Discovering Thoughts, Inventing Future
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Contents of the Issue

i. Copyright Notice
ii. Editorial Board Members
iii. Chief Author and Dean
iv. Contents of the Issue

2. An Integrative Literature Review and Future Directions of Decent Work. 9-24
3. Case Studies of Value Creation on Integrated Reporting in Japan. 25-40
5. Impact of Entrepreneurial Activities on Natural Capital. 51-61
6. Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea Markets in Southern Highlands of Tanzania. 63-71

v. Fellows
vi. Auxiliary Memberships
vii. Preferred Author Guidelines
viii. Index

By Ensejam Ibrahim Hashim Alkipsy, Valliappan Raju & Harish Kumar

Limkokwing University of Creative Technology

Abstract- The study attempts to review the potentials and the challenges confronting the utilization of renewable energy resources in Yemen. The paper on specifics tries to find out how Yemen can increase the country’s electricity generating capacity, as well as to explore the possibility of utilising renewable energy in the Republic of Yemen. Content Analysis has been used in planning the subject of this research and analyzing the whole data collected from the relevant secondary sources. The design in this particular research is used to demonstrate understanding and to study current energy challenges and how alternative renewable energy such as solar energy can reduce the need for Yemen to build new fossil fuel generation power. The study reveals that Yemen has unexplored potential in terms of wind energy which can be developed to produce nearly 14, 214 MW, solar energy with the potentials of producing about 2210MW, while geothermal energy can produce about 28.5 GW of electricity.

Keywords: energy sector, renewable energy resource, wind energy, solar energy, yemen.

GJMBR-A Classification: JEL Code: M10

Strictly as per the compliance and regulations of:

Ensejam Ibrahim Hashim Alkipsy, Valliappan Raju & Harish Kumar

Abstract - The study attempts to review the potentials and the challenges confronting the utilization of renewable energy resources in Yemen. The paper on specifics tries to find out how Yemen can increase the country's electricity generating capacity, as well as to explore the possibility of utilizing renewable energy in the Republic of Yemen. Content Analysis has been used in planning the subject of this research and analyzing the whole data collected from the relevant secondary sources. The design in this particular research is used to demonstrate understanding and to study current energy challenges and how alternative renewable energy such as solar energy can reduce the need for Yemen to build new fossil fuel generation power. The study reveals that Yemen has unexplored potential in terms of wind energy which can be developed to produce nearly 14, 214 MW, solar energy with the potentials of producing about 2210MW, while geothermal energy can produce about 28.5 GW of electricity. These could be tapped to fill the country's energy gap. Unfortunately, the country's solar energy market is still lagging behind in producing maximum capacity that will help the country to improve its short-term energy supply in rural areas based on a number of preventive factors including a lack of policy and facilitator framework from the government to fully support solar energy initiatives to help the country improve its energy per capita.

Keywords: energy sector, renewable energy resource, wind energy, solar energy, yemen.

1. Introduction

It becomes too outdated for many countries to continue to depend on fossil fuels as the only means of producing electricity. For this reason therefore, most developed countries including Yemen continue to find alternative ways in which their power generation capacity can be increased or enhanced. According to available record obtained revealing the 2016 statistics on energy generation capacity and overall energy utilization issued by the International Energy Agency (IEA) and the Institute of Energy (EI) confirmed that a number of countries are steadily reducing their over reliance on fossil fuels in generating electricity as a result of the negative impact this have on the environment, even though fossil fuel had greater dominance in the years backin fulfilling the energy demands of the 21st century. The tremendous decrease in reliance on fossil fuels as a means of generating electricity led to the prominence solar energy internationally and acceptance in a global renewable energy mix (Hammarström, 2012).

Renewable energy is the new keyword for many country alternative ways to generate cleaner energy. The 21st century is witnessing a transition in energy source because of environmental concern, limitations on the supply of the fossil fuel, prices and changes in technology (Timmons, Harris, & Roach, 2014). In view of this fact many developing countries including Yemen are planning to adopt renewable energy alternatives such as solar energy and wind energy among other renewable energy alternatives to tackle the shortage of electricity and its distribution by minimizing their greenhouse gas emissions. The renewable energy in form of solar energy or wind power is proven to be cost-efficient and profitable for a long period of time (Cook et al., 2010).

As a result of cutting cost and technology learning, it has been estimated that photovoltaic accounts between 30 and 50% of all the global generation mix by 2050 with an estimated potentials of generation through PV by 2035. As compared with BNEF 2040 estimates where about 34% world electricity generation will be through the combination of wind and solar generation, while the EIA estimated generation 31% by all renewables (Creutzig et al., 2017). It is imperative to Yemen to target the global energy production best practice, Yemen do not have to build more fossil power generation plant as renewable energy is now more environmentally friendly and more efficient way, to obtain cleaner energy generation; this will more importantly help Yemen to provide enough electricity to its unproductive rural areas.

a) The challenges of the energy sector in Yemen

In this era of global warming, together with increasing energy demand and lack of fuel stocks (especially fossil fuels), non-renewable sources are used at extraordinary and inefficient rates. These resources will be exhausted in the foreseeable future. Such situations force countries of the world to search for renewable energy sources. In recent times Renewable energy technology considering its technology, economic...
benefits and environmental concern has been more sustainable. For these reason the main concern is centered on harnessing the alternative energy resources to overcome the inelastic energy demand globally.

Considering the country’s human development indices, Yemen for more forty six years beginning from 1971 up to 2016 was categorized under the least developed countries (LDC), basically due to its very weak human capital assets, low gross national income (GNI) and current political instability exacerbated by the country’s economic vulnerability (UN, 2016). Yemen’s per capita GDP (Gross Domestic Product) according to World Bank Group (2013) is not more than US$1,086 per year. Characterized by high malnutrition, illiteracy and child mortality rate, with pervasive unemployment rate Yemen in recent times is experiencing an increase which put at 2.47% and by 2015 the country’s population is estimated at 26 million according to the country’s online published data (CIA, 2016). Yemen’s the economic stability has been at stake largely to escalating economic vulnerability (El Mallakh, 2014). The most outstanding challenges facing the growth and development of the economy of Yemen comprises of its monolithic economy which is mainly the oil reserves, and its dwindling market. Additionally, nearly 75% of the people in Yemen are poverty striking rural dwellers. The poverty situation in the country is characterized by the absence of basic social amenities such as health, energy and education (Ali et al., 2014). Accordingly, Yemen’s population has the lowest access to electricity supply with uneven electricity distribution between urban and rural settlers. Although the rural population accounted for nearly 75% of the total population, yet have less 23% have access to electricity as compared to 25% of urban population which enjoying about 85% of the electricity supply (UNDP 2014, World Bank Group, 2013).

Yemen in recent times encountered serious shortage of power supply which does not meet up with its infrastructural as well as population needs. As at 2009, Yemen had only 1.6 GW electricity installed capacity with an estimated power supply deficit of 0.25 GW to meet with the demand (Qasem 2018; Sufian, Ogutcu, & Barra, 2017). The projected electricity demand by the year 2020 was put at 3.538 GW as contained the Yemen’s power development plan (PDP) aimed at replacing the retiring units as well as meet the demand sufficiently(Ali, Alkadasi, & Khoday, 2014). However, as at 2011 the country electricity capacity demand rather fell to below 70 percent of the total capacity which was caused by riots against Yemen government, oil industries strike, as well as withdrawals of foreign expatriates (Qasem 2018; Rawea & Urooj, 2017). The electricity supply gap against demand is estimated about 500 MW in 2013(Ali et al., 2014; Sufian et al., 2017). By 2015 the power supply worsen as a result of domestic and external conflicts (Qasem 2018).

The sustainable performance of Small and Medium Enterprises as well as small scale industries has seriously been hampered due to constraints from the energy sector in Yemen. As such, many of the SME were closedown in 2011 due largely to the inaccessibility of electricity and political crisis resulting in the massive retrenchment of workers. Whereas in the rural areas the livelihood potentials of the poor people. The absence of electricity has reduce the income generation alternatives of the poor, as well as the quality of the education and health services (Ali et al., 2014). There is the need to look ahead beyond the war and conflict in Yemen to overcome the impediments associated with electricity generation as to identify the best options of resolving the problems (Qasem 2018).

The enormity of the problem as well as insufficient electricity supply in Yemen is rooted in its over reliance on fossil fuel such as Mazot (heavy diesel crude oil) and liquefied natural gas in spite of their economic and environmental consequences (Jahangiri, Ghaderi, Haghani, & Nematollahi, 2016). Geographically, the greater part of Yemen being rural constituting about 75% benefitted only 23% of the total electricity supply (Sufian et al., 2017). This contributed to the enormity of power distribution challenges, added to its low and feeble industrial activity arising from epileptic power supply, and predominance of electricity power supply mainly for domestic use. Figure 1 shows the profile of Yemen’s electricity supply.

<table>
<thead>
<tr>
<th>Industry &amp; Agriculture</th>
<th>Commercial</th>
<th>Urban Household</th>
<th>Rural Household</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>11%</td>
<td>17%</td>
<td>55%</td>
<td>3%</td>
<td>14%</td>
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Figure 1: Yemen’s Profile of Electricity Consumption
These challenges contributed to the enormity of the electric power supply deficit in Yemen. Although the country has bountiful renewable energy resources including solar, wind, geothermal, hydropower and biomass energy which can be harnessed to generate the electricity that will remedy the energy deficit (Al Kubati, Mattash, Alnethary, Minissale, & Vasseli). Renewable energy technologies provides a lot of long term benefits comprising of energy security, job creation, business opportunities, sustainable development and prevention of global warming (Al Khaldi 2013). This paper therefore, attempts to review the current status and the challenges confronting the utilization of renewable energy resources in Yemen. The paper on specifics tries to find out how Yemen can increase the country’s electricity generating capacity, as well as to explore the possibility of utilising renewable energy in the Republic of Yemen.

II. Methodology

As this study attempt to review the current status and the challenges confronting the utilization of renewable energy resources in Yemen, and specifically to find out how Yemen can increase the country’s electricity generating capacity, as well as to explore the possibility of utilising renewable energy in the Republic of Yemen. The researcher entirely relies on published secondary data from reputable sources including the Energy Institute, the World Bank, the CIA, and the UNDP including review of published articles from reputable international journals such as ISESCO Science and Technology journals, Future cities and Environment journal, Emerald and JSTOR, Springer, Elsevier amongst others.

Content Analysis has been used in planning the subject of this research and analyzing the whole data collected from the relevant secondary sources. The design in this particular research is used to demonstrate understanding and to study current energy challenges and how alternative renewable energy such as solar energy can reduce the need for Yemen to build new fossil fuel generation power. Themes derived from secondary data sources including articles and journals were systematically arranged to present clear research design. The ‘Design’ formulated to minimize the tendency in research and design enhanced the authenticity of the research in which the research inquiry is investigated. This study has chosen content analysis method by selecting the relevant content of the various literatures related to this study; and the literature review enable the overall development of the study which ordinarily centered on theoretical backgrounds and foundations. Data collected from previous studies were analyzed this helped in answering to research inquiries to obtain results.

III. Current Energy Resources in Yemen

Yemen has abundant energy resources which comprises of the following in Yemen consist of the following (Al Ashwal 2016): Oil is the main source of energy. Oil was discovered in 1984. The total production of Yemen now has reached an average of 439,000 bpd. 50% of which is produced in Al-Masila and the other 50% is produced in the rest fields. Yemen has been exporting oil since the nineteen eighties. The current certified gas reserved in Yemen is 18.215 tcf. From this amount 9.5 tcf is allocated for export. In actuality, Yemen has significant deposits of gas but these reserves have not been developed or effectively utilized due to the absence of appropriate infrastructure and the inability of the government to decide on the most economic options for the gas. Now 42152 t per month of LPG are currently produced. This amount of production was reached due to participation of private sector in building bottling plants in different locations of the country and distribution of gas bottles. Actually LPG bottles are available now everywhere in the country. More than 80% of national market is covered (Al Ashwal 2016).

a) Renewable energy Potentials in Yemen

Yemen has huge renewable energy potentials. According to a study conducted by Consultants Lahmeyer International, Germany these potentials comprises of the following (Al Ashwal 2005, 2016):

i. Wind Energy

Yemen has a long coastal strip of over than 2500 km long and an average width of 45 km along the Red Sea, and the Arabian Sea. These coastal areas have an annual wind speed average of more than 8 m/s. There is a good potential for making wind farms on the coastal strip as well as on the offshore areas. One of the most suitable coastal areas is Al-Mokha Zone, Taiz, Yemen which has favorable conditions of wind. Unfortunately the available meteorological data does not contain enough information about the wind in various locations in the country. Geographic Nature of Yemen has helped to generate daily wind with reasonable duration and speed. The well-known phenomena of local wind patterns are clearly realized in Yemen. These are: Sea Breezes and the Mountain-valley wind (Qasem 2018).

The most populated areas of Yemen are Mountain-Valley areas. There are a great number of small villages shuttered on the top of mountains where altitude is 1200m above sea level or less, the electricity supply could be generated most economically by installing wind-turbine generators. The wind is available almost whole year which permits to use wind turbines in decentralized fashion to produce electrical energy for house hold use in rural areas. In some areas the...
availability of sun and wind is in contrast. This situation can encourage proposing Wind-PV hybrid systems. The coastal areas high speed wind continues for more than six months that September to March. This condition is a good indicator to propose wind farms combined with Diesel generation, with PV system or connected to the grid. Further study for wind availability and daily wind speed is required to precisely assist wind generation economics. Initial estimations showed that around 14,214 MW could be developed at assessed wind farm sites. Economically attractive sites were those with more than 3500 full load hours per year. A capacity of around 2507 MW could be developed at these sites which could generate around 8293 GWh of electricity per year (Al Ashwal 2005).

In order to produce clean energy, Yemen, in line with other Middle East countries and other developing nations, the country is looking for other alternatives such as solar and wind energy, to reduce the country’s rise in solvent carbon as it raises great concern for many parties related stakeholders (Ali et al., 2014).

**Figure 2:** Wind Powered Electricity Generator

ii. **Solar Energy**

For a country under obstruction and suffering from a severe power crisis, solar energy is considered as a perfect alternative energy source to solve an important part of this crisis; furthermore, the source is eco-friendly. In the last years from 2014 - 2016 AD solar energy systems have seen unprecedented developments in addition to lower price rate dramatically (Rawea & Urooj, 2017).

**Figure 3:** Average solar radiation in the middle-east

iii. **Geothermal Energy**

Yemen is situated near three tectonic boundaries which are among the most active in the world, viz. the Gulf of Aden, the Red Sea and the Eastern African Rift System. These three tectonic plates meet in a triple junction creating high geothermal gradient, and subsequently geothermal energy potential was estimated to be 28.5 GW (Al Ashwal 2016). The country has more than seven areas of natural hot springs of water. In addition Yemen is specified as one of the countries having high heat flow. The heat flow reflects the potential of geothermal energy (Al Ashwal 2005).
The world map of heat flow shows that Yemen and Italy have equal potential of heat flow (60 mW/cm²). The total capacity of geothermal power installed in Italy is more than 500 MW which clearly demonstrates the high potential of geothermal energy in Yemen. In 1984 a study financed by World Bank was performed by Geothermex Inc. The study was directed to investigate the availability of geothermal energy in Dhamar area (100 km south of Sana’a). The study concluded that it is possible to build a geothermal power station with a capacity of 125-250 MW. Such power for Yemenis considerably high in relation to the total installed power (Al Ashwal 2005).

iv. Biomass Energy
For several centuries Yemen is well-known as an agrarian state as the main component of the country’s economy, Yemen is famous for being an agricultural country. The over concentration of activity in this sector will result in the monumental waste of resource. Moreover, the waste related with the industrial production has the capacity to affect the environment if not handle with care. The generality of these waste types could be put into use potentially to generate biomass energy to be used for many purposes such as gasification for the electricity generation or for the cooking purposes. This technology can be used to make biogas plants in major cities such as Sana’a, Aden, and Taiz, to produce electricity from biogas instead of diesel or heavy fuel (Mazot) used mainly in the diesel power plants in Yemen. For example, if we take the garbage waste that is picked up by the garbage trucks on a daily basis in Sana’a city which occupies more than two millions residents, this will be approximated by 1,000 tons of trash. This trash can be delivered to specialized digesters to produce biogas which is composed of 60% methane (CH4) and 40% carbon dioxide (CO2). For every ton of waste we estimate to get an amount of 50m³ of biogas. So, 1,000 tons of trash will be capable of producing nearly to generate 5,000m³ of biogas per day around Sana’a district (Qasem 2018), this is equals to 30,000 KWh. This production capacity is estimate to have provided nearly 5,000 households with 6KWh average electricity need.

b) The Prospect of Renewable Energy in Yemen
There is an unparalleled and massive potential of many renewable energy sources for the Yemen Republic. Many researches include research from the Ministry of Energy, Evaluation and Evaluation with the Economic and Yemen National Union, and (CDM), - The Clean Development Mechanism has shown that Yemen has enormous potential for renewable energy. This report shows that there is a huge potential for renewable energy, especially for solar, wind, biomass and geothermal. The above-mentioned renewable energy sources are noted by Brehony and Al-Sarhan (2015) to be very much in the country and should be utilized and used to meet the challenges of electricity shortages in Yemen and towards reconstruction of the country from political, economy and society. Once Yemen can rapidly adjust the migration from the country’s dependence on fossil fuels into renewable and cleaner energy, it will help the country’s economy in general to meet its objective of achieving the target of lower emissions of economic growth.

Yemen’s Ministry of Energy & Energy responsible for electricity distribution recently produced research published on the physical prospects and hypotheses of renewable energy options for Yemen. Based on his research, the potential of renewable energy for Yemen as highlighted by the Ministry of Electricity includes the following: Wind, Geothermal, and Solar electricity, Biomass-landfills, Hydroelectric and thermal Suria (MOEE - Ministry of Energy & Energy, 2014 -2016 data). Table 1 below provides an illustration of the renewable energy sources above and features different from their potential in terms of hypothesis and physical.

<table>
<thead>
<tr>
<th>Renewables Resources Hypothetical Potentials</th>
<th>Gross Technical Potentials (MW)</th>
<th>Practical Technical Potentials (MW)</th>
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<tbody>
<tr>
<td>Solar electricity</td>
<td>(2,446,000)</td>
<td>(1,426,000)</td>
</tr>
<tr>
<td>Wind energy</td>
<td>(308,722)</td>
<td>(123,429)</td>
</tr>
<tr>
<td>Hydropower – Major Wadies'</td>
<td>(12-31)</td>
<td>(11-30)</td>
</tr>
<tr>
<td>Biomass-landfills</td>
<td>(10)</td>
<td>(8)</td>
</tr>
<tr>
<td>Solar thermal-Solar Water Heater</td>
<td>(3,014)</td>
<td>(278)</td>
</tr>
<tr>
<td>Geothermal</td>
<td>(304,000)</td>
<td>(29,000)</td>
</tr>
</tbody>
</table>

Source: (UNDP Publication on Yemen: Prospects of Solar Energy in Yemen/Yemeni Joint Socio-Economic Evaluation)

It is imperative to note that among all the renewable energy sources highlighted in the Yemen Republic, only solar energy has the largest gross technical prospect. However, Wind power is much higher than solar energy in terms of its potential in abrasive abilities. Waltz works (2015) and Ali et al., (2014) show that the average radiation for solar energy is around 18-26 MJ / m² per day over 3,000 hours per year clear blue sky and hypothetical potential for
electricity comes from solar use CSP) - concentrated solar energy presents about 2.5 million Mega Watts.

Accordingly, it is noteworthy that the current potential of 308,000 Mega Watts can be achieved by Wind Power. While geothermal potential is estimated at around 304,000 Mega Watts. However, the entire secondary data collected on Yemeni electricity generating both reputable sources suggests that the current mix of energy in the Yemen Republic is largely controlled by 99.91% by fossil fuels while the current portion for renewable energy in the national energy market is expected to be around 0.009 % (UNDP, 2014; Ali et al., 2014). However, a new target will be achieved by the Yemen government in 2014 - 2025 on the diversification of national energy generation capacity until the 15% increase has been set by the 'National Strategy for Renewable Energy and Energy Efficiency' according to UNDP.

c) Yemen Future Renewable Energy Mix

As it affects the concepts of mix with regards to the renewable energy mix, the prospects and potential for Yemen to centralize, expand and diversify its alternative energy options such as Solar Energy potentially will be discussed in the next section below.

<table>
<thead>
<tr>
<th>Wind</th>
<th>Concentrated Solar Power</th>
<th>Biomass</th>
<th>Geothermal</th>
<th>Hydro</th>
</tr>
</thead>
<tbody>
<tr>
<td>56%</td>
<td>14%</td>
<td>0.08%</td>
<td>28%</td>
<td>0%</td>
</tr>
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</table>

Source: Republic of Yemen’s National Strategy Centre for Renewable Energy and Energy Efficiency

Figure 4: Future targets of Yemen’s Share of Renewable Energy Mix

The graphical concept as demonstrated in the future target of the potential of renewable energy of Yemen, with an increase of 15% in total renewable energy contribution to the country’s power sector has highlighted that the least appropriate option for this country is hydro or water power set at 0.08 % because in Yemen, the whole country is arid and very dry.

Yemen is usually described as xeric and it implies that the country is mostly 'desert' based on the notion that it has a high hinterland, semi-desert and extensive coastal plains through the Arabian Sea and the Red Sea (Carapico, 1998). Yemen is characterized by clear and hot weather. Generally speaking, the temperature in Yemen is usually very high, especially in desert and coastal areas. It has been noted by the geographically Lichtenthaler (2003), Yemen located in the area described as Sunbelt in the world. The country is naturally authorized by radiation from the sun that ranges from 6.8 to 5.5 kWh / m² daily and daily average sun rays range from 7.3 and 9.1 hours daily. The average approx. 8 hours of sunshine each day is also witnessed in Yemen even during the winter period (Ali et al., 2014).

In such a case, it is clear that Yemen is naturally endowed because it has the capability and potential to make full use and generate electricity through solar power to power and to power many Yemeni households in the interior to bridge the gap in electricity supply in the area - Desert and poor areas. At present, Yemen's natural potential to capitalize on Yemen's potentially more solar energy than the minimum radiation of solar as well as the long hours of sunlight received by the country even during the winter is clear that Yemen can easily use and innovate solar technologies to utilize power from the sun in a sustainable way. Consequently, it is wise to highlight that external solar power and grid on the grid have the ability to contribute. Supplying solar power in form of electricity can easily be achieved in Yemen via a technological process in which the radiation from the solar power panels is converted into electric power either directly by utilizing (PV) - photovoltaic systems or the country can choose to indirectly convert solar light into electricity by utilizing (CSP) -concentrated solar power modules (Moe and Midford, 2014).
There are many benefits that can be obtained from solar power generation if the Yemeni government can formulate a support policy that will bring solar energy awareness into a renewable energy form across the country. The overall benefits of solar energy depend on social, economic and environmental aspects. First of all, the main advantage of solar energy production in Yemen highlighted that solar energy is highly sustainable because its technology relies entirely on heat radiation from sun-powered light from using fossil fuels, non-renewable forms of energy that will definitely decline (Waltz, 2015; Jackson, 2009).

