calgary and Area Report (2011), any activity related to capacity development programme efforts in the petroleum industry will have to take into account the current organisational culture. Willson, (2001) describes organisational culture as the way in which things are done and it has a significant influence on the attitudes and behaviours of organisational members. Organisational culture is like hermetic glue that holds the organisation together. It is also significant to indicate that culture is especially difficult to change in some of the organisations that lack the use of capacity development programmes or have limited access to capacity development programmes as an essential tool that can be used to improve organisational culture. Therefore, any activity related to capacity development programmes in the petroleum industry must not only be effective in the existing culture, it must also be designed to bring about changes to the organisational culture. According to (Willson, 2001), organisational culture refers to the internal environment of the organisation, which reflects the norms and the values of the formal structure of the organisation, as well as the history of the internal and external struggles. In addition, organisational culture refers to the types of people who work in the organisation, the work processes and the physical layout, the ways of communication and the disciplinary methods authority uses. However, the United Way of Calgary and Area Report (2011) indicated that the internal organisational culture could be a threat or an opportunity to capacity development programmes as well as to organisational requirements for change, transformation and development. Threats occur when the organisational culture is a barrier to capacity development programmes usage within the organisation or to its best practices. Opportunity occurs when an organisational culture promotes or supports the usage or the best practice of capacity development programmes within the organisation.

Therefore, an organisation that supports capacity development programmes as an essential tool to transformation is entitled to have a performance orientation or performance culture. It is also stated that organisations that with a culture where performance is highly valued (strong performance culture) are more likely to be successful in their capacity development programme efforts (United Way of Calgary and Area Report, 2011). The South African petroleum industry, in tackling the issue of skills shortages or in promoting skills development, will have to acknowledge the need for change in terms of its performance orientation or performance culture. However, developing this type of culture requires not only a substantial commitment in time and resources, but also a strategic and intellectual approach in order for it to be successful. According to (Willson, 2001), the effect of culture on planning and effectiveness due to capacity development programmes interventions can work for an organisation by creating an environment that is conducive or advantageous to improving

the performance of employees by making them productive, satisfied and making them take part in development and change.

Moreover, the organisational culture can also work against itself by setting up barriers to capacity development that will prevent the strategies of the organisation being achieved. It is therefore vital for the organisation to use capacity development programmes constantly and ensure that the culture is positive, since it governs the lives of the entire workforce who operate within the organisation. Capacity development programmes can also foster or give a sense of identity and unity to all members of the organisation, facilitate commitment from all workers and shape behaviour by providing guidance on what is expected (Willson, 2001).

Readiness

One of the challenges facing capacity development programmes (support on human factor skills development) in the petroleum industry can be the organisational lack of readiness to undertake capacity development programmes activities. According to the United Way of Calgary and Area Report (2011), the lack of organisational readiness to undertake capacity development programmes efforts could affect the implementation of successful strategies. As stated earlier, capacity development programmes are the locomotive of human factor development and that human factor skills development is the engine of petroleum industry performance and socio-economic transformation. Therefore, there must be a boosting readiness and willingness motivation in undertaking capacity development programme (activities) in the petroleum industry. However, change or transformation from eradicating skills shortages or promoting technical skills development within the petroleum industry can only be successful if the motivation to do so is readily present. Yet, motivation to readiness involves indicators that include openness to capacity development programmes activities. However, these activities comprise learning and change; knowing the best of what organisations need to develop capacity through skills assessment (undertake more comprehensive and targeted development work); organisational stability; and the absence of skills crises, as well as the availability of necessary resources and leadership (United Way of Calgary and Area Report, 2011).

METHODOLOGY

Exploring and evaluating the impacts of capacity development programmes on human capital capacity development for the petroleum industry development and socio-economic transformation in South Africa required mixed measurements. In this study, the triangulation approach was adopted in gathering and analysing the obtained information. According to (Noble, 2019), triangulation refers to the method applied to increase the credibility and validity of research findings. Heale (2013) stated that triangulation is often used to explain research where two or more methods are used, known as mixed methods and (Nelij, 2010) denoted that triangulation is particularly implemented in studies that combine both quantitative and qualitative approaches. Furthermore, in this study, triangulation consisted of mixing data from quantitative and qualitative approaches linked with the convergent parallel mixed methods design so that diverse viewpoints could cast light upon the topic defined for this study. However, the mixing of data types, known as data triangulation, was often thought to help in validating the claims that might arise from an initial pilot study.

