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Article

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A leadership competence framework for sustainable development in the manufacturing industry in a developing country context: the bicycle metaphor

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ABSTRACT

The article presents a leadership competence framework for sustainable development (LCFSD) contextualized to the United Nations' Sustainable Development Goals (SDGs), to drive businesses to contribute to the achievement of these goals. A synthesis of metatheories and leadership theories produced a three-pillar draft leadership competence framework (LCF) that informed the field enquiry. Face-to-face interviews were conducted with 12 executives (five CEOs; six executives; one former executive) in the beverage manufacturing industry in Zimbabwe using the snowball sampling technique. Data were transcribed and analysed thematically. The results were incorporated in the development of a reconstructed LCF. Four experts validated the LCFSD, confirming its applicability and transferability; thus, their suggestions were incorporated. The outcome is a LCFSD depicted by a bicycle metaphor comprising five pillars, namely strategic competences (presencing, intergenerational systemic behaviour, reflexivity, stakeholder engagement, strategic awareness, sustainability thinking, knowledge of metrics of measurement, inclusivity skills, multiple leadership styles); core competences (social responsiveness, ecosystem thinking, self-leadership, knowledge of SDGs, innovative thinking); core values (ethical; caring for all, respect for all, doing the best for local communities, diplomacy, beliefs in sustainable development); collaborative competences (build diverse teams, partnering skills); and person-leader competencies (leadership competences at exercised at personal level).

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Introduction

A leadership competence framework (LCF) is a form of an inventory of elements on what leaders can and should do that enable effective leadership (Gigliotti, 2019). Whereas Nel et al. (2011, p. 145), considers an LCF as "a grouping of behaviours into sets for the purpose of accomplishing strategic objectives". In this article, an LCF is defined as a set of skills, behaviours, qualities and values (Bolden et al., 2003) that contributes to performance (SHRM, 2008) and represents an integral part of an organization's strategy (Thompson et al., 2013).

A literature review found that existing LCFs were too broad to give the required impetus to the UN Sustainable Development Agenda 2030 (Gigliotti, 2019; Mazibuko et al., 2015; Tavitiyaman et al., 2014). The LCFs did not mainstream sustainable development. A global empirical study organized by Ashridge Business School on 194 business leaders revealed a knowledge performance gap for sustainability leadership skills in all the organizations surveyed (Gitsham et al., 2008). An IBM global study concluded that business leaders were not fully equipped to address sustainability issues, and many CEOs doubted their own capabilities to manage sustainability (Strandberg, 2015). Literature on sustainable leadership is still underdeveloped. However, recently there has been notable contributions from authors such as Armani

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et al. (2020), Cheng et al. (2021), Gerard et al. (2017), Kantabutra and Saratun (2013), Mattos et al. (2022), Iqbal and Ahmad (2021), and Iqbal et al. (2020).

According to Kantabutra (2022), corporate sustainability is now an all-embracing goal for corporates to survive and succeed because they are dealing with uncertainties emanating from the high-velocity environment. The uncertainties result from the deep interconnectedness amongst society, the environment and the economy. In this regard, sustainability is regarded as an underlying contemporary change driver bringing together other forces in the changing business environment (Najam et al., 2007) through the 17 sustainable development goals (SDGs). Thus, Nidumolu et al. (2009) argue that competitive advantage will accrue to companies that make sustainability a goal. Pätäri et al. (2015) and Garbie (2014) add that sustainability is the new mega-force driving change and will affect the ability of business to succeed. Moreover, companies that will succeed in the future will be those managed by leaders who possess adaptive and flexible skills to respond quickly to the changing business environment (Brown & Harvey, 2011).

In September 2015, the UN General Assembly (2015) approved the Sustainable Development Agenda 2030, which is anchored on 17 SDGs. Countries, organisations and individuals are expected to implement the Agenda (Cesário et al., 2022) in collaborative partnership (General Assembly, 2015). Garbie (2014) explains that there are two levels of sustainability: the first one is the macro level, referred to as sustainable development, and is government driven; while the other is on the micro level, which encompasses the private sector, and which is considered vital to pursuing the big picture of sustainable development. According to the General Assembly (2015), the 17 SDGs are global, integrated, and indivisible. They are premised on the 5P framework (people, planet, prosperity, peace, & partnerships). When profit is added to the list, the result is a 6P framework that can act as a successor to the 3P framework (triple bottom line) propounded by Elkington (2004); this 3P framework is centred on people, planet and profit. Elkington (2004) admitted the inadequacy of the triple bottom line, in that it is not comprehensive enough to address business sustainability premised on sustainable development and environmental protection. Hence, there is a need for a 6P framework – the sextuple bottom line. There is also a need to ensure that leadership possesses competences that synchronize with changes in the business environment that are driven by sustainable development.