Second, solar energy does not pollute the environment unlike fossil fuel that pollutes and lowers the environment. There are zero Greenhouse Gases emissions from solar and social and environmental energies. For example, solar energy panel maintenance and service costs are minimal and it has a lifespan of about 20 years or more, thereby ensuring a better form of energy (Moe and Midford, 2014).

Instead of using diesel generators during the distribution of ‘Public Electricity Corporation’ alternately in Yemen, solar energy can provide a better alternative in terms of bridging the gap in terms of electricity supply to rural and urban areas. By training many Yemenis on the concept of solar energy and generating electricity, employment can also be created for unemployed by equipping them with relevant skills that can be used to work in the energy sector.

**IV. Conclusion**

Yemen has unexplored potential to use solar energy as a way to fill the country's energy gap. Unfortunately, the country's solar energy market is still lagging behind in producing maximum capacity that will help the country to improve its short-term energy supply in rural areas based on a number of preventive factors including a lack of policy and facilitator framework from the government to fully support solar energy initiatives to help the country reducing its dependence on fossil fuels. Furthermore, high pricing costs for setting solar power devices are also a reduction factor but the cost of maintaining solar power generation facilities is very minimal in the long run. However, UNDP has insisted that Yemen has the potential to fully settle its dependence on fossil fuels if the country can adopt solar energy and other forms of renewable energy to restrict the development of new fossil fuel generation power in the country. It is also permissible to highlight that UNDP also states that 'developing an appropriate national solar capacity involving dedicated financial mechanisms and cost-effective cost instruments will continue to contribute towards enhancing solar power prospects in Yemen while at the same time having a tendency to create jobs new and supporting the development of solar energy in the country.'

**References Références Referencias**

An Integrative Literature Review and Future Directions of Decent Work

By HU Haiming & Yan Yan

Shanghai Dianji University

Abstract- The aim of decent work is to promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security, and human dignity. Previous researches show that decent work has a significant impact on talent strategy on the national level, competitive advantage on organizational level and work demand meeting on the individual level. Thus, it draws much attention to home and abroad scholars. This paper reviews the previous research on decent work definition, dimensions, status quo, and related variables. Based on the research results and combined with the conservation of resource theory, this paper clarifies the definition and structure of decent work from the management perspective. From the perspective of resource gain spiral and resource loss spiral, this research proposes a theoretical framework of “perception of decent work-work attitude-work behavior”. Accordingly, this study proposes suggestions for improving decent work by focusing on the definition of decent work on individual perspective, decent work scale development, and relationship among decent work perception, work attitude, and behavior in future research.

Keywords: decent work; proactive management; psychology of working theory; decent work perception; conservation of resource theory.

GJMBR-A Classification: JEL Code: M19

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An Integrative Literature Review and Future Directions of Decent Work

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Abstract: The aim of decent work is to promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security, and human dignity. Previous researches show that decent work has a significant impact on talent strategy on the national level, competitive advantage on organizational level and work demand meeting on the individual level. Thus, it draws much attention to home and abroad scholars. This paper reviews the previous research on decent work definition, dimensions, status quo, and related variables. Based on the research results and combined with the conservation of resource theory, this paper clarifies the definition and structure of decent work from the management perspective. From the perspective of resource gain spiral and resource loss spiral, this research proposes a theoretical framework of "perception of decent work-work attitude-work behavior". Accordingly, this study proposes suggestions for improving decent work by focusing on the definition of decent work on individual perspective, decent work scale development, and relationship among decent work perception, work attitude, and behavior in future research.

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I. Introduction

Work is an important link that connects with labor organization and society. Decent work is not only closely related to the career development of workers but also of great significance in the sustainable competitive advantage of organizations and the coordinated development of society. From the perspective of individual workers, with the rapid development of China's economy, workers have shifted from their previous need for material and safety to their need for a sense of being respected, being needed and being acquired, and have put forward higher requirements for the improvement of their employability and pursuit of career development. Research shows that decent work can improve employee engagement (Qing Tao, Liu Shuang, Wang Ting, 2016) and creativity (Wang Chunguo, Chen Gang, 2018). From the perspective of enterprises, with the return of humanistic management and the advent of the new employee-centered economy, enterprises are committed to creating a good employer brand to attract more excellent employees and improve their sustainable competitive advantages. Research shows that decent work can effectively reduce the employee turnover rate and the number of labor disputes (Luo Yan, 2013). From the perspective of the national level, the improvement in the decent work level can promote the realization of the strategic goal of talent, and have a lasting and far-reaching impact on labor productivity, household savings and consumption, and national taxation. In 2013, general secretary Xi Jinping proposed to "remove the obstacles that prevent workers from participating in the development and sharing the fruits of development, and strive to enable workers to achieve decent work." In October 2016, the outline of the 2030 plan for a healthy China stated that "promoting the construction of a healthy China is an important basis for completing the building of a moderately prosperous society in all respects and basically realizing socialist modernization. It is also a national strategy for comprehensively improving the health quality of the Chinese nation and realizing the coordinated development of the people's health and the economy and society". It can be seen that in the new era, the state attaches great importance to decent work and elevates it to the level of national strategy. To sum up, to the country, to the individual workers, to improve and enhance the decent work level of workers has become the topic of common concern of the society and individuals.

Although the state, organizations, and individual workers are well aware of the importance of decent work, they also know that to improve the decent work level of workers requires the joint efforts of the state, enterprises, and individuals at the macro, middle, and micro levels. But the complex and volatile business environment has made the path to decent work increasingly murky. Regrettably, despite some efforts by the state and companies to improve the standard of decent work for their employees, the results were not satisfactory. The polarization of wage growth between manual workers and mental workers is becoming more and more serious (Zhou Chang, Li Qi, 2017). About 70% of knowledge workers are in the state of "overwork", and nearly 40% have entered the danger zone and are in the medium or heavy labor (Wang Dan, 2011). According to the "work happiness index survey" conducted by China human resource development network in 2004, the average working person's work happiness index is only 2.57 (out of 5 points). Studies of 2018 China office employees' health and well-being of the data showed that only 64% of the 2016 Shanghai white-collar workers
have a healthy lifestyle, compared with 77% in 2015 to share dropped a lot. Researchers at Beijing normal university estimate that Chinese workers work an average of 2,000 to 2,200 hours a year, 17 percent more than their American counterparts. The high intensity of the work forces the staff to form a bad lifestyle but also causes the staff to pay more attention to the sense of dignity of work.

These practical problems require researchers to change their research thinking, reconstruct the connotation and dimension of decent work from a new perspective, and pay attention to the promotion strategy and path of individual-level physical labor. Since the concept of decent work was put forward in 1999, scholars have carried out researches on the definition of decent work, the construction of index system and the regional comparison of decent work from the macro level and middle level, and obtained some research results. In order to fully grasp the domestic and international research on decent work, the researchers collected and evaluated the literature. Specifically, we collected literature on the keywords “decent work” and “decent work” on the Web of Science, EBSCO, Science Direct, Pro Quest, Wiley, and China national database. By March 2019, a total of 53 English papers had been collected from SCI and SSCI journals, and 81 Chinese papers had been published in CSSCI journals. These English and Chinese papers cover philosophy, sociology, law, management, economics, and other disciplines, including 57 papers from the perspective of management. In recent years, scholars have begun to focus on the micro-level of decent work, especially in the intersection of management and psychology, which has greatly enriched the research on decent work. However, the current domestic for decent work research focus is still inadequate, and there are still some worth expanding in the study area.

First, for example, the study of decent work needs to move from institutional regulation to active management. The definition of decent work originates from the level of the system, which emphasizes improving the level of decent work through the system. However, the realization of social decent work is derived from the improvement of the individual's perception of decent work. Therefore, the implementation of decent work needs to be implemented from the level of system regulation to the level of enterprise dynamic management, and from the perspective of management science, it is necessary to realize decent work by promoting the progress of management practice. Second, the study of antecedents, outcome variables and action mechanisms of decent work mostly stay in the discussion of the relationship between variables and lacks of the theoretical basis and systematic integration. In particular, there is no in-depth theoretical explanation of the black box mechanism of the impact of decent work on individual attitudes and behaviors. For example, why does decent work affect individual attitudes and behaviors? And how does it affect individual attitudes and behavior? Therefore, it is necessary to draw lessons from relevant theories from the perspective of individuals to describe and analyze the influence mechanism and action path of decent work on individual attitudes and behaviors, to clarify the promotion path of decent work and provide references for future relevant countermeasures. Thirdly, in terms of scope, the current literature review of decent work has only been updated to 2013 (Zhou Ge, 2013). However, in recent years, the research progress of decent work at the micro-level has not been followed up, failing to present the research results and development trend of this field.

The state and society the realization of decent work not only need system design, need more active management of the enterprise. Therefore, from the perspective of management, it is particularly important to strengthen enterprises' active management ability in improving the employees' perception of decent work. However, the current research on decent work pay little attention to the active management of enterprises, and the theoretical foundation is still weak. Given this, the purpose of this paper is to explore the changes in the path of decent work promotion brought about by the change of the perspective of decent work research and to propose the framework of decent work research from the perspective of management, so as to provide reference for the research for the dynamic management of decent work at the enterprise level. In order to present the change of research emphasis on decent work comprehensively and systematically, this paper first sort out the connotation of decent work and the change of measuring tools. Furthermore, the group research on decent work in recent years is sorted out and summarized, and the influence factors, effect, and mechanism of decent work are summarized and evaluated. Finally, based on the perspective of management, on the basis of the theory of resource conservation, put forward the research framework of decent work, by the dynamic management of the enterprise of decent work ascending individual perception, thus improve the level of country, society, and to the respectable labor, for the future research provides a new perspective and direction.

II. Development of the Concept of Decent Work

In 1999, Juan Somavia, director-general of the international labor organization, first proposed the concept of decent work at the International Labor Conference. It refers to the promotion of decent, productive and sustainable work opportunities for men and women in conditions of freedom, equity, security,
and human dignity, with the core of promoting the realization of rights at work, employment equality, social protection and social dialogue (ILO, 1999). The earliest research on decent work mainly uses the security perspective to define it. From the perspective of system design, this paper emphasizes that the state should issue relevant laws and regulations to ensure labor safety. However, with the development of society and the change of workers’ demands, the international labor organization redefined the definition of decent work in 2015. From the perspective of equity, this definition emphasizes the protection of laborers’ dignity and equal rights at work at the enterprise level. With the advance of research, scholars believe that the realization of decent work at the national level should be based on the realization of decent work at the micro level (Qing Tao et al., 2015). Since then, the definition of decent work has turned to the perspective of self-value, which emphasizes the psychological feeling of the value and dignity of work from the perspective of individual perception.

a) Security Perspective

The ILO’s original definition was decent work from a security perspective. From this perspective, the state and enterprises should guarantee the income security and labor safety of laborers; that is, laborers can obtain a decent income through labor to guarantee their lives (Anker, Chernyshhev, Egger, Mehran, & Ritter, 2003). In the process of labor, workers can get adequate health protection and avoid being injured and losing the ability to work (Benach, Muntaner, & Santana, 2007). Decent work should include reasonable income, a safe working environment, and a safe social network (Athanasou, 2010). This perspective advocates that relevant laws, regulations and policies should be formulated at the national level to ensure the safety of workers and avoid physical injury while obtaining a reasonable income, thus promoting the healthy development of human beings (Di, Cohen, Cole, & Forman, 2015).

b) Equity Perspective

Although decency is a broad concept, including not only legal policies but also values (Putnam, 2002), it is mainly reflected in fair rights in the workplace. With the change of social environment and economic development, in 2015, the international labor organization redefined the concept of decent work (ILO, 2015). Decent work should include productive work opportunities, fair income, safety in the workplace, social protection for families, the promotion of personal development and social integration, the free expression of individual views, and the participation of all men and women in decision-making that affects their work and equality. In particular, the focus of decent work is to ensure fairness and justice (Guichard, 2013). From the perspective of human resource management, Alzola (2017) regarded decent work as the “moral rights” of employees in the workplace. Multinational companies in different institutional environments must take the moral rights of employees as the principle to be always adhered to. Based on the theories related to management, the perspective of equity emphasizes that the realization of decent work of employees requires enterprises to make management improvements, such as increasing employees’ participation in organizational planning and strategic goal setting, enhancing their right of speech, voting rights and decision-making rights, and improving the efficiency of organizational communication. However, in this perspective, scholars have two opposing views. According to the optimism, the decent work proposed by the international labor organization is anti-hegemonic and infuses the post-neoliberal model into the global labor rules. Thus, groups advocating equality between men and women strongly endorse decent work, which focuses on informal work and informal labor. On the contrary, pessimism condemns decent work, believing that it is consistent with neoliberal hegemonism, especially that it includes some labor laws and corporate social responsibility, which enterprises must fulfill. From the perspective of the political economy, Hauf (2015) defused two standoffs in decent work skillfully. He believed that the premise of the perspective of decent work equity is gender equality and corporate social responsibility, both of which are indispensable. Therefore, the United Nations Economics and Social Council (UNESC, 2009) proposed that enterprises should provide workers with acceptable jobs, multiple employment opportunities, good working environment, and guarantee the dignity and equal rights of workers.

c) Perspective of Self-Value

With the arrival of the odd jobs economy as well as the pursuit of a meaning laborer to work, the connotation of decent work also needs to work from the perspective of meaning and value to construct (Di & Blustein, 2016). Occupational psychology holds that decent work should take career-related work experience as the core of self-construction (Pouyaud, 2016). Starting from the psychological feelings of workers, this perspective emphasizes that the challenges and promotion opportunities in work can realize the self-value and dignity of workers (Carr et al., 2013). Stein, Olle, Kellgren, and Diamonti (2016), on the basis of the Psychology of Working Theory, define decent work as stable, dignified and safe compared with dangerous work. Among them, stability, dignity, and security all come from the individual perception of the worker. Blustein et al. (2016) generally defined decent work. Therefore, Duffy et al. (2017) accurately defined decent work as a materially and spiritually safe working...
environment, disposable free working hours, organizational values consistent with family values and social values, appropriate income and medical security. From this perspective, decent work is closely related to the theory of work psychology. The theory of work psychology includes three aspects: survival and rights, social connection and self-determination. Survival and rights refer to individuals who work to earn their living and achieve their goals. Job-related factors in decent work correspond to this dimension one by one, such as job security, job stability, minimum wage, social security, paid leave, etc. Social contact refers to the contact with others and society. For example, individuals can get a sense of support and respect to work. Social contact will provide individuals with resources other than work, thus affecting the employment status in decent work. Self-determination refers to the individual's autonomy, ability and values related to opportunities. In decent work, employers and the government should be committed to improving the quality of employees' education, strengthening skills training and designing career, which is consistent with the ultimate goal of decent work. Compared with the perspective of safety and fairness, the perspective of self-value lays more emphasis on the subjective perception of individuals, especially the perception of the meaning and value of work. Therefore, the promotion of decent work from this perspective should start from the individual perception of workers, and improve the sense of self-value and dignity of workers by exploring the meaning and nature of work (Ferrari, 2009).

To sum up, previous studies have defined the connotation of decent work from the perspectives of security, equity and self-value (see Table 1). Due to the different research perspectives, the emphasis on improving the decent work level has shifted from the perspective of institutional norms to the perspective of enterprise dynamic management. In essence, the reason for the shift in the focus and perspective of decent work research lies in the change in workers' demand for work. From the perspective of safety, a decent work movement emphasizes that the income and safety of workers in the workplace should be guaranteed through the formulation of relevant laws and regulations at the level of system design and system specification, focusing on the material needs of workers. However, with the improvement of laws and regulations in various countries and regions, workers have put forward higher requirements for fairness and rights in the workplace, and pay more attention to the satisfaction of respect needs. Therefore, decent work from the perspective of equity lays more emphasis on the improvement of enterprise management methods and pays more attention to the protection of the rights and dignity of workers by enterprises. In recent years, with the return of humanistic management, enterprises pay more attention to the rights and happiness of workers, and the research perspective of decent work starts to shift to the perspective of self-value. For workers, they begin to pay attention to the meaning and value of work, that is, the sense of decent work at the individual level. Therefore, more emphasis is placed on the ability of active management in stimulating employees' perception of decent work. Thus it can be seen that the connotation of decent work has undergone a transformation from the perspective of security and fairness to the perspective of self-value. Accordingly, the promotion strategy of decent work shifts from the system level to the enterprise management level. This transformation process also proves that the improvement of decent work level in a country is based on the improvement of individual decent work (Qing et al., 2015). With the improvement of laws and regulations and the establishment of enterprise employer brand, future workers pay more attention to the meaning and value of work itself. Therefore, it is particularly important to define the connotation of individual decent work from the perspective of self-value. However, the connotation of decent work from the perspective of self-value still needs further discussion (Di & Blustein, 2016). In fact, from the perspective of self-value, workers regard decent work as their own resources. Based on the theory of social exchange, an organization realizes its goals by utilizing the resources of its employees. Through the full use of individual resources to meet the needs of the staff, so as to obtain work reward. Therefore, from the perspective of resources, the interdependent relationship between employees and organizations is formed through matching and satisfying work resource-work needs. In view of this, this study uses the relevant definition of decent work from the perspective of self-value, and defines decent work as the overall perception of individuals under the influence of external factors such as work resources and work demand from the perspective of resources. The higher the level of decent work in the workplace, the more resources it has, and vice versa.

<table>
<thead>
<tr>
<th>PERSPECTIVE</th>
<th>REPRESENTATIVE</th>
<th>VIEW</th>
<th>THE RESEARCH FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECURITY PERSPECTIVE</td>
<td>Anker (2003); Benach et al. (2007); Di et al. (2015); Athanasou (2010)</td>
<td>Ensure the safety of workers and work safety.</td>
<td>From the national level to formulate relevant laws and regulations to protect the labor safety.</td>
</tr>
</tbody>
</table>

This paper is funded by Shanghai Philosophy and Social Science Program (No. 2019BGL018).
### III. Measurement of Decent Work

The measurement of decent work is the premise and foundation of the analysis of the path of decent work. Scholars have been working on the measurement of decent work. From the current research, the measurement of decent work is mainly divided into three types: the index cluster construction at the institutional level, the multi-level index construction at the macro level and the multi-dimensional index construction at the micro-level.

**a) Index Cluster Construction at the Institutional level**

In 2003, Anker et al. developed 63 indicators in 11 categories of decent work for the first time according to the four aspects of employment, rights, social security, and social dialogue proposed by the international labor organization. These are employment opportunities, adequate income from work and productive work, appropriate working hours, the balance between work and family and personal life, jobs to be abandoned, job stability and security, and opportunities and treatment in employment, safe working conditions, social security, social dialogue and workers' and employers' representatives. This is the foundation work of decent work measurement. The early research on decent work focused on the use of this indicator cluster to evaluate the status of decent work in some countries and regions. In order to facilitate the operation, Cao Zhaowen (2011a) divided the 11 indicators into six categories: adequate employment opportunities, productive work, free work, equal work, safe work, and dignified work. Some scholars also use the macro indicator cluster as a tool to measure the decent work level of Denmark, South Africa, Brazil, India, and other countries (Egger, 2002; Gil, Lawrence, Fluckiger, & Lambert, 2007; Kantor, Rani, & Unni, 2006). By analyzing the data in the relevant statistical yearbook of China from 2000 to 2011, Lu Hong and Jin Xi (2014) found that the level of decent work in China was on the rise year by year. Further, the domestic scholar’s Meng Hao, Wang Zhongzhi, Christina, Hua Jin and Hu Wanying decent work of China (2015) presents the regional differences, the northeast, and east decent work level is higher, low level of the western region, the horizontal center in central China, the cause of this result lies in the unbalanced regional economic development.

**b) Construction of Macro, Medium and Micro Multi-level Indicators**

With the deepening of the research and the expansion of the perspective, researchers realized that the measurement of decent work only looked at the statistical indicators, which were only the results of digitization and had no practical significance (Ghai, 2003). The research on decent work should carry out index design from macroscopic, mesoscopic, and microscopic perspectives more comprehensively (Bonnet, Figueiredo, & Standing, 2003). Furthermore, scholars use macroeconomic indicators as a reference to construct the indicator system of decent work from multiple levels. Adhikari, Hirasawa, Takakubo, and Pandey (2012) studied the decent work level and quality of working life in Nepal. It is worth noting that this study combines the concept of decent work at the macro level with the concept of quality of work and life at the micro level, which has certain enlightenment significance for the construction of multi-level indicators of decent work. Bonnet et al. (2003) proposed that the research on decent work should be carried out more comprehensively from macroscopic, mesoscopic, and...
microscopic index design. Bonnet et al. (2003) constructed an index system of labor market safety index, employment safety index, labor safety index, safety index of reproduction skills, safety index of income, and safety index of discourse right. They collected the index data of decent work from the macro-level economic database, the mid-level enterprise labor flexibility and labor safety survey, and the micro-level citizen safety survey. On this basis, according to the strategic goal of decent work, Shen Xiaomei, and Ling Ling (2010) further decomposed the assessment indicators of decent work from three levels, namely, the government, enterprises and employees, and constructed a comprehensive and multi-level indicator system including core indicators, basic indicators, and specific indicators. Ding Yuelan and Zhou Li (2013) constructed the indicator system of decent work from the perspectives of employment, rights, social protection, and social dialogue at the government, enterprises and individuals.

The research on the construction of multi-level decent work index system makes up for the defect of the construction of macro-level index cluster and makes a more comprehensive measurement of decent work, which is convenient for the comparative study between countries and regions. However, there are some shortcomings in this kind of research: (1) due to the lack of weight design, the importance of different levels cannot be accurately measured, which makes the path of decent work more obscure; (2) these indicators are not scales, and there is no reliability and validity test, so the universality and credibility of indicators are easily challenged.

c) Multi-Dimensional Construction

With the deepening of the research, researchers gradually realized that previous researches on decent work paid too much attention to the indicators at the institutional level and neglected the individual level (Deranty & MacMillan, 2012). In fact, whether decent work is realized or not should be a psychological construct of individual perception (Qing Tao et al., 2015). Therefore, in recent years, researchers’ focus on the measurement of decent work has shifted to the multi-dimensional structure construction of decent work from the perspective of individual perception. Only when we make clear the structure of decent work, can we put forward the strategy of promoting decent work.

Webster, Budlender and Orkin (2015) first developed questionnaires at the individual level of decent work, which included 9 aspects, employment opportunity, job stability and security, income level, working hours, work-family and life balance, opportunity equity, work environment, social security and social dialogue. The items in the questionnaire are discontinuous, and the subjects only need to answer yes or no. The questionnaire is considered a pathfinder for exploring the dimensions of decent work structure. However, this study lacks the theoretical foundation in the construction of decent work structure dimension, which makes the structure dimension slightly less scientific and reasonable. At present, there are three main types of decent work scale at the individual level: (1) Ferraro, Pais, Dos and Moreira (2018). Based on the definition of decent work by the international labor organization, the scale developed 31 item scales in 7 dimensions. The seven dimensions are the basic principles and values of work, appropriate working hours, productive work, the fulfillment of citizenship, social protection, opportunity, health and safety. (2) Duffy et al. (2017) developed the decent work scale (DWS) for adults. The scale on the basis of the working theory of mind open sent a decent labor model of five dimensions: physical and spiritual security work environment, disposable free work time, is consistent with the concept of family values and social values of the organization value, the appropriate income and health care. The questionnaire was tested for consistency in sexual minority groups (Douglass, Velez, Conlin, Duffy, & England, 2017) and cerebellar droopy groups (Tokar & Kaut, 2018). (3) Qing Tao et al. (2016) developed a decent work perception scale based on grounded theory, taking front-line employees of enterprises as samples, which includes three dimensions: full confidence, coexistence, tolerance, respect and recognition. The scale was also adopted in the research of Wang Chunguo and Chen Gang (2018).