Thus, in this study, triangulation approaches were applied by converging the survey data and the interview data for the purpose of reflecting interaction, priority, timing and mixing data in the process. Furthermore, triangulation approaches were utilised in this study to achieve a clearer view of the aim and objectives, which were reached through combining both quantitative and qualitative data (Creswell, 2015). Consequently, together, the challenges and effects of capacity development programmes on human capital capacity development in the petroleum industry were quantifiable. Nevertheless, evaluating stakeholders' perceptions about challenges and effects of capacity development programmes required the use of mixed methods, which were proficient in revealing often complex and unpredictable socio-economic values. Face-to-face interviews were conducted

with relevant and qualified managers from SAPIA, the government Department of Energy, CHIETA and Engen Refinery. Respondents from these organisations were cooperatively interviewed in order to gain deeper understanding and additional information concerning the influence that capacity development interventions could have on human capital capacity development, organisational development and the socio-economic transformation process in the country.

However, structured questionnaires with closed and open-ended questions were distributed to employees from the abovementioned organisations by using non-probability sampling. The interview and structured questionnaires assisted the researcher in identifying challenges affecting the best practice of capacity development programmes, the requirement for technical human capital capacity development, as well as to reveal the possible impacts of capacity development programmes on employees' performance and productivity in the petroleum industry. In light of the aforementioned, (Creswell, 2018) explained that the steps in mixing data analysis methods involve using quality statistical and thematic software programmes. In this study, the analysis of quantitative data employed the Smart Partial Least Squares path modelling (version 3/PLS3), also known as Structural Equation Modelling (PLS-SEM), which is a variance-based structural equation modelling technique that relies on the partial least squares algorithm (Delaigle & Hall, 2012). According to (Chen, 2019), Partial least squares (PLS) can solve both single and multi-label learning problems. Furthermore, (Pirouz, 2006:2) indicated that this model or analysis (PLS) can measure a multivariate statistical technique that allows comparison between multiple response variables and multiple explanatory variables. In addition, (Pirouz, 2006:2) denoted that the PLS analysis and causal modelling was introduced by Wright in the 1920s and later developed in the 1960s by Herman O.A. Wold. The goal of PLS is to predict purpose such as endogenous or dependent measures Y variables from exogenous or descriptive/explanatory X variables, to describe the common structure underlying the two variables and to identifying factors which are a linear combination of the explanatory variable X (Known as latent variable) and variable Y (response), (Pirouz, 2006:3-4). The PLS model was used in this study because it is an efficient alternative tool, more advanced than SPSS (Kodua, 2019). PLS is widely applied in the business and social sciences in order to predict endogenous latent variables, and to estimate as well as test relationships between latent variables (causal analysis).

Moreover, the analysis of qualitative data employed Nvivo software (12 pro) for thematic data analysis. The two techniques were helpful and assisted the researcher in terms of the interpretation of numerical and theoretical data within the tables and graphs, which represented an easier way to understand data analysis, particularly in explaining the necessity for implementing capacity development programme best practice in the South African petroleum industry. In addition, data analysis was explained thorough descriptions, inferential statistics, charts and frequencies. Thus, the converged parallel design framework was implemented in this study for purposes of reflecting the process of interaction, priority, timing and mixing data (Creswell, 2011). In addition, the purpose of this converged parallel design consisted of understanding or developing a more complete comprehension of the research problem by obtaining different but complementary data for validation purposes. Therefore, quantitative data collection and analysis, and qualitative data collection and analysis were processed, compared and interpreted using the framework of mixed methods design for data analysis.

RESULTS AND DISCUSSIONS

Findings of Quantitative and Qualitative Results Following the Pestic Variables

In this paper, the results are presented at a descriptive and an inferential level. The components of the PESTIE factors, including the political, economic and social variables were used to analyse and discuss the influence of capacity development programmes in the petroleum industry for socio-economic transformation in South Africa. In this study, the following abbreviations were applicable:

- PESTIE: Political, Economic, Social, Technological, International and Ecological;
- ContFac=contributory factors;
- NCDvT=nature of capacity development;

- CDPC=capacity development programmes contribution;
- SCDP=skills capacity development programmes;
- QNR=Quantitative Results;
- QLR=Qualitative Results.

Inference of Quantitative and Qualitative Results

In mixing the QLR and QNR data collection, (Creswell, 2015) indicated that the way to merge two databases, namely one numeric and one text-based, is called explanatory sequential design. Therefore, the purpose of the explanatory sequential design for this study was to analyse the aim and objectives defined by reference, beginning with a quantitative strand (a strand refers to either the quantitative or qualitative component of a study). This was done to both collected and analysed data, followed by qualitative analyses that explained the quantitative results. In this study, the inferences from the qualitative results assisted in explaining the quantitative results. Furthermore, explanations were made in relation to the objectives of the study, which are relevant to the PESTIE framework. The sub-themes from the quantitative results were many, hence only the key components relevant to the study were included in the table below. According to (Creswell, 2015), the Table 2 below relates to mixed methods design for data analysis and assists in identifying the qualitative results that explain the quantitative results.

| Factors | Themes: Quantitative results | Sub-themes: Qualitative results |
|--|--|--|
| Government policies improvement and best practice | Policies improvement is a vital key factor for socio-economic transformation. | Government legislation/policies improvement and best practice are key factors to promote petroleum industry development and socio-economic transformation process in South Africa (QLR1). |
| | Policies best practice is a forefront key factor for petroleum industry development. | Legislation change in favour of capacity development programmes in the workplace is a motivation factor for employees' skills development (QLR6). |
| | Government awareness to capacity development programmes best practice is an imperative factor for socio-economic transformation. | Government campaign and interventions in promoting awareness concerning capacity development programmes in the petroleum industry could possibly stand as a forefront key for human capital capacity development (QLR2). |
| | | Petroleum industry is regulated; therefore capacity development should be extended to other sub-sectors of the energy department (QLR5). |
| Economic growth and development as key factor to socio-economic Transformation | Economic growth is a key factor for socio-economic transformation. | Capacity development programmes can improve professionalism and promote innovation, development and modernisation in the way of doing things in the petroleum industry (QLR1). |
| | Human capital capacity development could be a strategic factor for petroleum industry competitive advantages, development and economic growth. | Capacity development can contribute to petroleum industry development with need for socio-economic development (QLR2). |

| | | |
|----------------------------------|--|--|
| | Capacity development can play a fundamental role in promoting employment, reducing inequality and poverty rate in the country. | Education in general is a key factor in addressing socio-economic transformation, and capacity development is an important factor that addresses issues of communities in terms of improving people education and increasing the skills/abilities or capabilities of employees in the workplace (QLR3). |
| | Capacity development can contribute to improve and increase the performance and higher productivity in the petroleum industry. Capacity development can promote petroleum industry's competitiveness. | In the case of Engen Refinery, employees should be periodically trained on how to improve the manufacturing of products that contribute to socio-economic transformation. For example, the production of quality asphalt by qualified/skilled people is a vital contribution to socio-economic transformation process in the country (QLR5). |
| | | Skills development makes people more aware of efficient use of petroleum products (QLR6). |
| Social change/ transformation | Capacity/skills development is a key factor for community's lifestyle improvement. | Capacity development deals with issues of society in terms of education (QLR6). |
| | Capacity development programmes best practice in the petroleum industry can facilitate with in t interaction and reduce conflict between employees in the workplace, and create opportunity for social cohesion. | Capacity development programmes may facilitate employees' ability to identify opportunities in the workplace and promote society development (QLR7). |
| | Capacity development best practice in the petroleum industry can reduce inequalities amongst employees. | Capacity development best practice could facilitate and promote opportunities for better job, people income and life style improvement (QLR8). |
| | | More opportunities to employment means possibilities for less crime (QLR9). |

Source: Self-generated by the researcher

Mixing Of QNR and QLR Key Results Related to the International Environment

In the QNR data collection, respondents were required to respond to the following question:

- Indicate the factors that contribute to socio-economic transformation in South Africa?