Besides, Xu Yan and Liu Dun (2017), based on the theory of grounded theory to enterprise managers and front-line employees as the research object, and developed a decent seven dimensions structure of labor, wage income sense of decency, job security sense of decency, working atmosphere sense of decency, the intensity of labor sense of decency, democratic participation sense of decency, career sense of dignity and status in society sense of decency. Based on the grounded theory, Mao Guanfeng, Liu Wei and Song hong (2014) developed a five-dimensional model of decent work, including work return, job position, career development, career identity and working atmosphere. Based on the maslow hierarchy of needs theory, Cong Shengmei and Zhang Zhenghe (2016) took grain farmers as the research object and studied the dimensions of decent work as survival, working conditions, social attribute, being respected and personal value. Huang Weide and Yue Linyang (2014) developed a decent work structure for knowledge workers through qualitative and quantitative analysis, including labor security, income security, job security, skill security and representation security in five dimensions.

It can be seen that the research on the structural dimension is based on the theories of psychology and management and builds the structural
dimension of decent work from the perspective of individual perception. Qualitative research and questionnaire survey are the main methods to construct the structural dimension. From the perspective of the number of research results, the research results of decent work structure dimension are quite abundant in recent years, which may be attributed to the following reasons: (2) different countries have different social security and social protection systems, and it is difficult to standardize indicators at the macro level, while indicators at the individual level can avoid this obstacle; (3) there are differences in data sources and measurement tools in different countries, and it is difficult to standardize the macro index and middle index, while the micro index in the form of self-report can be unified in different countries and regions (Webster et al., 2015). Thus it can be seen that the structural dimension construction of decent work at the individual level is the focus of research at present.

However, there are still some shortcomings in this research: (1) in terms of connotation definition, there is still a dispute over the connotation definition of decent individual labor in the academic community, so there is no scale that has been unanimously recognized by the academic community; (2) on the content of the structural dimension, based on the different measurement subject structure dimension differences in the content aspect, the reason may be due to the laborers engaged in different types of work caused by the difference of labor demand, also may be due to the universality of the scale is not high. Therefore, the follow-up study needs to test the consistency of the scale in different situations. (3) in terms of theoretical basis, the current development of the scale is mainly based on grounded theory and work psychology theory. Based on different theories, there are also some differences in the structural dimension of decent work. This study holds that the scale development of decent work can use the theory of resource conservation for reference to classify the dimensions of decent work. Resource conservation theory was first proposed by Hobfoll in 1989. He believed that resources can be divided into direct resources, indirect resources, and symbolic resources. Direct resources refer to the basic material resources needed for survival, which play a direct role in the survival and health of individuals. In decent work, indicators, or dimensions related to income, safety and security can be classified as direct resources of the perception of decent work. In the theory of resource conservation, indirect resources refer to those that play an indirect role in work and life and can help individuals obtain direct resources, such as social support, marriage, and optimism. In decent work, indicators, or dimensions related to skills and work machines can be classified as indirect resources of the perception of decent work. Finally, symbolic resources refer to the symbolic resources provided by the social environment and cultural environment in which the individual lives, which have symbolic significance for obtaining direct and indirect resources. In decent work, indicators, and dimensions related to dignity, social dialogue, values, democratic participation, and so on can be classified as symbolic resources of decent work perception.

Table 2: Measures of decent work

<table>
<thead>
<tr>
<th>MEASURING TOOL</th>
<th>REPRESENTATIVE</th>
<th>DIMENSION/INDEX</th>
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<tbody>
<tr>
<td>CONSTRUCTION OF INDEX CLUSTER AT THE INSTITUTIONAL LEVEL</td>
<td>Anker et al. (2003)</td>
<td>Employment opportunity, the appropriate income and productive work, decent balance work time, work, family and personal life and should be abolished, stability, and labor safety, equal employment opportunity and fair treatment, safe working environment, social security, social dialogue, decent work economic environment and social environment.</td>
</tr>
<tr>
<td></td>
<td>Bescond etc. (2003)</td>
<td>Modest incomes, overtime work, unemployment, number of children out of school, youth unemployment, gender disparities in labor force participation, and the number of older people lacking social security</td>
</tr>
<tr>
<td></td>
<td>Cao Zhaowen (2011a)</td>
<td>Adequate employment, productive work, free work, equal work, safe work and dignified work.</td>
</tr>
<tr>
<td>MACRO, MEDIUM AND MICRO MULTI-LEVEL INDICATOR CONSTRUCTION</td>
<td>Bonnet, etc. (2003)</td>
<td>Macro level: the Labour market security, employment security index, labor safety index, reproduction skills safety index, income security, say security index.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Middle-level: Labour market security, employment security index, labor safety index, reproduction skills safety index, income security, say security index.</td>
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<td></td>
<td></td>
<td>Micro level: Labour market security, employment security index, labor safety index, reproduction skills safety index, income security, say security index.</td>
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<tr>
<td></td>
<td></td>
<td>It constructs the core index, basic index and specific index from the three levels of government, enterprise and employee</td>
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</table>

This paper is funded by Shanghai Philosophy and Social Science Program (No. 2019BGL018).
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awareness and training should be improved so as to improve the decent working standards of domestic workers.

b) Research on formal employment groups

Winch enbach, Hanna and Miller (2019) found in their research on employees in tourism industry that employees in this industry have a low level of perception of decent work, which is mainly reflected in the lack of job recognition and respect, lack of job autonomy, and gender discrimination. Therefore, it is necessary to improve the sense of identity and dignity at the individual level, the organizational level, and the socioeconomic legal level in order to improve the decent work level of employees in this industry. Mehta (2016) took female employees in the ICT industry in India as the research object, and studied the decent work level of this group from four aspects: employment opportunities, social security, working conditions and, social dialogue. The results showed that the job security of this group was low. For example, the contract workers in 1-3 years may be fired at any time due to poor performance and economic recession. Poor working conditions, such as short annual leave, long working hours, night shifts in some departments, high work pressure, and goal-oriented work, are likely to cause mental illness and health problems. The employment security is low, such as the phenomenon of the open contract is common; Low levels of social dialogue, such as fewer workers joining unions and employers not supporting unions. Overall, decent standards of work for female knowledge workers in the sector remain low. It can be seen that operational employees pay more attention to income security, occupational skill development, occupational identity, and social recognition, while service-oriented employees pay more attention to occupational identity, customer relationship, and income security (Xu Yan, Liu Dun, 2017).

According to the survey data, about 70% of knowledge workers are in the state of "overwork", and nearly 40% have entered the danger zone and are in the medium or heavy labor (Wang Dan, 2011). In recent years, the decent working conditions of knowledge workers have attracted the attention of scholars. Teachers in colleges and universities as an object of study, according to the results of university teachers of decent work level as a whole is higher than social average (Zhao Yang li, 2011 b), but there are also some problems, such as the lack of labor remuneration, labor rights, and interests is damaged, loss of democratic rights, working pressure, fair and competitive with low income, lack of training (Zhao Yang Li, 2011 b; Huang Weide, Cody, 2015). Cody (2012) measured and analyzed the decent working conditions of knowledge workers in Shanghai, and found that the decent working level of knowledge workers in Shanghai was relatively low, mainly reflected in the low level of labor security, income security and reproduction skills. If these demands are hard to meet, it will inevitably affect the decent work level of knowledge workers.

To sum up, from the perspective of practical significance, it is of great significance to explore the current situation of decent work of a group to understand the decent work level of the group and to improve the decent work situation of the group. From a theoretical point of view, the research on the status quo of decent work based on a certain group promotes relevant research on decent work. Previous research results show that researchers have found, through self-report and secondary data, that both formal and informal employment groups have a lower level of decent work, mainly manifested in overtime work, reproduction skills security, lack of job recognition, and so on. These workers have a low sense of individual decent work. To carry out any work, the organization needs to allocate corresponding resources, and at the same time, the organization will put forward specific work needs for employees. Therefore, from the perspective of resource conservation theory, overtime labor has a low perception of direct resources in decent work, which is reflected in the lack of protection of labor rights and interests, and the mismatch between labor time and income. The guarantee of reproduction skills is the perception of the indirect resources of decent work, which is reflected in the lack of employability. Especially in the turbulent employment environment, the lack of reproduction skills will lead to the decline of employability, thus affecting the acquisition and accumulation of resources. Job recognition is a symbolic resource in decent work. When there is no job recognition, the value of employees' existing resources is difficult to be reflected, so that employees can obtain more direct and indirect resources. On the whole, the low degree of decent work perception means that individuals think that their own resources are difficult to meet the needs of work, resulting in a sense of resource scarcity, which affects work attitude and work behavior.

V. Research on Relevant Factors of Decent Work

The factors related to decent work are the core of the path analysis of decent work and the key to understanding the causes of problems in decent work. In view of this, this paper summarizes the existing researches on factors related to decent work from three aspects: antecedent variables, outcome variables and mechanism of action (see figure 1). It is found that the antecedent variables affecting decent work are mainly divided into social factors, organizational factors, and individual factors. The outcome variables mainly include engagement and creativity. In terms of mechanism of action, the current research involves the research of mediating effect and regulating effect.
a) Antecedent Variables
   
i. Social Factors
   The influence of social factors on decent work is mainly reflected in cultural factors and economic factors. The individual tendencies of workers in different cultural backgrounds are different, so the influence of cultural factors should be considered in the research on decent work (Khan & Sandhu, 2016). Compared with Bangladeshis, Chinese workers are more individualistic and long-term goal-oriented and the decent work index developed for Bangladeshi workers cannot be applied to Chinese workers. In terms of the influence of economic factors, research shows that GDP has a significant effect on the improvement of decent work, but this effect is significant on the absolute index of production, but not on the improvement of relative index (Cao Zhao Wen, 2011b). The rapid development of data in the Internet era has not only created new jobs but also brought a negative impact on the labor market. For example, the employment relationship is ambiguous, and the labor market is polarized, which makes it difficult to guarantee the rights and interests of workers and collective rights (Zhou Chang, Li Qi, 2017). Economic policy and social policy should be used in the process of improving decent work by economic means, rather than relying on economic development alone.

ii. Organizational Factors
   The influence of organizational factors on decent work is mainly reflected in organizational culture and corporate characteristics. Cody (2012) based on Wallach's (1983) division of organizational culture, studied its impact on decent work. The results show that bureaucratic, innovative, and supportive corporate cultures promote decent work, and this effect is achieved through the intermediary role of leading member exchange. In terms of the influence of enterprise characteristics of decent work, the degree of factor input varies with different types of enterprises. In the process of enterprise transformation from labor-intensive to technology-intensive, it means more capital investment, more human capital accumulation, and improvement of management. Therefore, the capital investment of technology-intensive enterprises is the highest, so employees can feel the highest level of decent work, followed by capital-intensive enterprises and the lowest labor-intensive enterprises (Luo Yan, Li Gang, 2015). Research on Chinese enterprises shows that the ownership nature of enterprises and the type of industry they are in have no significant impact on decent work (Luo Yan, 2013), which is in line with the goal of decent work, that is, to promote the realization of decent work for all workers in all enterprises and industries. But studies of Japanese companies show that the more foreign-owned the company, the higher the level of decent work. Because the management hopes to improve the organizational performance by improving the working conditions and working environment of employees (Kubo, 2018).

iii. Individual Factors
   The research on the influence of individual factors on decent work focuses on the demographic variables and individual characteristics. Taking the cluster of macroeconomic indicators as the measurement method of decent work, the study on ordinary front-line employees shows that demographic
factors such as age, gender and household registration have no significant influence on decent work (Luo Yan, Li, 2015). (2017) of the five dimensions such as Duffy structure model for measuring tool, the study found the individual economic limitations of decent work has significant predict effect, namely the individual economic restrictions, the more respectable labor level is lower, and the relationship between economic factors and decent work levels is affected by the partial intermediary role will work (Toka & Kaut, 2018). Grandey, Rupp and Brice (2015) found that emotional labor would increase the labor cost and thus affect the realization of decent work, especially among front-line service personnel. Therefore, organizations should abandon the emotional requirements of front-line service personnel and pay more attention to the construction of staff health and happiness atmosphere, fundamentally eliminate emotional labor.

b) Results

There are few research results on the outcome variables of decent work, and most of them are domestic research. Existing research results show that decent work has an impact on employee engagement (Qing Tao et al., 2016) and creativity (Wang Chunguo, Chen gang, 2018). Qing Tao et al. (2016) studied 1,076 front-line employees and found that the coexistence, tolerance, respect and recognition of decent work had a significant positive impact on engagement. Wang Chunguo and Chen gang (2018), taking 367 employees as samples, found that decent work had a significant positive impact on employee creativity. After controlling for the influence of demographic factors, decent work could still explain 40.8% variation in creativity.

c) Moderators and Mediators

The research on the mechanism of decent work revolves around psychological capital and motivation (Ferraro, Pais, Moreira, & Dos, 2017; In meters, 2017; Qing Tao et al., 2016). Divided (2017), such as the study of knowledge workers, found that decent work's influence on the work motivation is accomplished by the mediating role of psychological capital, especially the decent work to external motivation of work motivation, external motivation) is accomplished by the partial mediating role of psychological capital, decent work to improve the employees' psychological capital, as a result, employees can be gained from punishment and extrinsic rewards. However, other studies have found that psychological capital plays a moderating role in the mechanism of decent work rather than an intermediary role (Yu Mi, 2017). In the long run, the promotion of human capital by improving the level of education and skill training of workers will help to improve the level of decent work (Reich, 2010). However, the influence of human capital on the promotion of decent work is affected by the regulating effect of psychological capital (Yu Mi, 2017), because when human capital is relatively abundant, there is also more psychological capital, which will improve the perception level of individuals on decent work. In the research on the mechanism of motivation, Qing Tao et al. (2016) found in their research on front-line employees that intrinsic motivation plays a part in mediating between decent work and engagement. The mediating effect accounted for 0.38 percent of the total effect, that is, the mediating effect accounted for 38 percent of the total effect. It can be seen that the research on the black box mechanism of decent work is still in the initial stage, the research results are relatively scattered, and the research conclusions are still controversial. Future research can be further in-depth in this aspect.

VI. Results and Discussion

a) Integration Model Under Resource Conservation Theory

Through literature review, we find that the research on decent work has experienced the definition of concepts from different perspectives, the construction of multidimensional dimensions, the research on the status quo of decent work aimed at groups, and the research on the relevant factors of decent work. In the past 20 years, the research on decent work has been continuously enriched and developed. With the deepening of the research, the research level of decent work has shifted from the level of system specification and system design to the level of enterprise dynamic management from the perspective of management, thus putting forward higher requirements for the diversification of research perspectives. This study USES the relevant definition of decent work from the perspective of self-value and defines decent work as the overall perception of individuals under the influence of external factors such as work resources and work demand from the perspective of resources. For the division of resources based on resource conservation theory, this study put forward a decent work and income, safety and security in the related dimension is defined as direct resources, skills and job related dimensions are classified as indirect resources, social dialogue, values, democratic participation, and related dimensions are classified as symbolic resources. In view of this, the level of decent work reflects the abundance of resources. In the theory of resource conservation, there are two spiral effects: gain spiral and loss spiral. When an individual has abundant resources, he can obtain more resources through existing resources, thus producing the aggregation effect of resources and entering the value-added spiral. When an individual lacks resources or is in danger of resource loss, it is easy to generate pressure, which will increase the risk of resource loss or even lead to resource loss, thus entering a loss spiral.

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From the perspective of resources, the knowledge, skills, social networks, and abilities of employees in the work environment are considered as individual resources. Meanwhile, the organizational support, and rewards provided by the organization to employees are also considered as individual resources. Therefore, decent work in this perspective is the individual's overall perception of work resources and work demand under the influence of external factors. On the one hand, when an individual has a high level of perception of decent work, he thinks that his knowledge, skills, ability and social network can meet the basic requirements of the job. At the same time, the working conditions, organizational support and working environment provided by the organization can ensure the smooth completion of the job. The satisfaction of work demand can bring internal and external rewards to employees, increase individual resources, and bring more resources to them, such as ability improvement, organizational recognition, and so on, so as to enter the value-added spiral of resources. Based on the perspective of positive psychology, employees with more resources are more likely to show a positive work attitude (Halbesleben & Wheeler, 2008). They are able to make an objective judgment on the demands and difficulties of work and make an accurate prediction of possible resource losses in the process of work, thus showing higher work involvement (Gorgievski & Hobfoll, 2008; Yuan Ling, Li Jian, Jia Lingling, 2014). On the other hand, when individuals have a low perception of decent work, they believe that they are relatively deficient in knowledge, skills and abilities and cannot meet the job requirements. In addition, the support and resources on which the organization is based are insufficient to help them complete their work tasks and meet their work needs. When individuals invest a lot of time and energy, they are unable to get the corresponding resources, which leads to psychological stress (Hobfoll, 2002) and negative emotions, such as job burnout. In a stressful environment, individuals' negative emotions will affect their work behaviors, such as declining productivity and alienation from others, which will further aggravate the loss of resources (Buchwald & Hobfoll, 2004), thus leading to the spiral of resource loss. Based on this, this study proposes a research framework for decent work from the perspective of resource conservation theory (as shown in figure 2).

**Figure 2: Research Framework of Decent Work from Resource Conservation Theory**

Since its introduction in 1999, decent work has attracted the attention of scholars at home and abroad and has accumulated abundant research achievements. However, with the deepening of the research, in recent years in the field of management science and psychology interdisciplinary there have been some research results, such as Duffy (2017) based on the working theory of mind and the development of decent employment scale, a divided (2018), such as development of decent employment scale, as well as domestic scholars Qing Tao (2016), such as Mao Guanfeng (2014), Xu Yan and Liu (2017) developed a decent work scale. It can be seen that the research perspective of decent work has gradually shifted from the level of institutional norms to the aspect of enterprise active management, and the improvement of employees' perception of decent work from the perspective of management has become a hot topic in this field. In fact, the improvement of individual decent work depends on the improvement of enterprise or organizational management ability. Therefore, from the
perspective of management, it is an effective way to study the path of improvement of decent work in the future and the proper meaning of achieving decent work to emphasize the improvement of workers' perception of decent work by improving the dynamic management ability of enterprises and organizations. Give this, future research can be conducted from the following aspects:

First, the connotation of decent work from the perspective of individual needs to be further defined. The research on decent work from the perspective of management needs to be based on the clear definition of decent work at the individual level. From the perspective of research, the existing research defines the connotation of decent work from the perspective of safety, equity, and self-realization. Correspondingly, from the perspective of research, the security perspective is based on the definition of the national system, the equity perspective is based on the construction of decent work at the enterprise level, and the self-value perspective is based on individual perception to define the connotation of decent work. Decent work from the perspective of safety and respect derives from the definition of the international labor organization, which has been unanimously recognized by scholars. But the definition of decent work at the individual level is controversial. Carr et al. (2013) believe that decent work at the individual level should be defined in terms of the meaning and value of work, while Blustein et al. (2016), Fabio and Maree (2016) believe that dignity should be paid attention to. In fact, the two views do not conflict. Pouyaud (2016) believes that the definition of decent work should be expanded from the definition of the international labor organization to include individual perception, with special emphasis on the working conditions created by individuals in maintaining fair work opportunities and improving their employability. From the perspective of resources, this study defines decent work as the overall perception of individuals under the influence of external factors such as work resources and work demand. This concept is defined from the perspective of resources, based on individual resources and organizational resources, and from the perspective of matching between work resources and work demands. With the expansion of the research perspective, this concept needs to be further improved in future research.

Second, the universality and theoretical basis of decent work measurement need further attention. In the measurement method of decent work in the early stage, the definition of decent work is mainly adopted by the international labor organization, and some macroeconomic indicators are selected to measure the level of decent work in countries and regions. These indicators are from the national macro-level indicators, due to the differences in the way of calculation, the universality of these indicators is questionable. In recent years, researchers based on grounded theory (Qing Tao et al., 2016; Xu Yan, Liu Dun, 2017; Mao Guanfeng et al., 2014) and work psychology theory (Duffy et al., 2017) developed the decent work perception scale. However, due to the differences in research objects and theoretical basis, there are some differences in the structural dimensions of these scales. In order to improve the universality of decent work perception scale, this study considers that on the basis of the classification of resources in the theory of resource conservation, the perception of decent work of laborers is regarded as the resources possessed by laborers, and the structural dimension of individual decent work perception is divided. However, this research still needs to make further theoretical deduction on the dimension of decent work by using the theory of resource conservation, and then carry out empirical research through the normative process of scale development, and finally develop and verify the scale at the micro-level of decent work.

Thirdly, the antecedent variables of decent work should be expanded. The antecedent variables of decent work are studied from social factors, enterprise factors, and individual factors. At present, there are some empirical studies on the antecedent variables of decent work, but the research perspectives are relatively scattered, and the research conclusions are not unified. From the perspective of human resource management and labor relationship management, future research can be further expanded in terms of organizational factors and individual factors. In terms of organizational factors, the impact of organizational culture and human resource management practices on decent work has been validated. However, leadership style plays an important regulating role in HRM practice and employee perception (Zhu Fei, Hu Ruibo, 2018). Therefore, future research can incorporate leadership style into the relationship between organizational factors and the perception of decent work. On the one hand, we can explore the positive influence of leadership styles based on positive psychology, such as humorous leadership, leader member exchange, and transformational leadership on the perception of decent work. On the other hand, we can also explore the negative influence of leadership styles based on negative psychology, such as abusive leadership and authoritarian leadership, on the perception of physical labor. In terms of individual factors, the influence of demographic factors and emotional labor on the perception of decent work has been verified. However, these studies lack theoretical basis and lack of verification of the consistency of research conclusions in different situations. In the future research, the impact of individual resources on the perception of decent work can be investigated from the perspective of resource conservation theory. And vice versa. Furthermore, the leadership style in organizational
factors and individual resources in individual factors can be integrated into the model of decent work perception for cross-layer research.

Fourth, explore the mechanism of decent work. The existing research on the mechanism of decent work has explored the "black box" of decent work from the perspective of mediation and adjustment. Research in this field has appeared in the past three years, and some research results have been obtained. With the development and improvement of the decent work perception scale, the research on the mechanism of decent work will become a hot topic in this field. In the relationship between social factors and decent work, the study found that work's intention plays an intermediary role (Douglass et al., 2017). In the relationship between decent work and attitude, studies have found that psychological capital and intrinsic motivation play an intermediary role (Qing Tao et al., 2016; Ferraro et al., 2017). These conclusions have promoted the research on the mechanism of decent work at the micro level, but there is still a lack of theoretical support, which makes the universality of the theoretical model easier to be challenged. In future research, from the perspective of resource conservation theory and from the perspective of positive psychology, we can explore whether the perception of decent work is higher when individual resources are relatively abundant. Does the perception of high decent work lead to positive work attitude (job commitment, job satisfaction, organizational commitment) and behavior (engagement, organizational citizenship behavior, innovation behavior)? Can positive work behavior achieve the accumulation of resources and value increment, so as to promote individuals to enter the epp spiral? From the perspective of negative psychology, this paper explores whether the perception of decent work is low when individual resources are relatively scarce. Does the perception of low decent work cause individuals to show negative work attitude (job burnout, emotional labor) and behavior (absence from work, resignation)? Is it easy for negative work behavior to lead to the loss of individual resources, so as to promote individuals into the loss of resources spiral? Furthermore, from the perspective of positive psychology, will positive leadership styles, such as transformational leadership and humorous leadership, have a moderating effect on the above mechanism of action? From a negative psychological perspective, will the negative leadership styles, such as abusive leadership and authoritarian leadership, have a moderating effect on the above mechanism? Therefore, future research can build models and verify them on the basis of relevant theories.

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Case Studies of Value Creation on Integrated Reporting in Japan

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Introduction - How to visualize the value creation process is a major issue in integrated reporting. If a strategy map of Balanced Scorecard (BSC) is used, value creation and suppression of value loss can be visualized separately according to the strategic theme. The value creation process can be visualized by distinguishing between strategic themes in business strategy and strategic themes solving social issues. However, there is an issue in that companies that have not adopted the BSC cannot use strategy maps. For this reason, how to visualize the value creation process is a highly interesting topic to investigate.

The International Integrated Reporting Council's IIRC framework (2013b) mainly focuses on information disclosure to financial capital providers, and visualization of the value creation process focuses on value creation through business strategy. At the same time, an IIRC discussion paper (IIRC, 2011) contained a proposal that also focused on suppression of value loss to stakeholders by solving social issues.

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Case Studies of Value Creation on Integrated Reporting in Japan

Dr. Kazunori Ito

I. INTRODUCTION

How to visualize the value creation process is a major issue in integrated reporting. If a strategy map of Balanced Scorecard (BSC) is used, value creation and suppression of value loss can be visualized separately according to the strategic theme. The value creation process can be visualized by distinguishing between strategic themes in business strategy and strategic themes solving social issues. However, there is an issue in that companies that have not adopted the BSC cannot use strategy maps. For this reason, how to visualize the value creation process is a highly interesting topic to investigate.

The International Integrated Reporting Council's IIRC framework (2013b) mainly focuses on information disclosure to financial capital providers, and visualization of the value creation process focuses on value creation through business strategy. At the same time, an IIRC discussion paper (IIRC, 2011) contained a proposal that also focused on suppression of value loss to stakeholders by solving social issues. However, the octopus model advocated by the IIRC cannot be said to be a value creation process that can accommodate value creation and suppression of value loss. In other words, it is a major task to visualize information not only about business strategy and solving social issues but also visualizing not only value creation but also suppression of value loss.

Many companies in Japan have taken on the challenge of visualizing a value creation process that addresses both value creation and suppression of value loss in integrated reporting since 2013.1 Since the organizational overview and external environment are conceptual, it is relatively difficult to connect and visualize financial and non-financial information. For this reason many companies describe these using the CEO's message. However, companies

II. CONTENT ELEMENTS CONCERNING THE ENVIRONMENT INTERNAL AND EXTERNAL TO THE COMPANY

An integrated report does more than reveal financial and non-financial information and their relationship. It requires disclosure of information about environmental factors internal and external to the company. These are described in the content elements of the IIRC framework as company profile, external environment and governance (IIRC, 2013b, pp.24-25). We will clarify these in that order.

- Organizational overview and external environment

The IIRC framework points out that “an integrated report should answer the question: What does the organization do and what are the circumstances under which it operates? (2013b, p.24),” and demands the disclosure of the content of the company's business and the external environment surrounding the company. In regard to the company profile, it is necessary to clarify the company's mission and vision and the contents of its business under its basic business environment.

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1 Japan was selected due to the large number of Japanese companies producing integrated reports. In a response in an interview with DHBS editor-in-chief Ryo ootsubo, WICI Japan chairman Kon points out that the number of companies worldwide preparing integrated reports in 2018 was about 1,600 and that more than 400 of these were Japanese companies. This article was published in “DHBS Original Articles” on July 29, 2019. https://www.dhbr.net/articles/-/6032?page=3 (2019/12/19)
that recognize social issues as an external environment may set explicit attainment goals and link these to non-financial information. In such cases, as when using a business strategy to solve a social issue, business strategy and social issues are closely linked, and the value creation process visualized.

- Governance: The IIRC framework states "an integrated report should answer the question: How does the organization's governance structure support its ability to create value in the short, medium and long term (2013b, p.25)," and requires the disclosure of governance information. In the visualization of corporate governance in integrated reports, most companies must disclose their governance systems, company directors and auditors, corporate officer remuneration, type of board, their respective coordination, internal audits and interactions with shareholders. These contents are also visualized in financial reports. This kind of current information disclosure is only a formal disclosure, for which only formal requirements such as the system of governance and the career histories of external board members, etc., are required.

On the other hand, the IIRC framework (2013b, p.25) requires the disclosure of career history, abilities and experiences as governance officer skills. Moreover, they also require description of their specific actions that affect strategy and risk management as well as how remuneration is linked to value creation. As the IIRC framework suggests, meaningful, substantive disclosure that visualizes governance in relation to value creation will be required. Substantive disclosure here describes, for example, how the comments of a specific outside director have influenced the management's strategy development and decision-making, and how they have contributed to value creation or suppression of value loss.

In preparing an integrated report, unlike a financial report, the release of accountability that assumes governance by investors only should not be sufficient. Companies must respond to stakeholder governance, and must be accountable in conjunction with the value creation process. To do so, it is an issue to consider only formal disclosure. It is necessary to respond to stakeholder governance through substantive disclosure that enables stakeholders to understand value creation and suppression of value loss. However, it may be difficult to demonstrate governance at the same level as visualization of the value creation process. Therefore, as many companies today disclose, a governance element is created and clarified through substantial disclosure.

The company profile and external environment above, as well as governance are contents that have conventionally been disclosed in financial reports. This is not additional information disclosed through integrated reports. On that point, disclosure of this information in integrated reports is not particularly considered a problem. However, the internal and external business environments, which have so far been formally disclosed, must be substantively disclosed to stakeholders in relation to value creation.

III. CONTENT ELEMENTS CONCERNING BUSINESS MODEL

Among the content elements within the IIRC framework, elements relating to business model include business model, risk and opportunity, strategy and resource allocation, performance and outlook (IIRC, 2013b, pp.25-32). We will consider these in turn.

- Business Model: "Business model" is defined in the IIRC framework as "an organization’s system of transforming inputs through its business activities into outputs and outcomes that aims to fulfill the organization’s strategic purposes and create value over the short, medium and long term (IIRC, 2003b, p.33)". Here, input is the capital used in business activities, output is quantity of output and quality level of products, services, secondary products and waste. Moreover, outcome refers to the degree of capital created or impacted as a result of output from business activities. The increase or decrease in six types of capital can be restated as outcomes. In this way the core of the value creation process to be visualized are content elements relating to the business model.

According the IIRC’s Business Model Background Paper, the results of literature studies into business models show that some definitions are synonymous with strategy while other definitions are distinct from strategy. Here, business model differs from strategy, and we clarify concepts considering business models to be methods by which strategy is executed. For example, let us consider a convenience store or automobile manufacturer. In these industries, all companies have adopted very similar business models. What creates differences in profitability is strategy. When business models are considered in this way, business models and strategy can be considered as distinct concepts. The octopus model in the IIRC framework also sets business model as an item separate to strategy. We can understand business models to be a means of executing strategy.

- Risks and Opportunities: The IIRC Framework states that "an integrated report should answer the
question: What are the specific risks and opportunities that affect the organization’s ability to create value over the short, medium and long term, and how is the organization dealing with them (IIRC, 2003b, p.27). Of the factors that influence value creation capability through risks and opportunities, it is necessary to disclose information concerning those that are materiality.

It is necessary to disclose the process for determining materiality and the main decision items (the narrowing-down process, key individuals who influenced the prioritization). In regard to the process of determining materiality, an IIRC draft (2013a, p.31) creates a matrix taking into consideration the materiality of impact on value creation capability and event (in BSC terms, strategic initiatives), and requires materiality to be judged. Moreover, the IIRC Framework (IIRC, 2013b, p.29) also points out that the process for determining materiality should be specified. If the decision-making process can be clarified in this way, it will be possible to disclose that the company is rationally selecting events with consideration for risk likelihood.

- **Strategy and resource allocation** The IIRC Framework states "an integrated report should answer the question: Where does the organization want to go and how does it intend to get there? (IIRC, 2003b, p.27)." This requires disclosure of the formulation of a strategy to realize company's strategic objectives, strategy execution and resource allocation plans to solve social issues. It is moreover necessary to indicate short, medium and long term outcome targets, and measure progress through material results. As set out by Ito (2014, pp.218-250), integrated thinking must be taken into account when disclosing strategy and resource allocation. In other words, not only is the relationship between strategic theme and organization, which functions to create synergy or suppression of value loss materiality, but also portfolio management using a strategy map as corporate strategy. Moreover, SWOT analysis may also reveal the relationship between the external environment and risks and opportunities. The matrix shown in Sustainability Reporting Standards (GSSB, 2016) is considered to function for resource allocation for solving social issues.

In addition to the pursuit of business excellence, it is important to disclose strategy themes in the value creation process, such as strategies seeking to emphasize customer relationships and pursuing differentiated strategies that offer competitive advantage. Specifically, through the value creation process, it is necessary to clarify, for each strategy theme, the role of innovation, how companies are building and exploring intangibles and to what extent environmental or social issues are being incorporated into the company's competitive advantage strategy. At the same time, resources must also be allocated to solve social issues. Achieving these at the same time and visualizing the value creation process is the focus of strategy and resource allocation. Companies are unable to create value solely by seeking solutions to social issues, but ignoring social issues does not create appropriate value.

- **Performance** The IIRC Framework states "an integrated report should answer the question: to what extent has the organization achieved its strategic objectives for period and what are its outcome in terms of effects on the capital? (IIRC, 2003b, p.28)." Integrated reports can disclose qualitative and quantitative information about the extent to which the company has achieved its strategic objectives over a period of time and information about achievements and outcomes.

Specifically, targets must be disclosed in quantity information. In addition, factors such as risks and opportunities and the impact on the capital value chain must be disclosed as quantitative information as much as possible. Relationships with key stakeholders and their responses are to be disclosed as qualitative information. In addition, past, present and future prospects, as well as their relationship, should be disclosed as quantitatively as possible.

In disclosing information, in accordance with the guiding principles of consistency and comparability, once adopted indicators must be disclosed continuously. Where this is for investors, it is desirable to disclose information that enables quantitative comparison between companies. Where this is for stakeholders, not only will it be necessary to disclose quantitative comparison between periods but also how differences in strategy due to qualitative information affects performance.

It is necessary to disclose financial indicators together with other elements. For example, it is important to explain effects on financial indicators that exert important effects on the causal relationship between capital and performance, such as that shown by KPIs (key performance indicators), such as the ratio of greenhouse gas emissions, to sales and expected sales growth due to increased human capital, using a narrative. Put simply, it is not only necessary to disclose past and present company performance itself, but also to explain using a narrative the relationship with increases or decreases in capital that will affect future prospects.

- **Outlook** The IIRC Framework states "an integrated report should answer the question: What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance? (IIRC, 2003b, p.28)." Integrated reporting focus on expected long-term changes,
and must provide valid and credible analysis of the external environment the company faces in the short, medium and long-term, effects on the company and provisions against uncertainties. However, outlooks contain uncertainty, and it is important to create risk analysis and contingency plans to address these uncertainties. In regard to risks, it is also important to be able to visualize what kind of risks accumulate throughout the supply chain as a whole, e.g., carbon footprint.

As above, two elements were examined as environmental factors internal and external to the company, and five elements were examined as content elements relating to business models. It is thought that many companies already disclose not only environmental factors but also risks and opportunities, results and future outlook in financial reports. However, there is space to consider whether substantive disclosure extends to fully address the relationship with value creation. With regard to the disclosure of content elements, we examined whether the contents of disclosure were sufficient, and what information ought to be added. These points are arranged thus:

The first issue of disclosure content elements was clarified in the commentary on governance, performance and future outlook. That is, governance involves disclosing the skills of governance officers and their involvement in decision-making, for performance, the disclosure of not only results but a narrative, and for future outlook, disclosure of preparations against uncertainties. Moreover, substantive disclosure relating to value creation is desirable.

The second additional disclosure is disclosure of business models, strategy and resource allocation. It will be necessary to visualize strategy and resource allocation using BSC and to supplement SWOT analysis. In regard to risk, it is also important to disclose information with a scope covering the entire supply chain. We proposed using the event matrix shown in an IIRC draft (IIRC, 2013a) for the materiality of the business strategy, and the matrix presented in the Sustainability Reporting Standards (GSSB, 2016) for resource allocation to social issues.

IV. THREE TYPES OF VISUALIZATION FOR THE VALUE CREATION PROCESS

As with Kawasaki Heavy Industries (Ito, 2016), some integrated reports are similar to sustainability reports. Of course, in order to engage in stakeholder engagement as value co-creation, it is necessary to disclose value creation and suppression of value loss as business strategy and solutions to social issues. With reference to Japanese integrated reports, disclosure of the value creation process can be classified into three types. First is the octopus model type. Second is the strategy map type. Third is the sustainability type. This section specifically examines these three types based on integrated reports considered to be relatively good.

a) The Octopus model Type

The octopus model type is compliant with the IIRC Framework. First, a company will conduct business activities making use of governance, subject to the company profile and external environment. Depending on the business activities, it is necessary to formulate strategy with consideration for risks and opportunities, to allocate resources, and convert past performance into a future outlook. To that end, initial capital is used as input in business activities, and while managing the output produced there from, outcomes are expected, and these outcomes result in the creation of capital value creation. The above is the value creation process according to the octopus model proposed in the IIRC Framework. Omron’s value creation process is a representative example of this octopus model type.
Figure 1 shows Omron’s value creation process. In Omron’s value creation process, capital is input into the business creation process, the results of business activities are output, social value is created in each domain, and at the same time SDGs (sustainability development goals) and the mid-term business plan are achieved.

In Figure 1, based on the company philosophy, the business creation process explores social issues (population growth, resource constraints, technological innovation) and creates designs for the near future. On this basis, it is a business process that bridges the creation process, strengthens core technologies and designs business models with the commercialization process develops products and services and aims to create new businesses and profit. Creating social value through the output of products and services in each of the four domains (factory automation, healthcare, mobility, energy management), while at the same time aiming to achieve the mid-term business plan and contributes to the achievement of the SDGs.

Omron’s mid-term business plan (VG2.0) began in 2017 as the final stage of its 10-year long-term vision (Value Generation 2020). This mid-term business plan covers four years, and is shown in Figure 2.

From Figure 2, the following business strategies were set in order to address social issues and rapid technological innovation, (1) Re-establish focal domains and strengthen the business (2) Evolve business models and (3) Strengthen core technologies. In addition to co-creation with partners, the company is addressing important sustainability issues through human resource management and performing manufacturing and environmental risk management as functional strategies. The important sustainability issues are solving social issues through business, co-creation with partners and meeting stakeholder expectations; there are two parts, one part being value creation, the other suppression of value loss. As a result, together with aiming to achieve the mid-term business plan, it also contributes to achieving the SDGs in the super-long term.

In order to solve social issues, the value creation process is visualized not as corporate strategy, but instead in more detail as business strategy (Omron Integrated Report, 2019, pp.21-24). By visualizing up to the level of business strategy, the relationship with the customer becomes clear. Moreover, it also clearly illustrates the objective of value creation through business, including co-creation with partners, and the suppression of value loss objective by responding to stakeholder expectations.
Omron’s integrated reporting can be called an excellent value creation process because it successfully solved value creation and suppression of value loss. Omron’s value creation process has several issues, however. First, as an issue related to integrated thinking, since only business strategies are described, the relationship between corporate strategy and business strategies is unclear. Moreover, as an issue relating to the information connectivity, it is not known what kind of causal relationship exists between financial and non-financial information in regards to business strategy, and so there is an issue of a type 1 of information connectivity. Furthermore, products and services are outputs, but the quantity of their output is not considered. For this reason, the relationship between business activities, outcomes and capital is also unclear, and so there is an issue of a type 2 of information connectivity.

b) The Strategy Map Type

With regards to the value creation process, information connectivity is a requirement of the IIRC framework’s guiding principles. However, as examined in Ito (2019), there is the issue that the information connectivity cannot be visualized within the Octopus model.

By contrast, the strategy map of the Balanced Scorecard (BSC) proposed by Kaplan and Norton (2004) can visualize the causal relationship between strategic objectives. The visualization of strategy is the value creation process. In this value creation process a causal relationship is assumed wherein preparing strategic objectives from the learning and growth perspective can achieve strategic objectives from the internal process perspective, and thereby strategic objectives from the customer perspective and strategic objectives from a financial perspective can be achieved. Eisai Co., Ltd. stands among cases of visualizing the value creation process using a strategy map.

Figure 3 shows Eisai’s value creation process using a strategy map.

From Figure 3, Eisai’s value creation process first inputs six types of capital to execute the strategy. The strategy here is visualized as a causal relationship between the strategic objectives from four perspectives. Eisai’s value creation process introduced in Ito and Nishihara (2017) is the 2017 version. Meanwhile, the value creation process cited in this paper is the 2019 version. The 2017 strategy map is more useful for understanding the causal relationship between strategic objectives. However, Eisai’s institutional investors criticized the strategic objectives for being hard to picture. Therefore, since the 2018 edition of the integrated report, a strategy map has been created with diagrams and photos attached to make the strategic objectives easier to picture.
Value creation is visualized on the left of the strategy map, and suppression of value loss on the right. Indicators must be set in order to be able to measure the achievement of strategic objectives. If indicators can be created, financial and non-financial information are combined in a strategy map. As a result of business activities, output, a leading indicator, is produced, together with outcomes, lagging indicators, which can measure the degree of achievement of strategic objectives. This outcome is the increase or decrease in the value of the six types of capital.

Strategic objectives from the learning and growth perspective relate to organizational capital (internalization of human health care (hhc) philosophy) and human capital (promotion of talents innovation strategy). Based on this, for strategic objectives from the internal process perspective, strategic objects relating for business processes for value creation (global business development and partnership activities, product quality assurance/safety services and safety management) and strategic objectives suppression of value loss(strengthening corporate governance, strengthening compliance and risk management).

As a result, value-creating output (products and services) can be created, together with efforts to suppression of value loss (provision free of charge, provision of medication assistance equipment). From this, strategic objectives from the customer perspective can contribute to increasing patient satisfaction, closing gaps in medical treatment and care and achieving the SDGs. Lastly, strategic objectives from a financial perspective can achieve sustainable maximization of shareholder value, ROE in addition to achieving shareholder return.

Eisai’s materiality is unique (See Figure 4). This is not the matrix of impact on value creation and risk potential set out in the IIRC draft (IIRC, 2013a). Moreover, this is unlike the matrix of impact on value creation and impact on company and stakeholder valuation as in the Sustainability Reporting Standard (GSSB, 2016).

As shown in Figure 4, Eisai’s materiality is the impact matrix on value creation and the level of interest among long-term investors for events to be strategically executed (in BSC terms, strategic initiatives). The vertical axis, which represents the importance of stakeholders, is similar to that of the Sustainability Reporting Standard (GSSB, 2016) except that it only targets specific stakeholders, namely long-term investors. Another difference is that rather than the materiality of social issues, this is the materiality of strategic initiatives. In other words, it can be understood that Eisai assigns priority according to the materiality of strategic initiatives, and sets events with higher priority as strategic objectives.

|---|

**Figure 3:** Eisai’s value creation process
In short, it can be understood that Eisai uses the strategy map to visualize its value creation process of value creation and suppression of value loss. In addition, visualization of strategy using a strategy map can also be understood. In regards to the relationship between company strategy and business strategy, which is the topic of integrated thinking, there is not distinction between the two, as the company operates a single business in pharmaceuticals. Furthermore, we examine information connectivity. Events with high materiality priority are set as strategic objectives, and the relationship between financial and non-financial information is visualized using a strategy map showing the causal relationship between strategic objectives. From this it can be understood that the first type of information connectivity is ensured. However, the relationship between business activities and capital cannot be achieved using such a strategy map alone; as it is, the second type of information connectivity remains an issue.

c) Sustainability Type

Although based on the octopus model, there is a value creation process that ultimately aims to increase social value, as in sustainability reports. Examples of this type of sustainability include the Ricoh Group and Lawson. The two cases are illustrated here to examine the value creation process in which corporate value solves social issues.

i. The Ricoh Group

As shown in Figure 5, the Ricoh Group’s value creation process assumes capital, human resources, business activities and resources as inputs. Moreover, under the mission, vision and governance known as the Ricoh Way, as a result of executing business strategies using value drivers (technological strategies, customer engagement, human resource capability), outcomes are considered stakeholder value, linked to value creation and suppression of value loss. Stakeholder value here consists of value to customer, value to shareholder, value to employees and value to society.

The IIRC Framework assumes six types of capital. Here however, the Ricoh Group considers only manufacturing capital and financial capital to be capital, and includes human resources (human capital) and resources (intellectual capital, natural capital) under other inputs. The IIRC Framework assumes that
business activities are components of a business model, while the Ricoh Group is characterized by its treatment of business activities as inputs.

Moreover, from Figure 5, one of the features is that in order to increase shareholder value, social issues are considered as external environment, and there are inputs for their solutions. Under the mission and governance, corporate strategy (Considered to be management strategy within Ricoh Group) is separated from business strategy. Since business models are not used, business models are considered to be synonymous with strategy. Furthermore, regarding stakeholder value as solutions to social issues is similar to sustainability reports. Means to solve social issues are considered to be business strategy, which visualizes this co-creation of value with stakeholders. It can be inferred that suppression of value loss is not linked to business strategy relating to the solution of social issues, but instead is linked to value drivers. In regard to solving social issues, separation into parts solved using value drivers linked to business strategy and parts solved using value drivers not linked to business strategy is one characteristic of the Ricoh Group.

Figure 5 is very similar to Omron’s octopus model type. The difference is whether the ultimate goal is considered to be shared value consisting of economic and social value or social value alone is considered at issue. Omron’s ultimate goal is to achieve its mid-term business plan and sustainability, aiming for economic and social value. On the other hand, while the ultimate goal of the Ricoh Group is stakeholder value, it aims to solve social problems as a materiality for stakeholders. This point is the basis for the sustainability type. For this reason, the relationship between social issues and value creation is as shown in Figure 6-6.