The QNR results related to the factors that contribute to socio-economic transformation in South Africa are as follow:

In Political Environment

- Respondents affirmed that (ContFac1.2: 77.6%) government awareness and support to capacity development programmes in the petroleum industry could be an imperative factor for socio-economic transformation in South Africa;
- Respondents (ContFac1.3:78.6%) approved that improved and best practice of policies in the energy sector, including the petroleum industry could be a forefront key for socio-economic transformation in South Africa;

In The Economic Environment

- Respondents scored (CDPC3.1: 98.8%) that at a micro-level, the performance of the petroleum industry depends on a large extent to the skills/abilities/competencies development of the workforce;
- Respondents (CDPC4.2: 75.8%) postulated that the research on capacity development programmes could boost the politics of skills development for employment, skills for competitiveness, and skills for economic growth and poverty reduction;

- Respondents (NCDvT3.5: 88.9%) agreed that capacity development programmes could empower the workforce with required skills that can support and promote the culture of creativity, innovation and competitiveness in the workplace (petroleum industry); and
- Respondents (ContFac5.2: 77.6%) attested that capacity development could promote socio-economic transformation by addressing the issue of skills development within sectors such as trade, health, education, industries, politics, housing, agriculture, transportation, communal services, and tourism and recreational improvements.

In the Social Environment

- Respondents acknowledged that (CDPC5.2: 100%) that capacity development programmes could be the engine or locomotive of socio-economic transformation in South Africa by supporting skills training programmes that promote integrity, accountability, trustworthiness, honesty, empathy, loyalty, solidarity in the workplace, whether in the public or in the private sectors in the workplace;
- Respondents (CDPC3.4: 81.5%) showed interest on that efforts and resources expended towards addressing the triple challenge (poverty, unemployment and inequality) will be in vain out of capacity development best practice; and
- Respondents (ContFac4.2: 84.2%) agreed that capacity development programmes best practice in the petroleum industry can create opportunities employees/community lifestyle change/improvement.

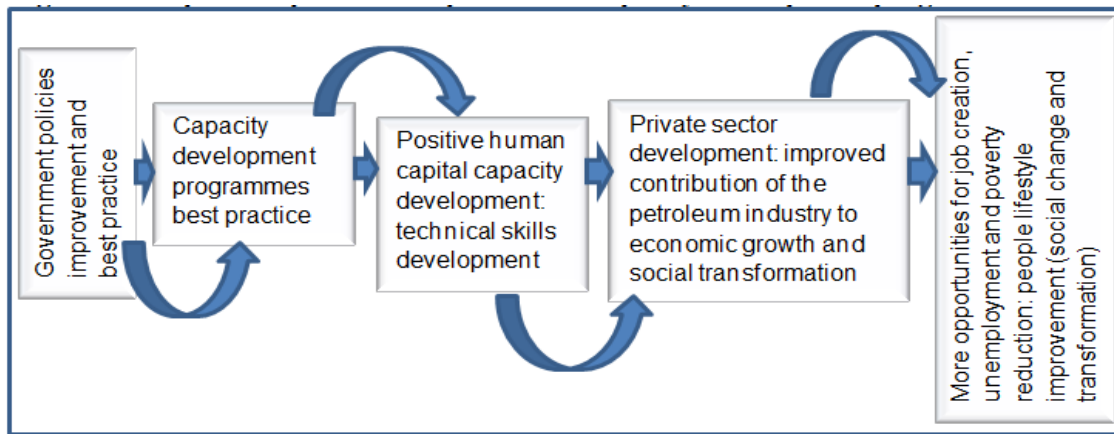
The QLR results related to the factors that contribute to socio-economic transformation in South Africa are indicated in Table 1 (Sub-themes qualitative results).

Interpretation and Discussion Aligned to QNR and QLR Results about Factors that Contribute to Socio-Economic Transformation in South Africa

There could be many factors, which may possibly contribute to socio-economic transformation in South Africa. In this study, capacity development programmes was examined as one of the key factors, which was associated or linked to the political, economic and social factors (Erasmus, 2014). Therefore, the investigation consisted to exploring the role that capacity development programmes could play in the public and private sectors in order to contribute to socio-economic transformation in South Africa. However, in the public sector, the QNR and QLR results revealed a significant correlation, given that QLR explain accurately QNR. This implies that policies that support capacity development in the petroleum industry exist.