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<th>Management Strategies</th>
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<td>Prioritize growth strategies</td>
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<th>The Ricoh Way</th>
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Figure 6 recognizes social issues as materiality for the sustainable society (The Three Ps Balance at Ricoh Group) it aims for. The social issues here referred to as the 3Ps are a sustainable economy (Prosperity), a sustainable society (People) and sustainable environment (Planet). This materiality is clarified using the icons of the Sustainable Development Goals (SDGs) that the United Nations set in 2015 with the aim of achievement by 2030. Goals for 2030 were set for each social issue and indicators set to evaluate them. Its relation is that if all of these can be achieved, new value propositions can be made to stakeholders.

For the social issues, five materialities are presented in relation to the 3Ps; productivity enhancement, knowledge creation, QOL enhancement, achieving a zero-carbon society and circular economy. No decision-making process was shown for selecting and prioritizing these social issues. It can be understood that the social issues relating to value creation are productivity improvement (superlative work) and knowledge creation (new product leadership). Their specific business strategies described separated for each business; office printing / office services, commercial printing, industrial printing, thermal (thermal paper, thermal wax transfer ribbon), industrial products, smart vision (images, video and data services) and new development.

Improving quality of life, achieving a decarbonized society and achieving a recycling-based society are set as social issues involving suppression of value loss. These social issues are assumed to be goals for 2030 in the SDGs, and they are characterized by being very long-term. The evaluation index for social issues concerning suppression of value loss also has a qualitative part, such as reducing the environmental burden and reducing inventory waste, however strategic indicators such as promoting new business styles and responding to diverse needs are parts which cannot easily be measured. From this, in regard to how we ought to measure suppression of value loss, it can be said that it is difficult to specific indicators.

From Figure 6 it can be seen that the Ricoh Group connects social issues to the SDGs. Aiming to achieve the SDGs as corporate value creation is an important objective that leads to solving social issues. However, it is questionable whether the purpose of the sustainability-type value creation process, which aims to solve social issues, is itself the company's purpose. The Triple Bottom Line can be understood as considering not only social and environmental aspects, but also economic aspects. The Ricoh Group aims for a sustainable economy as one of its 3Ps, Prosperity. This point is understood, and business strategy sometimes relates to solving social issues, but this does not always matter.

The Ricoh Group’s main products are copy machines for office printing. Aiming at achieving as recycling-based society, it has been developing environmentally-friendly products such as remanufacturing used copiers and developing “staple-less bound inner finishers.” These are certainly business strategies that solve social issues. However, the Ricoh Group is aiming for a digital business as a growth strategy. For example, it manages documents using digital data in offices, records information from sensors at nursing and care homes, and shares or records information by automatically converting voice to text for the service industry. Ought the development of products and services, establishing an unprecedented platform, be considered a matter of advancing business strategy, rather than attempting to solve social issues? Particularly where it identifies latent needs, it may not be a social issue.

In short, the Ricoh Group's value creation process appears to be related to value drivers in a form that combines value creation and suppression of value loss as it pertains to solving social issues. Moreover, in regard to integrated thinking, the mid-term business plan clarified the integration of corporate and business strategy by visualizing growth strategy. However, synergy creation, suppressing anergy and portfolio management could not be understood. Furthermore,
there is also a question of information connectivity. In the value creation process alone, the relationship between financial and non-financial information is not made clear, and there is an issue with the type 1 of information connectivity. Moreover, since business activities are not visualized, there is also an issue of the relationship between activities and capital, which is an issue with a type 2 of information connectivity.

ii. Lawson’s Value Creation Process

Lawson’s value creation process inputs six types of capital to solve social issues. Conducting business activities using capital based on a management strategy that aims to solve social issues will produce outputs and outcomes. The result is a value creation process that ultimately achieves the SDGs (see Figure 7).

According to Figure 7, Lawson’s value creation process is based on compliance risk, corporate governance and environmental management, and through a strategy employing human resource development, innovation and FC (franchising) using five types of initial capital, conducts business activities based on a business model that responds to needs from the customer’s perspective in all aspects of life, high store productivity and small-scale manufacturing and retailing. As a result of its output, outstanding appeal, kindness to people and kindness to the planet (to the neighborhood) are achieved as outcomes, contributing to achieving the SDGs.

Lawson’s value creation process differs from that of the octopus model in that value creation begins from solving social issues and ends at its contribution to achieving the SDGs. Although called an integrated report, it links the solution to social issues, SDGs, with business strategy and is a corporate report with a strong flavor of a sustainability reports. In other words, they recognize stakeholder issues and relate them to business strategies under a business model for their solution. Moreover, outcomes achieved through business strategy are not necessarily tied to capital. In other words, the relationship between capital and ultimately achieving the SDGs is unclear. Furthermore, Lawson’s business strategy describes several measures as “building the foundations for sustainable growth.”

Figure 7: Lawson’s Value Creation Process
Measures to construct these foundations are evident from the social issues in Figure 7. The social issues being addressed by Lawson include responding to the declining labor force population, the rapidly aging society, empowerment of women, rise in medical expenses, worsening food and plastic waste problems, and rising in average global temperatures. Figure 8 depicts a matrix of materiality for prioritizing social issues.

The matrix in Figure 8 differs from the matrices in the IIRC draft (2013a) and the Sustainability Reporting Standards (GSSB, 2016). As shown in Figure 8, this matrix illustrates the impact of social issues on society and on Lawson. In other words, this can be interpreted as a plot of the impact of social issues on value creation and suppression of value loss. This approach to materiality is the same as that of Kawasaki Heavy Industries’ CSR activities, discussed in Ito (2016).

Setting the social issues extracted by materiality (Figure 8) against the social issues being tackled by Lawson (Figure 7), there is a slight discrepancy between them. Many social issues are not being addressed, despite having high priority, including compliance, large-scale disasters, distribution of safe and secure products, declining birthrate and issues of 24-hour operations. Moreover, social issues being tackled by Lawson which do not have high priority include empowerment of women and rising in medical expenses.

This discrepancy is not particularly referenced in the integrated report, but a degree of speculation is possible. When creating its first integrated report in 2013, empowerment of women and rising in medical expenses were cited as community issues (Lawson Integrated Report, 2013, p.3). Considered from this point, it can be seen that Lawson’s materiality includes not only high-priority social issues, it also includes social issues that Lawson has been tackling from the outset.

At Lawson, the purpose of the company is considered to be to solve social issues, and that the solutions to social issues all relate to business strategies. Lawson’s value creation process, in which solving social issues is the company’s sole objective, is questionable. The main purpose of companies is to create value through business strategies, the resolution of social issues being a secondary objective. As Lawson views solving social problems as business strategy, the two are not without common ground. But does Lawson not have business strategies that do not relate to social issues?

Source: Lawson Integrated Report (2019, p.16)

Figure 8: Lawson’s Matrix
For example, product development responding to customer needs is an issue that relates to business strategies that cannot solely be considered as social issues. In this kind of product development, Lawson has adopted the development of original products that assume scenes in daily life by time of day and target. This product development is a company strategy that assumes potential customers. Rather than solving all social issues that have become apparent, it seems better to recognize that there are business strategies and solutions to social issues.

In short, Lawson's value creation process formulates business activities in order to solve social issues, contributing to achieving the SDGs through its business activities. Although its contribution to solving social issues can be understood, there is the issue that suppression of value loss is not made clear. In regards to the question of integrated thinking, it has a single small-scale manufacture and retail business, and since corporate and business strategy cannot be distinguished, only business strategies are visualized. With regard to the question of information connectivity, the value creation process does not visualize the connectivity between financial and non-financial information, the type 1 of information connectivity. Moreover, in regard to the type 2 of information connectivity, business activities are not specifically shown, and the relationship between business activities and capital is not visualized.

V. Value Creation Process Requirements for the Use of Information

There are two aspects to develop an integrated reporting, disclosure of information to stakeholders and management's use of information. First we examine the usefulness of integrated reporting for information use. Next, we clarify the requirements for visualizing the value creation process as the objective of management’s use of information. Then, we re-evaluate the four examples of value creation process discussed in Section 3.

a) The Utility of Integrated Reports to Information Use

Eccll and Krzus (2010, p.148) point out in their book that integrated reporting have both internal and external benefits. As an external benefit, it can improve corporate disclosure and transparency by providing a single message to stakeholders. On the other hand, the internal benefit is that when formulating strategy, management can take serious efforts to respond to risks and opportunities to ensure a sustainable society. In other words, the developing of integrated reporting has the external advantage of eliminating information gaps through information disclosure and ensuring reliability, but also carried the internal benefit of aiding management through management's use of information.

It is important for management to use information for strategy formulation and execution, management decision-making and management control. Supposing this kind of information use, the developing of integrated reporting has four major effects on companies (Eccll and Krzus, 2010, pp.148-156). First, it can identify relationships with customers and suppliers, and can clarify commitments to these stakeholders. Second, clarifying these commitments enables management to make better decisions. Third, such communication can deepen relationships with stakeholders. Fourth, as a result reputational risk is reduced. It certainly asserts the significance of management accounting in integrated reporting.

Stakeholders must engage in the dialog to co-create value through engagement with management. To that end, stakeholders must, from integrated reporting, be able to correctly grasp the value creation process contributing to value creation and suppression of value loss. Moreover, this also enables managers to use the results of stakeholder engagement for strategy formulation, execution and management control. In this way, management can not only use internal information to formulate and execute strategy, but can also use external information from stakeholder engagement in management. In short, there are significant advantages to both stakeholders and management from integrated reporting and stakeholder engagement.

b) Value Creation Requirements and Each Company's Case

As hinted in the examination of stakeholder engagement, in stakeholder engagement based on integrated reporting, the targets of information use are not only companies but also stakeholders. Here, however, we consider cases where management uses information obtained through stakeholder engagement to formulate and execute their own strategies. Management can use the information obtained through information disclosure relating to strategy and engagement in response to it. Information disclosure for stakeholder engagement involves visualization of the value creation process, especially considering the causal relationship between content elements. We therefore consider the requirements of the value creation process for the use of information.

i. Requirements for Visualizing the Value Creation Process

There are three requirements to visualize the value creation process, (1) Value creation and suppression of value loss, (2) Integrated thinking and (3) Information connectivity.

Value creation and limiting loss of value means that, when visualizing the value creation process, it is necessary to visualize business strategy and solutions to social issues. In particular, visualization of value
creation and limiting loss of value must not be forgotten. It is therefore necessary to clearly distinguish between value creation and limiting loss of value when visualizing.

Integrated thinking means to visualize the relationships between corporate and division, and the short, medium and long-term balance. It is necessary to visualize synergy creation and the suppression of anergy from the relationship between corporate strategy and business strategy. It is also necessary to visualize short, medium and long-term portfolio management.

Information connectivity is subdivided into two types required of integrated reports. As has already been stated several times, the type 1 of information connectivity is the connectivity between financial and non-financial information. The type 2 of information connectivity is the link between activity and capital. In visualizing the value creation process, it is necessary to clearly show these types of information connectivity.

In visualizing the value creation process, we believe satisfying the above three requirements is optimal for information disclosure and the use of information. Below therefore, we examine the integrated reporting of four companies based on these three requirements.

ii. Conformity to requirements in the octopus model type

We examine the Omron's conformation to the value creation process conditions. As shown in Figure 1, Omron creates businesses in order to solve social issues. However, from Figure 2, parts that create value through business strategy and parts that limit loss of value by responding to stakeholder expectations are visualized side by side. It is understood from this that requirement 1 is being met. However, the relationship between corporate strategy and business strategy in requirement 2 is not made clear. Business strategy is visualized, but there is no description of synergy or suppression of anergy as corporate strategy, nor of portfolio management. Adherence to requirement 2 is therefore understood to be insufficient. Furthermore, connectivity between financial and non-financial information cannot be understood, and the type 1 of information connectivity is an unsolved issue. Moreover, the relationship between business activities and capital is also not made clear, and the type 2 of information connectivity remains unresolved. From this it was found that the requirement 3 was not being met.

iii. Conformity to requirements in the strategy map type

Next, we examine conformity to the requirements of the value creation process using Eisai's strategy map.

In regard to the requirement 1, value creation and limiting loss of value, from Figure 3, Eisai visualizes the value creation process on the left side of the strategy map and limiting loss of value on the right. By visualizing this kind of strategy, six types of capital are input into business activities, and the value creation process, in which capital increases or decreases according to the increase or decrease of outcomes resulting from those activities is visualized. From this, it can be understood that Eisai treats value creation and limiting loss of value in the same line when visualizing them. In regard to the requirement 2, the visualization of corporate and business strategy, Eisai is a single business company, a pharmaceuticals manufacturer, and so there is no corporate strategy. Compliance with the second requirement is not required. In regard to the third condition, information connectivity, because a strategy map is used, the type 1 of information connectivity can be satisfied. However, since business activities are not made clear, the type 2 of information connectivity remains an issue.

iv. Conformity to requirements in the sustainability type

We examine requirements compliance in regards to Ricoh Group's value creation process. In regard to conformity with the requirement 1, let us look at Ricoh Group's value creation and limiting loss of value. The value creation process is linked to value drivers in a way that combines value creation and limiting loss of value as a solution to social issues. Therefore, although value creation and limiting loss of value are illustrated, because they are not clearly distinguished, the requirement 1 cannot be said to be satisfied.

In regard to conformity with the requirement 2, at Ricoh Group, the mid-term business plan describes the relationship between corporate and business strategy. However, since there is no description of synergy creation, anergy suppression and portfolio management as corporate strategy, adherence to the requirement 2 can be called insufficient. In regard to conformity with the requirement 3, the type 1 of information connectivity remains an issue in that the relationship between financial and non-financial information is not made clear. Moreover, because business activities are not visualized, there remains the issue of the type 2 of information connectivity in that the relationship between activities and capital is not made clear.

Lastly we examine the requirements conformity of Lawson's value creation process. Figure 7 provides a reference in regards to the requirement 1 of value creation and limiting loss of value. Figure 7 visualizes the objectives of the mid-term business plan and sustainability objectives. Thus, business strategy and contribution to the solution of social issues can be understood, but value creation and limiting loss of value are not distinguished. Adherence to the requirement 1 is not perfect, but otherwise well done.

We also consider the requirement 2, integrated thinking. This is a single small-scale manufacturing and retail business, and so corporate and business strategy
cannot be distinguished. Lawson therefore only visualizes business strategy. Lastly, we consider the requirement 3, information connectivity. In Lawson's value creation process, the relationship between financial and non-financial information is not made clear, and so the type 1 of information connectivity is unresolved. Moreover, business activities are not specified, and so the type 2 of information connectivity, the relationship between business activities and capital, remains unresolved.

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<th>Information Connectivity No.2</th>
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Source: Created by the author

**Figure 9:** The relationship between value creation type and conformance to requirements

Above, we examined conformity to requirements for information disclosure and utility to use of information for each type of value creation process. Figure 9 compiles and summarizes the four companies. In Figure 9, circles indicate cases where requirements are met, crosses indicate cases where conditions are not met, and triangles indicate cases where requirements are not completely met.

**VI. Conclusion**

In this paper, we have compared and examined the value creation process based on integrated reports created by Japanese companies. In order to compare and examine not only from the standpoint of investors but also those of stakeholders and managers, we classified visualization of the value creation process into three types. In this comparison, we examined the conformity of three requirements (value creation and limiting loss of value, integrated thinking, information connectivity) considered to be useful for information disclosure and information use. Three findings were obtained as a result of this comparison.

The first finding is that the value creation process should be visualized by simultaneously and clearly distinguishing between value creation and suppression of value loss. There were two cases where distinction was made between value creation and limiting loss of value. Omron and Eisai were cases where value creation and suppression of value loss were juxtaposed and clearly distinguished. From this, it was understood that Eisai and Omron satisfied requirement 1. On the other hand, Ricoh Group and Lawson were cases where their value creation processes were solutions to social issues, with social issues solved using business strategy. The idea that solving social issues is itself the purpose of the company, while fitting for a sustainability report is an issue for integrated reporting. However, Ricoh Group does not make suppression of value loss explicit. Lawson considers value creation and suppression of value loss, but the two are not distinguished.

The second finding is that, as a result of a case study on the visualization of strategy in the value creation process, the requirement 2, of integrated thinking linking corporate strategy and business strategy, is relatively neglected. For example, Omron only discloses its business strategy in the value creation process, and its description of corporate strategy is unclear. In the Ricoh Group, although there is a description of corporate and business strategy, synergy creation, anergy suppression and portfolio management as corporate strategy are not made clear. Eisai and Lawson are companies that specialize in a specific business, and so visualization of business strategy alone is sufficient. In short, it was found that companies with multiple businesses have a vague perception of corporate strategy and that there requirement 2 is an issue.

The third finding was that information connectivity is an unresolved issue. As with Eisai, if a strategy map is created, the type 1 of information connectivity, maintaining a causal relationship between financial and non-financial information, can be ensured. However, creation of a strategy map alone cannot resolve the type 2 of information connectivity. In addition, from the value creation processes of three companies, Omron, Ricoh Group and Lawson, it was found that neither the type 1 of information connectivity nor the type 2 of information connectivity could be resolved. In short, no case was found satisfying the third requirement. From these results, it was understood that companies first must create a strategy map to visualize the type 1 of information connectivity and that proposals are required to resolve as yet unresolved the type 2 of information connectivity.
I clarify the limitations of this paper. The integrated reports in Japan had issues with information connectivity. It is necessary to overcome these issues for future research.

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Organizational Culture: Its Effect on Strategic Planning Practices in Kenya (A Survey of Public Secondary Schools in Migori County)

By Julia Ashibambo Weyama  
Kisii University

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Keywords: strategic management, strategic planning, strategy formulation, culture, public secondary schools, competition.

GJMBR-A Classification: JEL Code: M14

Strictly as per the compliance and regulations of:
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I. Introduction

a) Background Information

Strategy is about creating a unique and valuable market position, making trade-offs by choosing “what not to do” and creating “fit” by aligning company activities with one another to support the chosen strategy (Porter, 1996). Strategic management involves the formulation and implementation of the major goals and initiatives taken by an organization’s top managers on behalf of owners, based on consideration of available resources and an assessment of the internal and external environments in which the organization operates (Alkhafaji, 2003; Courtney, 2002; Nag, Hambrick, and Chen, 2007). It provides overall direction to an enterprise and involves specifying the organization’s objectives, developing policies and plans to achieve those objectives, and then allocating resources to implement those plans.

Abraham Stanley defines Strategic planning as a series of steps followed by a company collectively trying to agree on where it is going (i.e., vision) and how it is going to get there (i.e., strategy) (Abraham, 2012). At the institutional level, KESI defines strategic planning as a process that identifies where the organization wants to be in future and how it’s going to get there. He continues to say that the process defines the strategy (direction) of the school and allocating resources to pursue this strategy (KESI, 2011).

i. Background of the study

Strategic planning has its origin in the military, where it was used by army officers after the second world war and later on found its way in the corporations of the 1950s (Singh, 2008). By the 1950s, an early form of strategic planning; the SWOT analysis was already in use at the Harvard Business school (Lawrie, 2005). In the 1960s, it had become a standard management tool in most of the companies (Blackerby, 2003).

Strategic planning came into the domain of public organizations in the 1980s. Among the first government agencies to incorporate strategic planning into their planning process were the states of Oregon and Texas. In Texas, a bill was passed by the 1991 legislative requiring all state agencies to submit a strategic plan every other year (ibid).

In the corporate world, Strategic planning is a vital management tool that companies within the same industries use to gain a competitive advantage. It enables companies to create value for their customers through a combination of available resources, capabilities, and distinctive competencies, and this determines competition within the industry (Hill and Jones, 2008).

Europe has taken important strides in schools planning and development although the sector still needs to address challenges such as learning skills and attitudes, the role of new technologies (e-learning, e-tools, and e-networking) and place of ethics in planning education (Deal and Peterson, 2008). An important development was seen in the 1990s when the European countries’ agencies for training teachers, reviewed qualifications for the headship of schools which defined standards for school leadership. These were since then to be based on some crucial areas, among them strategic planning and development, thus ensuring that every head of a school was in a position to spearhead the strategic planning process (Knight, 1998).
In the USA, for instance, Strategic planning follows a four-step process for planning a school-wide program, conducting a comprehensive needs assessment, managing the inquiry process, designing the program, and evaluating the program (Cook, 2006). Research in U.S local governments indicated that the use of strategic planning in all the states leads to improved financial performance (Camarata, 2003). Strategic planning in sub-Saharan Africa has been developing at a slow pace, in the education sector, these countries have to deal with the challenges of financing, quality, and relevance of teaching and learning, curriculum and assessment, science and technology, teacher training and management, equality, and access (world bank working papers, 2008). These challenges ought to be addressed and the focus should be on use of strategic planning at all levels of the education sector.

b) Strategic Planning in Kenya

In Kenya Strategic planning was introduced in the public sector through the structural adjustment programs that were introduced in the 1980s although progress made has been different in various sectors, a lot of determination has yielded some significant benefits. A strategic approach to management in general, and strategic planning, in particular, has gained prominence in education in the recent past in Kenya (Republic of Kenya 2005a, 2005b, 2006). It has increasingly gained status as a management tool because of its ability to contribute to the development of sustainable educational institutions (Bell 2002). Today more than before, there is a need for us as a Nation to embrace strategic planning because of the emerging trends in the global environment.

Kenya like any other nation is under obligation to implement various global and regional frameworks that ensure that the education system is aligned to the emerging global trends such as Agenda 21. The Johannesburg World Summit on Sustainable Development (2002) re-affirmed the educational objectives of the Millennium Development Goals (MDGs) and the Dakar Framework for Action on Education for All (EFA) In 2012, the World Community met for the UN Conference on Sustainable Development (Rio+20), and in 2015, the global community adopted Sustainable Development Goals. Education for Sustainable Development is included in SDG-4, which aspires to “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” In 2012 the Africa Ministerial Conference on Environment (AMCEN) produced the Arusha Declaration that has led to the development of an African Environmental Education and Training Action Plan (AEETAP). Agenda 2063 of the African Union of which Kenya is a member calls for action on catalyzing the education and skills revolution to build knowledge, human capital, capabilities, and skills to drive innovations on the continent (African Union Commission, 2015) (Ministry of education, 2017).

Migori county public schools are faced with several challenges in addition to changing global political, economic, social, and technological environments that could be alleviated by careful strategic planning. Some of these challenges, as obtained from the county director of education, include; poverty, low enrollment, low transition rate, gender inequality, poor infrastructure, high dropout rate and lack of facilities, among others.

c) Statement of the Problem

Recent research studies have made it clear that there is an increased internal and external uncertainty in organizations due to emerging opportunities and threats together with a lack of awareness of the exact organizational needs. The uncertainty comes inform of changes in technological, social, political, and economic forces. As a result of these changing forces, the management process at all levels in both the private and public sectors has become more challenging, requiring greater skills aimed at driving the future course of the organizations in the amid uncertain world. Strategic planning comes in handy in providing these skills (Steiss, 2003). Other studies reveal a significant relationship between strategic planning and organizations’ performance (Fullan 2004; Steyn & Wolhuter 2010; Efendioghu, 2010). For example according to Steyn & Wolhuter strategic planning helps in a school’s self-study and evaluation, whereby areas of strengths and future challenges are identified and included in future plans. Eacott (2011), on the other hand, affirms that strategic planning can improve school-community relationships, since it is a useful tool for communication across traditional boundaries in the school.

Several studies have revealed the challenges that face the strategic planning process in public secondary schools as leadership, lack of stakeholder involvement, limited resources, policy challenges, and institutional challenges such as and rewards systems which demoralize the staff who form an important section of the stakeholders (Tumusiime, 2010; Ombo, 2010; Dr. Kiprop and Dr. Kanyiri2012; Dr. Catherine J. Kiprop, Dr. Emily J. Bomet and Jane Jelimo Michael 2015)

Proper strategic planning, therefore, ensures the fulfillment of the organizational goals and objectives and continues monitoring and evaluation of all the strategies put in place. With the global policy on education for all that has led to free primary and subsidized secondary education in Kenya, the limited resources are strained, hence calling for the need for serious planning at the ministerial, county, and school level (GOK,2012).
Available data from the county education office indicate that most secondary schools in Migori County have been reluctant in the formulation and implementation of strategic plans. The far that most of them can go is the formulation stage, leaving out the most critical stages of implementation and continuous evaluation. Furthermore, the formulation for most schools rarely involves a thorough analysis of the external and internal environment to come up with workable strategies because of the time limit. Recent studies have also indicated that the organizational culture plays a crucial role in how far the school can go with strategic planning. (Cheng’oli Calistus Kisumo, Ahmed Osman and Khaemba Ongeti 2013; Susan A. Aruan1 Mark I. O. Okere and Samuel Wachanga 2016)

It is for this reason that this study sought to find out the effect of organization culture in institutional strategic planning practices in public secondary schools in Migori County.

d) The Objective of the Study

The study aimed at establishing the effect of organizational culture on strategic management practices in public secondary schools in Migori County.

II. Literature Review

a) Theories of Strategic Planning

Three theories on strategic planning are examined to form conceptual basis for the study. They include the five forces competition, the 3Cs (corporation/company, customer and the competitor), and environmental turbulence as explained in the proceeding sub-section

i. Five forces competition theory

This was developed by a management theorist Michael porter, and formed a crucial basis for strategic planning. The five forces framework is a method that is used to analyze competition for a business enabling it to determine the competitive intensity and therefore the attractiveness (or lack of it) of an industry in terms of profitability. These forces allow an organization to identify potential environmental influences that shape the competitive context in which it must operate (Sawka & Flora, 2003). Porter developed the framework in reaction to the then popular SWOT analysis which he found to have some limitations. According to porter, the essence of strategy formulation is coping with competition, and the state of competition in any industry depends on five important forces, namely; Rivalry, Threat of Substitutes, Buyer Power, Supplier Power, and Barriers to Entry/Threat of Entry. His position is that the collective strength of these forces determines the ultimate profit potential of an industry. The manager’s goal, according to Porter, is to find a position in an industry where he/her company can defend itself against these forces or can influence them in its favor (Porter, 1979, 2008;)

ii. Kenichi Ohmae’s 3Cs Theory

Dr. Kenichi Ohmae, a management guru from Japan, developed the 3Cs model. The model offers a strategic look at the factors needed for success. This model shows that a strategist should focus on three crucial factors for success, namely, the corporation/company, customer, and the competitor. According to Kenichi Ohmae, strategic planning should aim at attaining a competitive advantage over competitors in the industry. Strategic planning’s purpose is to enable a company to gain, as efficiently as possible, a sustainable edge over competitors (Ohmae, 1982; 1991).

Customer based strategies

According to Kenichi, a corporation’s foremost concern ought to be the interest of its customers rather than that of stockholders and other parties. This is because customers have needs and wants which the company must recognize and offer the services. Some of the customer-related strategies that corporations can use include; differentiating in terms of the way customers use their products, segmenting the market by customer coverage so that the cost of marketing will be advantageous to the competition, re-segmenting the market when the previous market segments seem to be declining and changes in the customer mix (ohmae, 1991).

Corporation-based strategies

These strategies, according to Kenichi, aim to maximize the corporation’s strengths relative to the competition in the industry, such as subcontracting a major share of its operation in case of increased wage costs, choosing a key function in which to specialize in, and improving cost effectiveness through cost cutting. He argues that a corporation does not have to excel in every function but should strive in one key function which will further cause it to eventually improve its other functions. (Ohmae, 1982:1991)

Competitor- based strategies

According to Kenichi, a corporation can gain a competitive edge over others in the industry by looking at possible sources of differentiation in its functions such as in public relations and promotion, which creates a better image and products and services, among others (Ohmae, 1982:1991).

iii. The theory of environmental turbulence

The theory was developed by Igor Ansoff in the 1960s. Igor Ansoff is said to be the father of strategic management. His book on corporate strategy guided on how to plan for the future. The system of planning by then paid very little attention to strategic issues. He defines the environment as "a set of elements and their
relevant properties which elements are not parts of the system but a change in any of which can produce a change in the state of the system.” (Ansoff, 1972). Hence the environment consist of “all the variables that can affect a firm”, namely, economic, political, sociological, psychological, technological, and geographical forces in the segment of the world in which the business chooses to operate. According to Ansoff, effective response to the environment is the key to long-run strategic success. According to his theory, to be effective, a company’s strategy needs to match the level of turbulence present in its environment. Ansoff recognized five levels of these in which an organization can operate, namely; stable, expanding, changing, discontinuous, and surprising. Level one environments are characterized as stable, which implies no change.

At level two, environments referred to as expanding; change does occur, but it is slow, fully visible, and predictable. Level three, regarded as changing; change is fast, fully visible and predictable. These first three levels are driven by history, where behaviors that have produced success in the past and present will very likely yield success in the future. Level four named discontinuous; change occurs very fast and the environment is partially visible, and partially predictable. Level five, regarded as surprising; change is speedy, not predictable, and not visible. These last two environments are discontinuous in that one cannot predict the future from the past and present. Predictions of these are founded on patterns of weak signals that indicate a possible future (Ansoff, 1990).

b) Organization culture

Several leading scholars such as Edgar Schein, and Geert Hofstede, agree that culture is shared (group dynamics involved), pervasive, enduring, and implicit. Further, there is a general agreement among scholars that it is linked with leadership in their effect on strategic planning process in an organization. Boris Groysberg, Jeremiah lee, Jesse price, and J. yojud cheng (2018) identified eight styles that distinguish a culture by integrating findings from more than 100 of the most commonly used social and behavioral models available. Using this framework, leaders can model its impact on their organization and assess its alignment with strategy. The eight are: caring, purpose, learning, enjoyment, results, authority, safety, and order.

c) Culture Influence in Institutional Strategic planning process

Organizational culture determines the success of any strategic planning process and especially at the implementation stages hence its significance in the entire process. Culture consists of the values and assumptions shared with in an organization. Organizational culture directs everyone in the organization toward the “right way” of doing things. It frames and shapes the decisions that managers and other employees should make and the actions they should take (L.Mcshane, 2008; Dubrin, 2012). Organizational culture develops over time and the members learn it through socialization. The right one can enhance productivity, quality, and morale. A culture that emphasizes productivity and quality encourages workers to be more productive and quality conscious. Top managers, because they can influence which kinds of beliefs and values develop in an organization, are an important determinant of how the members will work toward achieving organizational goals (Hill and Jones, 2010).

Several researchers concur with the fact that culture has a great influence on the strategic planning practices in any organization (Cornerstone, 2010; Pearce and Robinson 2004; Otter and Heskett 2005). Cornerstone (2010), for instance, observed that organizational culture provides a strong foundation of organizational success but can also become a significant impediment to success when executing a major strategic change. Pearce and Robinson (2004) further ascertain that culture can be a source of strength and weakness for an organization. As a strengths, culture can facilitate communication, decision making and control, and create cooperation and commitment, which are essential for any strategic intent. As a weakness, culture may obstruct the smooth implementation of the strategy by creating resistance to change. Otter and Heskett (2005) assert that an organizational culture can be characterized as weak when many subcultures exist, few values and behavior norms are shared, and traditions are rare. In such organizations, employees do not have a sense of commitment, loyalty, and a sense of identity. Such organizations exhibit traits such as politicized organizational environment, hostility to change, promoting bureaucracy in preference to creativity and entrepreneurship, and unwillingness to look outside the organization for best practices.

Several researchers assert that in any strategic planning practice in a school, it is necessary to consider the school culture. Harris (2002) believes that successful school improvement can only occur when schools apply these strategies that best fit in their context and particular developmental needs. Deal and Peterson (2004) illustrates how dysfunctional school cultures such, as low morale, emotional outburst, and subculture values that supersede shared organizational values can impede organizational improvement.

Muya and Nyongesa (2012) observed that an institution’s culture could be strong and cohesive when it conducts its business according to a clear and explicit set of principles and values, which the management devotes considerable time to communicate to employees and students, and which are shared widely within the organization. They further assert that the three most important factors that contribute to the building of...
a strong culture are: an influential leader who establishes suitable values, sincere and dedicated commitment to operate the business of the institution according to these, and genuine concern for the wellbeing of the institution’s stakeholders.

III. **Research Methodology**

a) **Research Design**

A descriptive research design was applied in order to fulfill the objective of the study, since it describes the state of affairs as it exists at present (Kothari, 2003).

<table>
<thead>
<tr>
<th>Sub-County</th>
<th>No. of Schools</th>
<th>No. of Respondents Per School</th>
<th>Target Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rongo</td>
<td>32</td>
<td>6</td>
<td>192</td>
</tr>
<tr>
<td>Uriri</td>
<td>18</td>
<td>6</td>
<td>108</td>
</tr>
<tr>
<td>Awendo</td>
<td>16</td>
<td>6</td>
<td>96</td>
</tr>
<tr>
<td>Migori</td>
<td>39</td>
<td>6</td>
<td>234</td>
</tr>
<tr>
<td>Nyatike</td>
<td>35</td>
<td>6</td>
<td>210</td>
</tr>
<tr>
<td>Kuria East</td>
<td>15</td>
<td>6</td>
<td>90</td>
</tr>
<tr>
<td>Kuria West</td>
<td>21</td>
<td>6</td>
<td>126</td>
</tr>
<tr>
<td>TOTAL</td>
<td>176</td>
<td></td>
<td>1056</td>
</tr>
</tbody>
</table>

Table 3.1: The targeted population in the county


b) **Target Population**

The study’s target population was the school principals, deputy principals, and heads of departments in the public secondary schools in Migori County. This composition translates to a total number of 1056, given that there are a total of 176 public secondary schools in Migori County. Each of the schools has one principal, one deputy principal, and a minimum of four heads of departments making a total of six respondents in every school. Table 3.1 below shows the targeted population in the county.

c) **Sample Size and Sampling Design**

The study used a stratified random sampling method to select a sample of 106 informants at a 0.10 sampling ratio per category. Vander stoep & Johnston (2009) claims that dividing the sampling frame into strata allows the researcher to sample proportionately based on the size of each stratum. Dawson (2002) asserts that the size of the sample depends upon the type and purpose of research. Table 3.2 below shows the sample size.

<table>
<thead>
<tr>
<th>SUB-COUNTY</th>
<th>Target population</th>
<th>%</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rongo</td>
<td>192</td>
<td>0.1</td>
<td>19</td>
</tr>
<tr>
<td>Uriri</td>
<td>108</td>
<td>0.1</td>
<td>11</td>
</tr>
<tr>
<td>Awendo</td>
<td>96</td>
<td>0.1</td>
<td>10</td>
</tr>
<tr>
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<td>Nyatike</td>
<td>210</td>
<td>0.1</td>
<td>21</td>
</tr>
<tr>
<td>Kuria East</td>
<td>90</td>
<td>0.1</td>
<td>09</td>
</tr>
<tr>
<td>Kuria West</td>
<td>126</td>
<td>0.1</td>
<td>13</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1058</td>
<td></td>
<td>106</td>
</tr>
</tbody>
</table>

Source: Researcher (2013)
Figure 1: Percentage of sample size per Sub County

The figure below shows the percentage of the total sample in every sub-county.
b) Effect of organizational culture on the development of strategic planning practices

Organizational culture has a great influence on the overall performance of various subsystems in an organization. The study, therefore, sought to find out its effect on strategic planning practices in public secondary schools.

The respondents’ level of agreement on the effect of various cultural practices on strategic planning practices in their institutions were as represented in figure 2 below.

![Figure 2: Level of agreement on the effect of culture on the development of strategic planning practices in public secondary schools.](image)

Source: Research Data (2013)

The study findings revealed that a higher percentage of respondents strongly agreed that some specific cultural practices enhanced strategic planning practices, while a very little percentage of respondents just agreed.

The study sought to investigate from the respondents the extent to which they felt organizational culture affected strategic planning practices. Figure 3 Below shows findings.
From the findings, most of the respondents concurred that culture influences the development of strategic planning practices in public secondary schools. 83.96% of the respondents felt that culture influenced the development of strategic planning practices to a very great extent.

V. CONCLUSION AND RECOMMENDATIONS

It is evident that there is an overall relationship between organizational culture and strategic planning. Most learning institutions are characterized by cultures that are caring, result-oriented, and adherence to the authority. As a result, the principal of the school determines the school culture until replaced by another one.

Leadership determines to a great extent, organizational culture. It is therefore recommended that the school leadership changes the culture so as it is in line with strategic planning practices since there is a need to change strategy over time because of the changing global environment. The organizational culture should embrace positive attitudes, openness to change, involvement in strategic planning at all stages, respect for others, and recognition for efforts done, among others.

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Impact of Entrepreneurial Activities on Natural Capital

By Godfrey Wasara

Abstract - The publication intents to examine the impact of entrepreneurial activities on natural capital. The main objective of entrepreneurs is to grow their wealth. Such wealth is Increased through exploitation and depletion of natural capital on one end and pollution of natural capital stocks like air and water on the other. The publication gives a detailed analysis of the composition of natural capital and how these are depleted and polluted as humanity goes about his economic activities. The qualitative research methodology was found most suitable for the study. Various source provided the necessary data. Where appropriate, interviews and observation methods were Used to gain further insights on the subjects. Authenticity, creditability, representativeness and meaning underpinned the selection of the sources of data. The author posits that entrepreneurs should innovate on business models that endure and get rid of those models that burn out in order to achieve sustainable development.

GJMBR-A Classification: JEL Code: L26

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Impact of Entrepreneurial Activities on Natural Capital

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1. Background

It is important to state right at the beginning that climate change is natural, as evidenced by the period like the ice age; what becomes of concern is accelerated climate change that we are experiencing now. Atmospheric scientists believe that we are experiencing unusually rapid warming of the global climate and that this is a result of human activities, although there is uncertainty about the rate and degree of warming Beazley (1993). He further argues that this is a result of increased concentrations in the atmosphere of what are known as greenhouse gases, among which are carbon dioxide, water vapour, methane, chlorofluorocarbons (CFCs), and nitrous oxide.

Kennedy (1987:103) posits that the scientific explanation behind global warming relates to the “thin-film” that clothes our planet earth. The earth is a closed system where nothing enters or leaves except the sun’s radiant energy. Processes on earth occur when materials change forms. A good example of a material changing is gasoline used to move a vehicle. As it travels, the gasoline is not eliminated, but instead, takes some other form. Kennedy argues that if such a closed system was to run indefinitely, the transformation system constitutes a closed cycle in which material returns to its original form: new resource becomes useful matter which becomes waste which is then absorbed back into the ecosystem to become future raw material. Other things remaining equal, it becomes a perfect self-sustaining cycle of life. Bottlenecks often occur in the conversion of raw material to the useful matter, as evidenced during Malthus’s times when population growth detected demand for more resources. As a result, scarcity forced inhabitants to innovate on new technology that resulted in the birth of the steam engine, the industrial revolution, internal combustion, and electricity to mitigate the bottlenecks. The more people the earth needs to support, the better they are supposed to live, and the faster the transformation needs to be driven. The ecosystem has been run faster than it can sustain itself.

Kennedy further argues that the bottleneck appears to have shifted to the waste disposal stage. Once humanity forces the system to run harder, the waste-carbon dioxide (CO2), emissions, chlorofluorocarbons (CFC) acidified forests and polluted rivers get worse. Feeding coal to the steam engine is easier than getting CO2 emissions absorbed into the ecosystem.

Global warming and the earth’s closed system relates to the interaction between the sun’s heat and certain greenhouse gases in the atmosphere. Sun’s energy comes to us through radiation, but almost all of that radiant energy is either reflected or radiated back into space. If it were not, the earth would then keep on heating up forever. When it functions properly, a uniquely balanced system exists. But if-as scientists now believe it is happening-the composition of the trace gases in our atmosphere is altered by human activity, then more radiated heat is being trapped (as within the glass of a greenhouse) which not only warms up the atmospheric gases but everything else as well. At the same time, scientists are concerned that the ozone layer, which protects the earth and its inhabitants from harmful solar radiation, is being significantly depleted by chemical emissions like CFCs. The bigger the ozone hole, the more vulnerable human beings are, say to skin cancer Kennedy (1997:107).

As alluded to earlier on, the phenomenon of global warming has always been with us and is vital for life. Without the earth’s atmosphere, temperatures would be about minus 18 degrees Celsius, not...
Entrepreneurs carry out entrepreneurial activities with one objective in mind: that of increasing their wealth. Such acts have taken a toll on natural capital, a key factor of production that has turned into a passive victim of entrepreneurial activities. Destruction of natural capital during the wealth creation process strengthens the argument in favor of carrying out an investigation on the impact of entrepreneurial activities on natural capital and the need to come up with necessary interventions.

The objective of the study is premised on the ontological view that the preservation of natural capital gives rise to sustainable entrepreneurial activities. Entrepreneurial interest revolves around financial prosperity. The attitude does not take due consideration to harm inflicted upon both natural capital and, subsequently, human capital. Unfortunately, this is against the long term sustainability of both natural capital and overall economic development.

It is, therefore, necessary to lay a firm foundation that enables entrepreneurs to appreciate the need to carry out financial agreements, financial arrangements and, financial transactions with due regard and respect for natural capital if they intend building and growing economically sustainable enterprises.

The pollution of air has a negative impact on both human and ecosystem health, contributes to eutrophication, atmospheric ozone, and acidification of water and soil. It also impacts on agriculture production and forests resulting in reduced yields. Most of these damaging effects originate from industrial activities. Nitrogen Oxide (NO) emitted from combustion is a dominating pollutant resulting in eutrophication (EEA 2014)

The last three decades saw the emerging of a school of thought which saw some components of environment as an equally vital type of capital necessary for the sustainability of the economy as are produced and human capitals. These newly recognized forms of productive resources have come to be collectively called natural capital. The emergency of the concept of natural capital reflects the perception that environmental systems play a fundamental role in determining output and the human well-being, provision of resources, and services and absorbing emission and waste. It constitutes the vital core forms of capital by providing necessary conditions for human existence. It is the source of priced and unpriced environmental inputs upon which production depends. It is now increasingly recognized that natural capital, just like other types of capital, should be conservatively looked after, if the economy is to be sustainable Smith, Simard, and Sharpe, (2015:5). Natural capital is both limited and vulnerable. Nevertheless, the lack of recognition of the intrinsic importance of biodiversity, and a clean and healthy environment makes the concept of applying nature to capital cumbersome.

Entrepreneurial activities rely heavily on natural capital for raw materials. No enterprise can operate in the absence of natural capital. People, profit, and the planet, can no longer be separated. Sustainable natural capital is the primary moral and economic imperative of the 21st century. From an entrepreneurial point of view, it avails both business opportunities and risks. Decision-makers should note that there is a complex interconnectivity among nature, society, and business. Most importantly, current incremental changes towards sustainable natural capital are not sufficient. We need a fundamental shift in the way enterprises are managed and the way entrepreneurs act and organize themselves King, (2009). The success of enterprises in the 21st century bears a relationship to three independent sub-systems-the natural environments, social, and political system, and the global economy. Global enterprises cannot do without the three, and they need all three to flourish (Tomorrow’s Company.)

Considering the above, it becomes evident that Economy/Business/Profit, People, and Planet/Natural capital can no longer be separated. The class action, fall in the market value of shares, and emergency of environmental pressure groups together with related fines and penalties solidify the case. The negative impact of entrepreneurial activities reciprocated by depletion, degradation, and pollution of natural capital, resulting in climatic changes, underpin the need for governments to formulate public policy that encourages entrepreneurs to take due consideration of natural capital as they go about their activities and participate in sustaining it for the benefit of future generations.

II. RESEARCH QUESTIONS

- What is the main objective of entrepreneurial activities?
- What is natural capital?
• How do entrepreneurial activities impact on natural capital?
• What may be the remedies?

III. Research Methodology

The study investigated the impact of entrepreneurial activities on natural capital. The study used the qualitative research methodology, and collected data from various documents, and observations where possible. The study involved library-based, desk, and archive research. Literature was reviewed from books, journals, website pages, newspapers, magazines, government Acts and publications. Authenticity, creditability, representativeness, and meaning determined the choice. The study made the observations in the SADC countries. The researcher was able to draw direct evidence of the eye by visiting various stakeholders in the SADC countries and also went into the field to note the impact of such activities on natural capital. The researcher felt that, at times, it is best to observe what actually happens on the ground. It was, therefore, necessary to do direct observations of natural settings.

IV. Discussion

a) Introduction

Clarke J, (2002:168) citing astronaut Bormann, F., notes that those who have had a chance to watch the earth from as far as the moon, agree that the earth is small, and its resources are limited. The population dependent on it is already too large, and continues to increase. Natural stocks of air and water are rapidly getting polluted with sewage and chemicals. The best everyone can do is to realize that the resources we have are not inexhaustible. We, and the generations to come, all live on this planet.

The natural capital we exploit will not exist in perpetuity. Homo sapiens have been successful. He has increased, but until recently, war, famine, and pestilence have kept that increase within reasonable bounds. As a species, he did not until recently outrun the resources available to him, but during the last century, this has changed. Population growth has become a geometric progression. The dead are no longer the majority. Probably less than a million survived the ice ages. By the time the first cities began to appear eight or nine thousand years ago, the world population could have reached five million. By 1 500 BC world population may have numbered seventy million; by year 1AD, perhaps one hundred and fifty million; by 1600AD five hundred million, by 1800AD nine hundred million and by AD 1900, 1.5 billion. Then acceleration took off. By AD 1950 world population had doubled to three billion. By 1990 it was six billion. More than half the men who ever lived, have lived during the past 70 years. Nearly two-thirds of the built-up area was open land when I saw born. Three hundred and fifty thousand years ago, a man was using fire. Of the fire man has used for heat, transport, power, and war, four-fifths have been used during my life time. I am now 70. This population explosion has not resulted from larger families; on the contrary, almost everywhere, couples had fewer children. The trouble has been that public health has checked nature’s cull. Too few babies have died. Paget, (1995:96).The lives of all of us are intimately tied to the resources our planet provides—resources such as air, water, soil, minerals, plants, and animals. The extent of human impact on the earth depends on the number of people there are and how much of these resources each person uses. The maximum use of resources that the planet or particular region can sustain defines its carrying capacity Beazley, (1993). Though we can increase the carrying capacity through technology and agriculture, there is a reciprocal cost of reducing biodiversity and disrupting ecological processes.