However, it is observed that there is lack of government awareness to improve and ensure the best practice of policies that support capacity development programmes in the petroleum industry. The challenges of technical skills shortages, skills waste and the deficit of positive human capital capacity development in the public and private sectors demonstrate sufficiently that the South African government is failing to improve and implement policies that support capacity development programmes in the workplace. Consequently, it will be impossible to bridge or close the gaps of technical skills shortages, skills waste and the deficit of positive human capital capacity without the restructuring or improvement and best practice of policies, laws and regulations that promote scarce skills development in the workplace.

Thus, the correlation between capacity development programmes, public sector, petroleum industry and socio-economic transformation is based on the development of positive human capital capacity. This means that the best practice of policies, programmes and strategic plans that support capacity development programmes in the workplace could result on increasing the productivity, competitiveness, innovation and performance of socio-economic activities in the petroleum industry. The following correlation could possibly happen:



Source: Self-generated by the researcher

FIGURE 2 IMPACTS OF POLICIES BEST PRACTICE ON CAPACITY DEVELOPMENT PROGRAMMES

The lack of improved and best practice of policies will continue to cause barriers to technical skills development in the petroleum industry. Therefore, this situation could have strong influence on skills shortages or drain of skilled employees from the South African petroleum industry or from the country. Thus, the attempt to bridge the gap of skills shortages consist of instituting an awareness campaign in favour of measures that promote policies, programmes and strategic plans improvement and best practice in order to support the process of capacity development best practice; positive human capital capacity development; petroleum industry development and socio-economic transformation in the country.

INFERENCE AND RECOMMENDATIONS

There could be many critical issues with the philosophy behind capacity development approach to dealing with factors that contribute to socio-economic transformation process in the country.

- **In the Public Sector:** The government should focus on improving and developing policies, programmes and strategic plans that promote strategic guidance to scarce skills development in the workplace. Policy-makers should not only improve or develop policies to support capacity development programmes best practice in the workplace, but importantly ensure that policies, programmes and strategic plans are well implemented to secure scarce skills development in the petroleum industry. Government should continually ensure the best practice and development of existing active skilled employees for better performance, competitive advantages and productivity improvement in the workplace.
- **In the Private Sector:** In this fourth industrial revolution, employees should be responsible for their own skills development. They need to be empowered through enhancing their functional, behavioural and technical skills towards their relevance to petroleum industry development and socio-economic transformation in the country. Employees should also participate in the process of improving their skills based on volunteerism and self-sufficiency. More transparency in the management of financial resources could be necessary to sponsor technical skills development in the petroleum industry.

However, in some cases, employees cannot be self-sufficient to escaping skills shortages, skills waste and the deficit of positive behavioural capacities; employers, public and private stakeholders cannot be site-stepped in the process of scarce skills development in the workplace. Generally, the idea is that it is very important that capacity development in the workplace should play a key role by involving stakeholders in the process of decolonising structure or system of skills

development and retention, by means of applying a flexible model of scarce skills development in the workplace. In today's economic variations, whether in the public or private organisations, more investments should be directed to human capital capacity development for businesses to survive in the dynamic environment and to achieve the competitive advantages. Human capital capacity development in any organisation, including the South African petroleum industry should be of immense priority thus has to become very important. The South African petroleum industry should have much concern with the development of human capital capacity because companies' member of the SAPIA can achieve the competitive advantages through the effective development and utilisation of its human resources.

The wave of technological or industrial revolution enforces communities to adapt themselves with more required skills/abilities/talents development so that they can inclusively make a difference and escape the risk of being left behind from other competitors. The skills value increased/added on human capital capacity can be a solid strategy that can make a difference between organisations, given that it is very hard for the competitors to duplicate the same workforce at the way they can duplicate a product or service to their respective ends. Therefore, organisations are encouraged to improve the performance of employees in the workplace. The contributions of human capital capacity development in the South African petroleum industry could be perceived as follow:

- Human capital capacity development could facilitate public and private organisations towards better decision making, generate creative and innovative ideas;
- Human capital capacity development could facilitate the analysis of competitive strategy or organisational business strategy; and create or develop a complete model of capacity development in the workplace. Developed model of capacity development could also facilitate the improvement of employment relationship and condition; facilitate a strong support for long-term building/developing core competencies and intuiting capabilities.