The same argument underpinned the well-known essay penned by the British philosopher Malthus in the 17th century. He posited that the population grew at a geometric progression while food production increased on arithmetic proportions. During that time, his argument was neutralized by the agriculture and industrial revolutions together with Britain’s expansionist and colonialist policies. Today many third world countries remain confined in the Malthusian trap. Now the question is, should population explosion be reduced by letting babies die? Babies cannot be left to die. The solution lies in efficient and effective management and narrowing of the negative co-relation that exists between population growth and its needs against sustainable development through prudent exploitation of natural capital to meet desired goals.

The soil which has kept breaking away from high lands during these ages and these disasters, form no pile of sediment worth mentioning, as in other regions, but keeps sliding away ceaselessly and disappearing away in the deep Plato as cited by Zangger (1992:125). On commenting on the above observation, Zangger went on to say that soil erosion was the most disastrous environmental catastrophe ever to have occurred on earth. Plato, too, considered it as the most important factor of environmental change in ancient Greece, stressing the awareness of people in the Classical period towards their environmental impact (1992:125). From what is happening now, one can conclude that we have not learned much in the past 2330 years. It remains an undisputed fact that the Greeks who lived after the Bronze Age were aware of climatic changes and their consequences, and they also knew that the landscape’s fate is largely dependent on human use and abuse Zangger (1992:127.)Kennedy (1997) cements Plato’s concern above by arguing that
since mid-twentieth century alone, the world has lost nearly one-fifth of the top-soil from its croplands, one-fifth of its tropical rain forests and some tens of thousands of its plants and animal species. And each new investigation of “The Earth as Transformed by Human Action” reveals mounting pressure (1997:98). According to alarming appeal sent to Latin American Presidents in July 1991 by Gabriel Garcia Marquez and other distinguished signatories, as we move into the 21st century, three-quarters of America’s tropical forests may be felled. 50% of their species lost forever. And what these trends reflect is that what nature created over the course of millions of years will be destroyed by us in little more than forty years. In the end, it is not only the environment that gets destroyed, but human beings themselves also. Natural disasters such as floods and earthquakes are a manifestation of the conflicts that occur between people and the geophysical processes.

b) Natural Capital

The concept came about when economists began to view stocks of clean water and air as well as forests, fisheries, and the ever-evolving system that supports them and us as natural capital. Originally, the term was used to refer to those aspects that humanity exploited for its well-being such as fertile top soil. Growing awareness of the intricacy and delicate balance of the relationship between natural environment and human economies is encouraging many to think of our total environment as precious natural capital.

Natural capital has always been ignored in macroeconomic models, and accounting for it comes as an afterthought. It has always been there but appears in a hidden way as a fixed and indestructible factor of production Ramsey (2010). The renowned economist David Ricard called it Land. The term ignores other components of natural capital namely, clear water and air, forests, fisheries, and evolving systems that support them and us.

In the infancy of Economics as a subject, economists defined productive inputs under land labor and capital. Capital here referred to produced capital. Land did not cover all the aspects of nature but was, however, limited in supply. The rest was limitless and taken for granted. Less attention was given to it due to the belief that it was costless, and its supply was infinite.

Now, there is pressure to economize natural capital. The exploitation of natural capital is not sustainable. On the other hand, waste products from production are degrading and polluting the world’s stocks of natural capital.

One may argue why it is necessary to value natural capital; the following reasons suggested by the State of Natural Capital sum it all up:

1. Such valuation is unavoidable since human requirements exceed resources available to satisfy them all. Therefore, as society decides to do one thing, it is making a decision not to do another. Values on each option are implicitly being placed, and trade-offs made.

2. It is better to be explicit about trade-offs and valuations inherent in decision making than to keep them implicit and invisible. By incorporating the value of natural capital into decisions made by the governments, business, and individuals, scarce resources are used more efficiently, economic growth can be better supported, and societal wellbeing increased.

3. The reason for placing a value natural capital is not about putting a price and selling it off. Placing a value on it ensures that it is no longer ignored when making decisions. Mismanagement, over-consumption, and under-investment in natural capital is due to our ignorance of its value (The State of Natural Capital 2015:13).

Humanity consume natural capital directly and indirectly, like other capitals. Some resources within it are aesthetic, intrinsic, and bio diverse. The ecosystem is a vital component of natural capital. In it are visible products such as food, fuel and fresh water and many others that are out of view. It further sustains life through preservation and regeneration of soil, maintenance of nitrogen and carbon, recycling of nutrients, controlling of floods, mitigation of droughts, filtering pollutants, assimilation of waste, pollination of crops, operation the hydrological cycle, and the maintenance of the gaseous composition of the atmosphere Ramsey. F (2010:2). The invisible functions of the ecosystem are ignored in estimating the worth or value of natural capital.

It was discovered recently that the correct indicator of economic progress over some time is the change in inclusive wealth. Inclusive wealth is the sum of the social worth of all capital assets economies rely on. The social value of an asset is its shadow price as opposed to the familiar market price. Shadow value relies on both usefulness and facts. An asset’s shadow price is the contribution an additional unit would make to human well-being Ramsey, F. (2010). That which pollutes has a negative shadow price. Human well-being refers to both those still living and future generations.

In the System of Environmentally-Economic Accounting (SEEA) framework, natural capital refers to all types of environmental assets, the naturally occurring living and non-living components of the Earth constituting biophysical environment European Commission et al. (2014).

The ecosystem assets and natural resources make up natural capital.
United Nations Environment Program (2014:7) citing Voora and Venema (2008) says that the natural capital concept was popularised in the early 1990s and was born out of theoretical advances to bridge the gap between economics and ecology. Various definitions of natural capital underlie human well-being. Daly (1994), as cited by UNEP (2014), defines natural capital as a stock that yields a flow of natural productive resources and tangible natural resources. OECD (2007) defines natural capital as natural assets in their role of providing natural resources inputs and environmental services for economic production. The UNEP (2012) emphasizes specific components; Natural capital includes land, minerals, and fossil fuels, solar energy, water, living organisms, and the services provided by the interaction of all these elements in ecological systems.

Neumayer (n.d.:3) broadly defines natural capital as a stock that provides current and future flows of service. It is then the totality of nature, that is, resources, plant species, and ecosystems that are capable of providing human beings material and non-material services.

The diagram below illustrates the operation of the ecosystems.

**Figure 1: Components of natural capital**
Neumayer (n.d. 6) further posits that natural capital has the following three unique characteristics.

1. It provides basic life support systems that no other form of productive can provide:
   It performs several function other forms of productive cannot do Ehrlich & Ehrlich (1992). It is the basis of life; human and non-human. The world economy is contained in the ecosystem and not the other way round Daly & Townshend (1993). Man has since existed without other forms of capital but cannot survive without other components of the natural productive resource like air and water, to name just two. Nature enables human existence. It can cope with destruction to a certain level, and once it exceeds that threshold, there is a likelihood of total breakdown. There are limits to meta-resource depletion Ehrlich, (1989). These life support resources are non-substitutable, and their degradation leads to irreversible catastrophes. It is hard to calculate their value to human existence. The usefulness is infinite.
To some extent, natural capital is a necessary input to production:

The first law of thermodynamics postulates that we produce nothing without resource inputs and we can destroy nothing as well. There is a minimum productive natural capital needed for resource input and for taking up the unwanted side products of output-pollution and waste. In practice, it is possible to live without produced capital like cars and factories.

2. It provides multiple benefits simultaneously

One of the unique characteristics of natural capital is that it delivers several benefits simultaneously. Investment in natural productive resources has the potential of bringing in plenty of benefits to various beneficiaries.

3. We cannot reconstruct some elements of natural capital once they are destroyed.

Destruction of certain components of natural productive resources is irreversible or quasi-reversible. Other types of natural capital are not substitutable as opposed to produced capital. Though costly and time-consuming, human-made productive resources can be reconstructed. An example of non-substitutability is the destruction of biodiversity, where it becomes impossible to replace the lost species. On the other hand, ozone layer depletion and global warming may regenerate to their former state if allowed to do so though it takes some time. Consumption of non-renewable energy is an example of quasi-irreversibility.

Neumayer (n, d) further argues that the reason we cannot preserve the non-substitutable and quasi-reversible natural capital is because of risk, uncertainty, and ignorance found in abundance in the world we live. ACCA et al. define natural capital as the stock of natural productive resources derived from natural resources such as biological diversity and ecosystems along with geological resources such as gases and minerals. It is the supplier of the products and services upon which the global economy relies and provides inputs and indirect benefits to the business. Natural capital is the quantity of the natural productive resources obtained from natural sources such as physically tangible items, biological diversity, and ecosystems, in addition to gases and minerals. It provides the products and services upon which the economies rely and, is a source of inputs to the business. It is the elements of the natural environment that provide valuable goods and services to people (Natura Capital Committee). It is another term for the stock of renewable and non-renewable natural resources on earth (e.g., plants, animals, air, water, soils, minerals) that collectively produce benefits to people Atkinson & Pearce (1995). The flows can be ecosystem services or abiotic services which provide value to the business and society (Natural Capital Protocol).

Ecosystems are made up of plants, animals, micro-organisms, and the non-living components of nature that work together as a functional unit. They include deserts, coral reefs, wetlands, and rain forests.
Ecosystem services: The intangible utilities that rely on biodiversity obtained by human beings from the ecosystems. Benefits people gain from the ecosystem such as timber, fiber, pollination, water regulation, climate regulation, recreation, mental health, and other.

Abiotic services are benefits people enjoy. These are a product of fundamental geological processes. The comprise supplies of minerals, oils, and gases as well as geothermal heat, wind, tides and the annual seasons. (Natural Capital Protocol)

Biodiversity is made up of various living organisms at species, habitat, and genetic levels. It is a component of natural capital. It is critical to the health, and wellbeing of natural productive resources since it keeps natural calamities like floods and droughts under surveillance. It supports vital processes such as the carbon and water cycle and soil formation. Biodiversity is a component of natural capital and also underpins ecosystem services (Natural Capital Protocol)

c) Impact of public entrepreneurial activities on natural capital

Kennedy (1997) argues that the earth’s thin film of life is entire and interconnected to such an extent that damages afflicted upon the atmosphere by activities in the tropics could have negative effects not just locally but everywhere. He further argues that the environmental crisis we confront now is qualitatively and quantitatively different from anything before because so many people have been inflicting damage on the world ecosystem during the 20th century that the system as a whole—not simply its component parts—may be in danger (1997:96) He further argues that the prospect that human economic activities are creating a dangerous greenhouse effect of global warming with consequences for the entire earth’s ecosystem and the way of life for both the rich and the poor alike.

Every business impacts and depends on natural capital in one way or another and will, therefore, experience some risk and opportunities associated with those impacts and dependencies TEEB (2012). Resultant effects arise directly from business operations or indirectly from the use of products and services. Such effects occur at any point in the value chain through exploration and extraction of raw materials, intermediate processing, and production of finished goods, distribution, consumption, disposal, or recycling. Most of these impacts are negative and include land degradation and air pollution. On the other hand, dependencies on natural capital include the production of crucial inputs like land, raw material water energy, natural filtration of water, waste assimilation, and protection from floods and storm drainage.

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**Figure 4:** Business impacts on natural capital. Source: Natural Capital Protocol
The Natural Capital Protocol argues that to measure dependencies and impacts on biodiversity, one needs to understand the relationships between business activities, the changes in biodiversity, and the associated costs and benefits of these impacts. Business impacts on biodiversity may be direct, or indirect for example, through over-exploitation of natural resources, habitat loss or restoration, fragmentation or degradation of ecosystems, pollution the introduction of exotic species, or contribution to climatic change. They further argue that to measure business dependencies on biodiversity, one needs to understand what aspects of biodiversity business activities rely on, and how external factors can affect them. The value offered to some business is observable in some industries.

The motorized public transport sector

Due to various attributes that include low initial cost, flexibility, and versatility, motorized public transport entrepreneurship dominate markets for both passenger and cargo transport in most developing countries. Although it has become important to balance motorized and non-motorized passenger and cargo transport, the dominance of motorized public transport sector will continue for the foreseeable future. Rapid population growth, urbanization and excessive use of motor vehicles have generated mobility challenges in urban areas of Latin America and the Caribbean, including high rates of congestion, traffic accidents, pollution CAF (2010) as cited by the Inter-American Development Bank. According to a report by the Clear Air Institute, air pollution levels in many Latin American and Caribbean countries exceed World Health Organisation guidelines posing high adverse costs to human health, life expectancy and productivity (Green and Sanchez, 2013).

Volumes of motorized transport are increasing, but unfortunately, the use of emission control technologies is limited. Motor vehicles have become the number one source of urban air pollution in the developing world. Other negative impacts include accidents, noise, congestion, increased energy consumption, and greenhouse gas emissions. Without mitigatory interventions, living conditions in cities of the developing world will continue to deteriorate and finally become unbearable.

Air pollution is a well-known public health problem in most developing world cities. Epidemiological studies show that air pollution in developing countries accounts for high mortality rate, medical costs, and lost production ever years (Fiaz, Weaver & Walsh, 1996).

They list the following as the common air pollutants emanating from motorized transport system:

- Irrespirable particulate matter from smoky diesel vehicles, two-stroke motor-cycles, and 3-wheelers, burning of waste and firewood, entrained road dust and stationary industrial sources.
- Lead aerosol from the combustion of leaded gasoline
- Carbon monoxide from gasoline vehicles and burning of waste and firewood
- Photochemical smog (ozone) produced by the reaction of volatile organic compounds and nitrogen...
oxide in the presence of sunlight; motor vehicle emissions are a major source of nitrogen oxide and volatile organic compounds.

- Sulfur oxides from the combustion of sulfur-containing fuels and industrial processes
- Substances formed in the atmosphere by the reactions involving ozone, sulfur, and nitrogen oxide and volatile organic compounds
- Known suspected carcinogens such as benzene, 1,3 butadiene, aldehydes, and poly-nuclear aromatic hydrocarbons from motor vehicles exhausts and other sources Fiaz, Weaver & Walsh (1996:12)

They go further to state that in most cities, gasoline vehicles are the major sources of lead aerosol and carbon monoxide while diesel vehicles are the main sources of irrespirable particulate matter. In Asia, parts of Latin America and Africa two-stroke motor-cycles and 3-wheelers are also main contributors to emissions of irrespirable particulate matter. Gasoline vehicles and their fuel supply system are the main source of volatile organic compounds emission in nearly every city. Both gasoline and diesel vehicles contribute significantly to emissions of oxides of nitrogen. These, dominate in the emission of toxic air contaminants in the majority of cities and are probably the largest sources such contaminants Fiaz, Weaver & Walsh (1996:14)

V. CONCLUSION AND RECOMMENDATIONS

The study focused on assessing the impact of entrepreneurial activities on natural capital. The resource is an important component of the factors of production. The study can now confidently conclude that economic activities and entrepreneurial actions in particular impact negatively on natural capital. As they carry out their entrepreneurial activities, they will, on the other hand, be depleting, exploiting, and polluting the environment. The situation is exacerbated by poor waste management. Planet Earth is the only asset we, as inhabitants, jointly own. It is imperative that we start acting responsibly, put a stop to careless exploitative tendencies, and try where possible to restore lost elements of natural capital. The developed nations have raised the red flag. Many initiatives are now in progress to halt unnecessary waste and restore the recoverable components of natural capital. Africa’s vast natural resources are under threat of desertification due to population growth, unsustainable exploitation of natural capital and ineffective waste management strategies.

The study recommends the following

1. Governments should prioritize legislation that promotes prudent exploitation of natural capital and restoration of depleted capital where possible
2. Entrepreneurs should be motivated to innovate on business models that endure instead of burning out.
3. Governments need to incentivize those who invest in research & development and innovation in business models whose objectives include among others, achieving sustainable development
4. The researcher also asserts that ‘the role of natural capital in entrepreneurial activities’ should be incorporated in entrepreneurial studies and treated as a vital component of the syllabus.
5. Entrepreneurs’ continuous training and development is of the essence.

The study focused on the impact of entrepreneurial activities—a component of economic activities—on natural capital. The researcher is also aware that there are other variables that impact on natural capital. Social, political, cultural, technological, and legal factors also play a role. These factors create the room for further research. Once all factors are taken into consideration, the human race can then join hands and fight in harmony against the negative impact of all factors to preserve our valuable resource; planet Earth.

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Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea Markets in Southern Highlands of Tanzania

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Abstract- Since 2013, the Government of Tanzania has put in place an agricultural policy that emphasizes sustainable agriculture through sustainable, environmentally friendly crop husbandry practices and public-private collaboration with other agricultural marketing actors in meeting product quality, grades and standards for domestic, regional and international markets. This paper, therefore, assessed the influence of Innovative Activities on Sustainability Standards for Acquisition and Retention of tea markets in the Southern Highlands of Tanzania. It specifically intended to determine the extent of innovative activities undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards; examine the influence of activities on sustainability standards; and examine the power of sustainability standards on acquisition and retention of tea markets in Southern Highlands of Tanzania. The data were collected using a questionnaire from 300 tea growers sampled through a stratified random sampling technique.

Keywords: innovative activities, sustainability standards, acquisition and retention of markets.

GJMBR-A Classification: JEL Code: M10
Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea Markets in Southern Highlands of Tanzania

Dr. CRN, Charles Raphael

Abstract- Since 2013, the Government of Tanzania has put in place an agricultural policy that emphasizes sustainable agriculture through sustainable, environmentally friendly crop husbandry practices and public-private collaboration with other agricultural marketing actors in meeting product quality, grades, and standards for domestic, regional and international markets.

The agricultural policy came as the result of the intention of boosting the development of crop commodities (Economic Survey of the United Republic of Tanzania [URT], 2012). Before the policy, there was low product quality due to poor linkages in crop production, processing, marketing, transactions, technology, policy and other frameworks for sustainability of standards for agricultural products (URT, 2012).

In tackling such challenges, various philosophies, policies, and practices have been currently taken to Tanzania’s sustainable agriculture goals, including voluntary standards for certification of agricultural products and organic agriculture (URT, 2011). In Tanzania, sustainable agriculture refers to the integration of environmental conservation, profitable farms and prosperity of farming population (Action Aid Tanzania, 2011). Sustainable agriculture deals with the capacity of producing sustainably without soil erosion, disturbing ecosystems, human, and social capital for the purpose of maintaining healthy soils. Sustainable agriculture can be achieved by minimizing the use of synthetic fertilizers, pesticides, herbicides, and other possible external inputs.

Importantly, the innovative activities are one of the solutions devised for Tanzania’s sustainable agriculture, which was likewise inevitable in Tea production. The activities based on the cooperation between public and private stakeholders in the tea industry for the purpose of creating an enabling environment of adopting private sustainability standards (Kavia, Loconto & Simbua, 2016). That cooperation is observed in Tea production in the Southern Highlands (Mufindi, Njombe and Rungwe districts). In this cooperation, tea production is divided between smallholder farms and large estates owned by tea companies with processing facilities (Kavia, Loconto & Simbua, 2016). The other stakeholder institutions included Tanzania Smallholder Tea Development Agency (TSHTDA), the Tea Research Institute of Tanzania (TRIT), Rainforest Alliance (RA) standards/Sustainable Agriculture Network (SAN) standards.
standard, three companies on a contract farming basis (Mufindi Tea Company [MTC], Unilever and Wakulima Tea Company [WATCO]). TSHTDA organizes tea smallholders in groups/associations; TRIT provides new technologies and extension frameworks for the system; RA/SAN certifies tea processing factories in which smallholders deliver their tea leaves; MTC, Unilever, and WATCO owns the nine tea processing factories. The duty of the companies is to ensure successful management services to smallholder groups for competent production, processing, and marketing of high-quality teas through the RA and SAN standard (Kavia, Loconto & Simbua, 2016).

Accordingly, the RA and SAN standards aimed at increasing product quantity and quality, and enhancing market recognition of responsible farming. The companies were now helped to retain current markets and tap into new ones for maintaining and improving their markets. The successful RA certification of smallholder tea farmers required noteworthy participation of dissimilar stakeholders in the value chain, in addressing challenges that prevent tea smallholders from implementing RA criteria practices. This involvement ranges from changing the mindset of smallholders, through preliminary training to achieve RA certification, to hands-on guidance, and practical advice (Kavia, Loconto & Simbua, 2016).

It must be remembered that tea ranks fifth after cashew nuts, coffee, cotton, and tobacco as the chief foreign exchange earning export crops in Tanzania (TSHTDA, 2013). Tea contributed US$ 47,993,000 equivalent to 7% of the total cash crop export earnings in 2012 from exports of 26,133 tonnes (Kavia, Loconto & Simbua, 2016). The country earned about US$ 56,031,000 in 2013 after exporting 27,776 tonnes of made tea (Tea Board of Tanzania [TBT], 2013). Also the tea industry contributed significantly to employment opportunities by employing about 50,000 families and about 2,000,000 people directly and indirectly (TSHTDA, 2013).

Due to such importance of the tea industry, some researches were conducted addressing the development and maintenance of the sustainability standards, which in turn lead to the acquisition and retention of tea markets. For example, Baffes (2004) did the study on Tanzania’s Tea Sector: Constraints and Challenges. This study reveals that low prices and late payments by the Tea Authority, old and inefficient processing factories, inadequate use of inputs, rundown transport equipment, poorly maintained feeder roads (i.e., roads connecting farms to tea factories), and low yields due to failure to adopt new clonal varieties, the problem of engineering standards, lack of spare parts, power failures, non-replacement of machinery and overloading were constraints and challenges faced the tea sector in Tanzania.

Additionally, Kavia, Loconto and Simbua (2016) assessed the institutional collaboration for sustainable agriculture with reference to the tea sector in the Southern Highlands of the United Republic of Tanzania. The study portrays that there was a variation of collaboration level between private and public institutions. The institutional innovation implemented by different actors found to have improved numerous traditional tea production practices. However, markets for sustainable products were found restricted to market channels.

The previous but current study, particularly by Kavia, Loconto, and Simbua (2016) indicates the institutional innovation, particularly collaboration between public and private sectors in the tea industry. However, the study did not show the extent to which such institutional innovation undertaken facilitated the tea growers/exporters in obtaining and maintaining certified compliance of tea sustainability standards. Furthermore, the same study did not establish the statistical influence of the institutional innovation on sustainability standards and eventually leading to the acquisition and retention of tea markets. It was thus very essential to assess the influence of institutional innovation on sustainability standards for acquisition and retention of tea markets in the Southern Highlands of Tanzania by:

i. determining the extent of innovative activities undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards in the Southern Highlands of Tanzania

ii. examining the influence of innovative activities undertaken by the tea growers on sustainability standards in the Southern Highlands of Tanzania; and

iii. examining the influence of sustainability standards on acquisition and retention of tea markets in the Southern Highlands of Tanzania

II. Methodology

a) Approach

The quantitative approach was applied in this study due to the nature of the study’s main objective with causal-effect. This objective demanded the study to be approached quantitatively with the support of quantitative data. The approach of the study simplified the understanding of the research problem more absolutely predominantly by elaborating association between variables, i.e., innovative activities, sustainability standards, acquisition, and retention of markets.

b) Design

The study at hand applied an explanatory cross-sectional survey design. The design applied aided
in studying each tea grower as a unit of analysis in Mufindi, Njombe, and Rungwe in Tanzanian Southern Highlands. The design similarly donated in providing a speedy, efficient, and accurate means of assessing information about the studied population. The “what” questions of the study supported the use of the survey design in the study.

c) Area of the Study

The data were collected from Tanzania Southern Highlands particularly in Mufindi, Njombe, and Rungwe districts. The districts were preferred as they are the chosen districts for institutional innovation. These principal districts are with a concentration of major national and multinational tea firms in the country. Tea production in the Southern Highlands (Mufindi, Njombe, and Rungwe districts) is divided between smallholder farms and large estates owned by tea companies with the processing facilities. This brief explanation indicates the presence of private and public institutions that facilitated innovation for the achievement of required sustainability standards.

d) Population Sampling and Data Collection

This study sampled 350 tea growers in smallholder farms and large estates using a stratified simple random sampling technique. The data were collected from tea growers in smallholder farms and large estates using the questionnaires designed in Kiswahili. The 300 questionnaires were received and found complete and useful for the data analysis. The response rate was 86%. The calculation of this sample size is justifiable when based on the nature of data analysis, i.e., Multiple Linear Regression (MLR). The sample size requirements for MLR is calculated using the formula “N > 50 + 8m (where m = number of independent variables)” by Tabachnick and Fidell (2001, p. 117). After calculation, it was noted that this study has not violated the sample size assumption, i.e., N>50+8 (3) = 74. It must be noted that this study had only three predictors and 300 cases which are more than 74 obtained from the formula above.

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<td>32.0</td>
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<tr>
<td>Total</td>
<td>300</td>
<td>300</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 1: Proposed and Field Obtained Sample Size

e) Data Analysis

This study chiefly opted for Multiple Linear Regression (MLR) in analyzing the collected data. Before using MLR, some Descriptive Statistics (DS) were performed mainly regarding demographic information of the surveyed population. The DS was likewise used to obtain the results for specific objective number one. On the other hand, MLR was used to test the relationship between innovative activities, sustainability standards, and acquisition and retention of markets among tea growers in smallholder farms and large estates in Tanzania. In summary the MLR was employed in analyzing the collected data for specific objective number two and three. The MLR was the best technique for analysis because of having more than one predictors and one continuous dependent variable. The predictors were innovative activities, while the continuous dependent variable was sustainability standards or acquisition and retention of tea markets. Specifically, the activities included process, organizational, and technological innovative activities.

\[ Y_1 = a + b_1x_1 + b_2x_2 + b_3x_3 + \epsilon \]

Where: \( Y_1 \)-Criterion (i.e., Sustainability Standards)

\( a \): constant (intercept)

\( b_{1-3} \): Regression Coefficients

\[ Y_2 = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + \epsilon \]

Where: \( Y_2 \)-Criterion (i.e. Markets Acquisition and Retention)

\( a \): constant (intercept)

\( b_{1-4} \): Regression Coefficients

\( x_{1-3} \): Predictors (Process Innovative Activities, Organizational Innovative Activities and Technological Innovative Activities)

\( x_{4} \): Predictors (Tea Workers’ Wage and Rights, Housing and Education, Health and Safety, and Tea Farm Productivity)

f) Measurement of the Variables

This study has two prime variables: predictors and criterion variables. The predictor, in one hand is the institutional innovation, while the criterion is the sustainability standards. In the other hand, the predictor is sustainability standards, while the criterion is the acquisition and retention of markets. The institutional innovation or innovative activities include Process Innovative Activities, Organizational Innovative Activities, and Technological Innovative Activities.

Process Innovative Activities was a non-metric variable measured using three items. These
Innovative Activities and Sustainability Standards for Acquisition and Retention of Tea Markets in Southern Highlands of Tanzania

measurements are according to Ongong’a and Ochieng (2013); Kavia, Loconto, and Simbua (2016). The three items are new technology adopted to harvest tea leaves as opposed to manual labor, improving factories processing capabilities, and production techniques. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Process Innovative Activities in the surveyed districts.

Organizational Innovative Activities was a non-metric variable measured using four items. These measurements are according to Ongong’a and Ochieng (2013); Kavia, Loconto, and Simbua (2016). The four items are highly skilled laborforce (efficient labor force highly trained), well remunerated labour force, reconstruction of clustering resources (a new organizational configuration), and achieving reselection and optimization of strategic goals through the sharing of knowledge, networking, and collaboration. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Organizational Innovative Activities in the surveyed districts.

Technological Innovative Activities was a non-metric variable measured using three items. These measurements are according to Ongong’a and Ochieng (2013); Kavia, Loconto, and Simbua (2016). The three items are generation of new technology for tea production, use of generated technology in tea production, and diffusive process of generated technology. The 5-point Likert scale ranging from 1 (not at all) to 5 (to a very great extent) was used to measure the statement items of Technological Innovative Activities in the surveyed districts.

Sustainability Standards was a metric (continuous) variable evaluated and measured using four major itemized criteria. Similar measurements are outlined by RA/SAN and were previously used by Newsom, Jeffrey, and Milder (2018). The four major criteria are tea workers’ wage and rights, housing and education, health and safety, and tea farm productivity. The number of achieved itemized criteria by the individual tea grower was used as a scale when evaluating Sustainability Standards in the surveyed districts in the Southern Highlands of Tanzania. The number was specifically 100 points for full compliance with a given criterion (major conformity); 50 points for partial compliance (a minor non-conformity), and 0 points for non-compliance (a major non-conformity).

Acquisition and Retention of Markets was a metric (continuous) variable evaluated and measured using quantity itemized criteria according to Kavia, Loconto, and Simbua (2016). The criteria are percentage of tons increased in harvesting season compare to the seasons before introducing the innovative activities; market recognition of RA-certified teas compare to the time before introducing the innovative activities; improved current markets compare to the time before introducing the innovative activities; retained current markets compare to the time before introducing the innovative activities; and new markets tapped compare to the time before introducing the innovative activities.

III. Results and Discussion

a) Descriptive Results

i. Personal Information of the Surveyed Tea Growers

Both sexes of tea growers in Southern Highlands were surveyed in this study. Among the tea growers in the surveyed districts, 70.0% were male, while 30.0% were female (Table 2). The majority of the surveyed tea growers were the male. These results imply that the male are leading in the tea industry compare to the female in surveyed districts.

Concerning the variable age, the range of ages is from 25 to 45 and above years. The results of surveyed tea growers show that, 9% of them had the age between 25-29 years, 10% between 30-34 years, 20% between 35-39 years, 28% between 40-44 years, and 33% of the tea growers had 45 years and above (Table 2). The majority of the surveyed tea growers had, therefore, the age of 45 years and above years old.

Marital status was one of the demographic information explored among the surveyed tea growers in this study. The results show that 9% of the surveyed tea growers were single, 53% married, 16% divorced, and 22% widow (Table 2). The majority of the tea growers were married. These results mean that tea growers who were surveyed in the three districts of Southern Highlands in Tanzanian were married.

The location of this study was three districts. The surveyed tea growers were asked to identify the particular district they were living and working in. In so doing, 30% of the tea growers lived and worked in Mufindi, 34% lived and worked in Njombe, and 36% lived and worked in Rungwe. The majority of the surveyed tea growers were therefore living and working in Rungwe though the insignificant difference is observed from tea growers living and working in other districts.

The lowest education level considered in this study is no formal education level, while the highest level is postgraduate. The results in Table 2 established that 10% of the surveyed tea growers had no formal education, 37% had primary education, 26% had secondary education, 20% had undergraduate education, and 7% had postgraduate education. The majority of the tea growers had primary education in the surveyed districts of Tanzanian Southern Highlands.
### Table 2: Personal Information of the Surveyed Tea Growers

<table>
<thead>
<tr>
<th>Personal Information</th>
<th>Scale</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Male</td>
<td></td>
<td>211</td>
<td>70.0</td>
</tr>
<tr>
<td>2. Female</td>
<td></td>
<td>89</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>300</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 25-29 years</td>
<td></td>
<td>26</td>
<td>09.0</td>
</tr>
<tr>
<td>2. 30-34 years</td>
<td></td>
<td>30</td>
<td>10.0</td>
</tr>
<tr>
<td>3. 35-39 years</td>
<td></td>
<td>60</td>
<td>20.0</td>
</tr>
<tr>
<td>4. 40-44 years</td>
<td></td>
<td>85</td>
<td>28.0</td>
</tr>
<tr>
<td>5. 45 and above years</td>
<td></td>
<td>99</td>
<td>33.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>300</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Single</td>
<td></td>
<td>26</td>
<td>09.0</td>
</tr>
<tr>
<td>2. Married</td>
<td></td>
<td>159</td>
<td>53.0</td>
</tr>
<tr>
<td>3. Divorced</td>
<td></td>
<td>48</td>
<td>16.0</td>
</tr>
<tr>
<td>4. Widow</td>
<td></td>
<td>67</td>
<td>22.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>300</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Residential and Working Area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Mufindi</td>
<td></td>
<td>91</td>
<td>30.0</td>
</tr>
<tr>
<td>2. Njombe</td>
<td></td>
<td>101</td>
<td>34.0</td>
</tr>
<tr>
<td>3. Rungwe</td>
<td></td>
<td>108</td>
<td>36.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>300</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Formal Education</td>
<td></td>
<td>31</td>
<td>10.0</td>
</tr>
<tr>
<td>2. Primary Education</td>
<td></td>
<td>112</td>
<td>37.0</td>
</tr>
<tr>
<td>3. Secondary Education</td>
<td></td>
<td>77</td>
<td>26.0</td>
</tr>
<tr>
<td>4. Undergraduate Education</td>
<td></td>
<td>60</td>
<td>20.0</td>
</tr>
<tr>
<td>5. Postgraduate Education</td>
<td></td>
<td>20</td>
<td>07.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>300</td>
<td>100.0</td>
</tr>
</tbody>
</table>

ii. *The Extent to which Innovative Activities Achieved Sustainability Standards*

This section specifically determined the extent to which innovative activities are undertaken by the tea growers in obtaining and maintaining certified compliance of tea sustainability standards in the surveyed districts of the Southern Highlands of Tanzania. It addresses the extent to which the activities such process, organizational, and technological activities achieved sustainability standards in the surveyed districts in Tanzania.

The results in Table 3 show that, the Process Innovative Activities are undertaken by the surveyed tea growers did not at all achieve Sustainability Standards by 7%, to a little extent by 9%, to a moderate extent by 14%, in great extent by 50%, and to a very great extent by 20%. The majority of the Process Innovative Activities undertaken by the surveyed tea growers in Tanzanian Southern Highlands achieved Sustainability Standards to the great extent.

Furthermore, the Technological Innovative Activities undertaken by the surveyed tea growers did not at all achieve Sustainability Standards by 10%, to a little extent by 10%, to a moderate extent by 8%, to a great extent by 44%, and to a very great extent by 29% (Table 3). The majority of Technological Innovative Activities undertaken by the surveyed tea growers in Tanzanian Southern Highlands achieved Sustainability Standards in great extent.

Besides, the surveyed tea growers achieved Organizational Innovative Activities in a very small extent by 24%, in a small extent by 49%, in a large extent by 16%, in a very large extent by 8%, and 3% of the tea growers in surveyed districts were neutral on the achievement of organizational innovative activities (Table 3). The majority of the tea growers in the surveyed districts achieved organizational innovative activities in the small extent in the districts of Tanzanian Southern Highlands.
From the results presented above, it is generally but openly realized that the Process and the Technological Innovative Activities were undertaken by the surveyed tea growers in a great extent. The above results are supported by Ongong’a and Ochieng (2013) who previously found that, the indispensable elements of innovation and adoption of new technology system which included knowledge and education domain, business and enterprise domain, and bridging institutions that link the two domains were adopted in great extent in the tea industry in Kericho Kenya.

On the other hand, the Organizational Innovative Activities were undertaken by the surveyed tea growers in a small extent in the surveyed districts of the Southern Highlands in Tanzania. These results may be supported by Ongong’a and Ochieng (2013) who previously noted that the majority (33.3%) of tea firms in Kericho, Kenya did not at all adopt new technologies despite their development.

Generally, the extent of undertaking innovative activities by the tea growers in surveyed districts in Southern Highlands in Tanzania varied. This variation is likewise found by Ongong’a and Ochieng (2013) in Kericho Kenya, whereas the extent of adopting the use of information technologies, development of new products, increased variety of new products, new marketing, new packaging, and new marketing strategy varied.

b) Inferential Results

The Multiple Linear Regressions (MLR) was the principal Inferential Analysis used in this study. The model was performed to predict the influence of innovative activities on sustainability standards; and the influence of sustainability standards on acquisition and retention of tea markets. Preliminarily, some keystone analyses were done in avoiding violation of the MLR assumptions. The assumptions addressed were sample size, independence of residuals/relations, outliers, multicollinearity, normality, linearity, and Homoscedasticity.

i. Influence of Innovative Activities on Sustainability Standards

This section presents and discusses the results of specific objective two, which aimed at examining the influence of innovative activities undertaken by the tea growers on sustainability standards in Southern Highlands of Tanzania. Having used the MLR, the results indicate that sustainability standards (outcome variable) were explained by the model with the innovative activities (predictor variable) by 42%. The value obtained was .420, which implies the model explained 42% of the variance in sustainability standards (see Table 4). In testing how well the regression model fitted the data, it was found that the computed F statistics was 28.081 with an observed significance level of 0.000. The models reached the statistical significance which was p<0.001 (see Table 4). It was anticipated that, the innovative activities undertaken by the tea growers had positive influence on sustainability standards in the surveyed districts in the Southern Highlands of Tanzania. The summary of regression analysis run portrays the results in Table 4.
Moreover, the results show that Process Innovative Activities had a statistically significant and positive influence on sustainability standards (Beta = .215, t = 6.315, p < 0.001). These results imply that the more the tea growers practice process innovative activities, the more they achieve the sustainability standards.

Furthermore, organizational innovative activities had a statistically significant and positive influence on sustainability standards (Beta = .198, t = 5.232, p < 0.001). These results may advocate that the more the surveyed tea growers practiced organizational innovative activities, the more they achieved the sustainability standards in the surveyed districts of Tanzanian Southern Highlands.

Likewise, technological innovative activities had a significant influence on sustainability standards (Beta = .196, t = 5.129, p < 0.001). These results entail that the more the surveyed tea growers practiced technological innovative activities, the more they achieved sustainability standards in surveyed districts in Tanzanian Southern Highlands.

Generally, this study at hand noted that the process, organizational, and technological innovative activities had statistically a significant and positive relationship with sustainability standards among tea growers in the surveyed districts in Tanzanian Southern Highlands. These results are likewise supported by the earlier studies. For example, the previous study by Ongong’a and Ochieng (2013) revealed that innovative strategies adopted in tea industry in Kericho resulted into increased revenues, high productivity levels, and reduced costs which in turn led to improved sustainability standards.

Moreover, Kavia, Loconto, and Simbua (2016) previously realized that the institutional innovation implemented by different actors the adoption and achievement of sustainable practices for sustainability standards. This means that the tea companies in the Southern Highlands were able to ensure that sustainable practices were adopted by smallholder farmers in which the standard acted as an incentive for the adoption of sustainable practices precisely because all the different actors collaborated around the goal of certification and changed their organizational practices to support this new goal.

### ii. Influence of Sustainability Standards on Acquisition and Retention of Tea Markets

This section entails the results for the third specific objective of the study. It aimed at examining the influence of sustainability standards on acquisition and retention of tea markets in the Southern Highlands of Tanzania. The results of MLR display that, the acquisition and retention of tea markets (outcome variable) were explained by the model, with the sustainability standards (predictor variable) by 35%. The value obtained was .345, which means the model explained 35% of the variance in the acquisition and retention of tea markets (see Table 5). In testing how well the regression model fitted the data, it was found that the computed F statistics was 19.198 with an observed significance level of 0.000. The models reached the statistical significance, which was p<0.001 (see Table 5). It was foreseen that the sustainability standards achieved by the tea growers had a positive influence on the acquisition and retention of tea markets in the surveyed districts in the Southern Highlands of Tanzania. The summary of regression analysis run depicts the results in Table 5.

### Table 5: Influence of Sustainability Standards on Acquisition and Retention of Tea Markets

<table>
<thead>
<tr>
<th>(Constant)</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ Wage and Rights</td>
<td>.426</td>
<td>7.023</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Housing and Education</td>
<td>.142</td>
<td>2.385</td>
<td>.018</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>.076</td>
<td>2.212</td>
<td>.028</td>
</tr>
<tr>
<td>Farm Productivity</td>
<td>.567</td>
<td>10.780</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.613a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Additionally, the results illustrate that the Workers’ Wage and Rights had a statistically significant and positive influence on the acquisition and retention of tea markets (Beta=.426, t=2.481, p<0.001). These results imply that the more the tea workers obtain their respective wages and rights, the more the tea market are acquired and retained by the tea growers in the Southern Highlands of Tanzania.

Furthermore, housing and education had a statistically significant and positive influence on the acquisition and retention of tea markets (Beta=.142, t=2.385, p<0.05). These results may campaign that, the more the surveyed tea community obtained housing and education, the more the tea growers acquired and retained tea market in the surveyed districts of Tanzanian Southern Highlands.

Likewise, health and safety had a significant influence on the acquisition and retention of tea market (Beta=.076, t=2.212, p>0.05). These results entail that the more the surveyed tea community obtained health and safety, the more the tea growers acquired and retained tea markets in the surveyed districts in Tanzanian Southern Highlands.

The studied sustainability standards such as workers’ wages and rights, housing and education, health and safety, and farm productivity were generally found statically significant to the acquisition and retention of tea markets in the surveyed districts of Sothern Highlands in Tanzania. Previously, Ongong’a and Ochien (2013) likewise exposed that innovative activities adopted in the tea industry in Kericho resulted into increased revenues, high productivity levels, and reduced costs, which in turn led to improved sustainability standards and eventually resulted into the acquisition and retention of tea markets.

Additionally, Kavia, Loconto, and Simbuu (2016) previously noted that the institutional innovation implemented by different actors has changed numerous old tea production performances; improved green leaf price; and created favourable relationships between smallholders and companies in the production chain. A sustainable production of product for the market is not contributed alone by a single incentive.

### IV. Conclusion and Areas for Further Research

#### a) Conclusion

The studied innovative activities such as process, organizational, and technological innovative activities had a statistically significant and positive relationship with sustainability standards among tea growers in the surveyed districts in the Tanzanian Southern Highlands. Among other factors, the activities contributed 42% in obtaining and maintaining certified compliance of tea sustainability standards.

On the other hand, the studied sustainability standards, such as workers’ wages and rights, housing and education, health and safety, and farm productivity had a statistically significant and positive relationship with acquisition and retention of tea markets in the surveyed districts of Sothern Highlands in Tanzania. Among other factors, the sustainability standards contributed 35% in acquiring and maintaining tea markets.

When the innovative activities are practised to a great extent by the tea growers, the sustainability standards are achieved and eventually lead to the acquisition and retention of the tea markets. It is therefore recommended that the tea growers and exporters should continue to practice thoroughly the innovative activities for effective and efficient achievement of sustainability standards leading to successful acquisition and retention of tea markets.

#### b) Areas for Further Research

The reasons on why some innovative activities are practised in a small extent are not addressed in this study. Future study can be done to come up with the reasons of difference in practiced extent of the studied innovative activities.

Furthermore, this study has not able to address the simultaneous direct and indirect relationship between innovative activities, sustainability standards and tea market acquisition and retention. Further research can be done in the future in establishing the simultaneous direct and indirect relationship between innovative activities, sustainability standards and tea markets acquisition and retention.

Moreover, not all innovative activities e.g., product innovative activities are covered in this study. Further research can be done in the future by studying all types of innovative activities and statistically relate them with sustainability standards and tea markets acquisition and retention.

Finally, the studied innovative activities contributed 42% on sustainability standards, while sustainability standards contributed 35% on the tea markets acquisition and retention. The future study is suggested to know other factors that influence sustainability standards and tea markets acquisition and retention.

<table>
<thead>
<tr>
<th>R Square</th>
<th>.366</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted R</td>
<td>.345</td>
</tr>
<tr>
<td>ANOVA (F, SIG.)</td>
<td>19.198 (&lt; .001)</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

The author deeply appreciates all the people who have fruitfully contributed to the production of this paper. Their contributions are acknowledged; however, their names cannot be mentioned individually.

REFERENCES Références Referencias

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Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27” x 11”, left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word “Abstract” in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words.
Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper’s subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

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j) There should be brief acknowledgments.
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**Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

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A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

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Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, “What words would a source have to include to be truly valuable in a research paper?” Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

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Numerical methods used should be transparent and, where appropriate, supported by references.

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Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

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Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

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Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.
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Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

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1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

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7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

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11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

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23. **Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

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**Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

**Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

*The discussion section:*

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

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- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles (“a” and “the”).
- Keep paying attention to the topic of the paper.

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• Use paragraphs to split each significant point (excluding the abstract).
• Align the primary line of each section.
• Present your points in sound order.
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• Use past tense to describe specific results.
• Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
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An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

• Fundamental goal.
• To-the-point depiction of the research.
• Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
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The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

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- Briefly explain the study's tentative purpose and how it meets the declared objectives.
Approach:
Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

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This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

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Materials:
*Materials may be reported in part of a section or else they may be recognized along with your measures.*

Methods:
- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:
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Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:
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The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.
Content:
- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:
- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:
As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

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Discussion:
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<table>
<thead>
<tr>
<th>Topics</th>
<th>Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-B</td>
</tr>
<tr>
<td>Abstract</td>
<td>Clear and concise with appropriate content, Correct format. 200 words or below</td>
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<tr>
<td></td>
<td>Above 200 words</td>
</tr>
<tr>
<td>Introduction</td>
<td>Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited</td>
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<tr>
<td></td>
<td>Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads</td>
</tr>
<tr>
<td>Methods and Procedures</td>
<td>Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake</td>
</tr>
<tr>
<td>Result</td>
<td>Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited</td>
</tr>
<tr>
<td>Discussion</td>
<td>Complete and correct format, well organized</td>
</tr>
<tr>
<td>References</td>
<td>Complete and correct format, well organized</td>
</tr>
</tbody>
</table>
INDEX

A
Agrarian · 11

C
Cluster · 26, 27, 28, 37
Considerably · 11
Counterparts · 20
Crisis · 5, 9, 97

D
Deficit · 5, 7, 45
Disclosure · 49, 50,
Distinguishing · 49, 71

F
Fossil · 3, 4, 5, 11, 13, 15, 93

G
Geothermal · 3, 7, 9, 10, 11, 13, 97

H
Humanistic · 18, 24

P
Potentials · 3, 4, 5, 7
Predominance · 5

R
Reconstruct · 20, 95
Regrettably · 19
Renewable · 3, 4, 7, 11, 13

U
Uncertainty · 55, 75, 86, 96, 100
Unfortunately · 3, 7, 15, 88
Unprecedented · 9, 65

W
Worsen · 5