Therefore, it is expected that capacity development programmes in workplace, including public and private organisations, could profitably promote socio-economic transformation through positive human capital capacity development *via* the improvement of values such integrity, accountability, trustworthiness, honesty, empathy, loyalty and solidarity in the workplace. In addition, capacity development programmes best practice could influence skills development within sectors such as trade, health, education, industries, politics, housing, agriculture, transportation, communal services, and tourism and recreational improvements.

CONCLUSION

This paper examined capacity development programmes best practice in the South African petroleum industry as a key factor that can contribute to socio-economic transformation process in South Africa. The political, economic and social components of the PESTIE factors formed part of the investigation to address the role that capacity development programmes could play to promoting petroleum industry development and socio-economic transformation process in South Africa. However, in the political environment, the outcomes of this study revealed that the South African government awareness and support to capacity development programmes in the petroleum industry could be a key factor that can contribute to socio-economic transformation in South Africa (ContFac1.2: 77.6%); and that an improved and best practice of policies in the energy sector, including the petroleum industry could be a forefront strategic factor for socio-economic transformation in South Africa (ContFac1.3: 78.6%). In light of these results, (Mosala, 2017; Gumede, 2014) postulated that government policies improvement and best practice are sine qua non condition for socio-economic transformation in the country. Furthermore, government legislation improvement and best practice in the petroleum industry could facilitate scarce skills development, import of essential skills not yet developed in the country, in order to bridge the gap of technical skills shortages affecting the South African petroleum industry.

In the Economic environment, respondents indicated that (ContFac4.2: 84.2%) capacity development programmes best practice in the petroleum industry could create opportunities for increased productivity, competitiveness and performance, which in turn could support economic growth, and create opportunities for new employments and people lifestyle change. However,

(Viljoen, 2016; Manuel, 2011) argued that economic growth and development is a fundamental factor for socio-economic transformation in the country. Therefore, human capital capacity development in the petroleum industry, as well as in other sectors of the national economy can contribute to economic growth by actively facilitating opportunities for innovation and entrepreneurship development. Consequently, economic growth can have various effects on the employment prospects of the unemployed and broader indicators of human capital capacity development. The extent to which economic growth reduces unemployment depends on the degree to which the unemployed are trained to participate in the growth process and share in its proceeds (Rodrik, 2007).

Capacity development programmes that support/promote human ability development in the workplace could be a key strategy of unemployment and poverty reduction in terms of promoting organisational development, rapid and sustained economic growth. The challenge for capacity development best practice is to have improved policy that support skills development and the best practice of model of capacity development that promote skills development in the workplace, and policies that allow the unemployed people to participate fully in the opportunities of skills training programmes, so that they can be ready to participate to promote economic growth. This includes policies to make labour markets work better, remove gender inequalities and skills waste, and promote technical, functional and behavioural skills development in the workplace.

In the social environment, respondents indicated that (ContFac4.2: 84.2%) capacity development programmes best practice in the petroleum industry can create opportunities for employees/community lifestyle change; and that (ContFac5.2: 77.6%) capacity development could promote socio-economic transformation by addressing the issue of skills development within sectors such as trade, health, education, industries, politics, housing, agriculture, transportation, communal services, and tourism and recreational improvements, etc. Accordingly, (Sablonnière 2017; Gobodo, 2008) and the UNDP Report (2009) argued that capacity development in the petroleum industry or in any socio-economic sector can generate social change and transformation. Such as stated earlier, the contribution of the petroleum industry to economic growth could cause more job opportunities and facilitate increased demand for new labour, and in turn, increased employment that could promote economic growth and social wellbeing. Thus, in light of the aforementioned, investing on human capital capacity development in the petroleum industry or in other sectors of national economy could be socio-economically profitable.

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