Given this contextual background this article addresses the problem of existing corporate LCFs that are considered inadequate to drive companies to effectively contribute to the achievement of the SDGs. The outdated LCFs were viewed as too broad and do not mainstream sustainable development to give the required impetus to the SDGs Agenda. Hence, the envisaged LCF should give confidence to business leaders to manage sustainability because the framework will act as a reference point. Therefore, a research gap exists because there is no leadership competence framework that is based on sustainable leadership competences contextualized to SDGs and that is targeted at the manufacturing industry in a developing country. Secondly, this article contributes to a gap in literature on sustainable leadership, which is still in its infancy. To contribute to the two gaps, this article sought to answer the following overarching research question:

How can an LCF be developed that optimizes sustainable development in the manufacturing industry in a developing country? The following secondary research questions are pertinent:

- i. How can leadership theories and metatheories be synthesized to derive leadership competences that inform a draft LCF?
- ii. How can the broad draft LCF be used to develop a final LCF that ensures sustainability of the manufacturing industry in a developing country?

Therefore, to develop the draft LCF, a synthesis of metatheories and leadership theories was conducted through a literature review.

Literature review

Synthesizing metatheories and leadership theories to derive leadership competences

In this section metatheories and leadership theories were synthesized to derive leadership competences that are suitable for sustainable manufacturing

Table 1. Metatheories and leadership theories contributing to the development of an LCF.

	Theory	Orientation	Leadership competencies/competences
Metatheories	Quantum Bohm (1952); Boje (2012); Dyck and Greidanus (2017); Schamer (2007)	Reconciles needs of business with demands of the social and ecological environment	Knowledge of entanglement, indeterminism and indivisibility of quanta; presencing; and learning from evolution
	Systems theory Hernandez et al. (2015); Mele et al. (2010); Paulin (2014); Scharmer and Kaufer (2013); Von Bertalanffy (1969)	Connectedness and interdependence	Systems thinking; ecosystems awareness; concerned with the well-being of all global communities; inter-generational systemic behaviour; and linking current and future generations
	Contingency/ Situational Bairantus and Agapitou (2016); Fiedler (1986); Hickson et al. (1971); House (1971); House and Mitchell (1974); Peretomode (2012); Reddin (1970); Tannenbaum and Schmidt (1975)	Variety of competencies and ability to engender flexibility	Problem solving; decision making; rational thinking; reasoning; task focus; uncertainty coping; skill uniqueness; and interpersonal relationship
	Implicit Leadership Theory Chaleff (2003); Dixon and Westbrook (2003); Epitropaki et al. (2013); Favara (2009); Fein et al. (2015)	Mental models held by followers on their leaders and vice versa.	Sense making; implicit beliefs; convictions; morality; power; sensitiveness; skillfulness; impressiveness; dedication; intelligence; dynamism; interpersonal; goal efficiency; versatility; industry; enthusiasm; conformity; good citizen; incompetence, insubordination; team player; proactive; positive attitude; obedience; expressing opinion; flexibility; dependable; communication; supportive; dependable; taking ownership; integrity; mission conscience; decisive; confidence; authentic; charismatic; diplomatic; servanthood; facilitator; passion; resilient; humour; and humbleness
Adaptable leadership Theories	Transformational Bairantus and Agapitou (2016); Bass (1985); Burns (1978); Krishnan (2005); Shirazi et al. (2014)	Motivating followers to achieve more	Inspirational; influential; considerate; intellectual stimulation; and pro-activeness
	Managerial Leadership Flanagan and Thompson (1993); Langford (1979)	Integrates situational, transactional; and transformational skills	Situational sensitivity; transactional; and transformational
	Spiritual leadership Fachrurnisa and Adhiatma (2014); Fry (2003); Fry et al. (2005); Jeon et al. (2013)	Elevated spirits for leader and followers and is inspirational and transformational	High spirits; visionary; motivate self and others; commitment; employee wellbeing; faith; altruistic love; and calling
	Sustainable development leadership Akins et al. (2013); Armani et al. (2020); Cheng et al. (2021); Gerard et al. (2017); Grooms and Reid- Martinez (2011); Iqbal and Ahmad (2021); Iqbal et al. (2020); Kantabutra and Saratun (2013); Martinez (2011); Mattos et al. (2022); Peterlin (2016); Peterlin et al. (2013)	Emphasises well-being of the present and future generations and is key to implementation of sustainable development agenda 2030	Multiple intelligences; recognising intricate systems; wellbeing of future generations; deal with stakeholder conflict; sustainability learning; social justice; developing human and material resources; developing environmental diversity and capacity; activist engagement with the environment; develop deep learning attitudes that spread and last; higher order thinking skills; socially responsive; reflexivity; open monitoring and evaluation; sensitive; cognition; humility; ethical behaviour; honesty; integrity; reflecting; engaging; empowering; ecosystem awareness; resilient response; information competency; psychological empowering; focus on sustainability; and dynamic capability.
Complementary Leadership Theories	Democratic/Participative Blake and Mouton (1961); Choi (2007); Fadare (2013); Greenleaf (1977); Huang et al. (2010); Mohamad et al. (2009); Northouse (2016); Vincent (2016)	Rallying followers or teams to focus on objectives or goals	Facilitating; consulting; consensus building; encouraging; supporting; influencing; empowering; and ethical
	Authoritarian/Autocratic Amini et al. (2019); Kalu and Okpokwasili (2018); Northouse (2016)	Giving directives to followers for achieving goals	Task knowledge; goal setting; power retention; decisiveness; and transactional skills
	Authentic Bakari et al. (2017); Walumbwa et al. (2008)	Promotes positive psychological abilities and ethical climate	Ethical; self-awareness; internalised morality; relational transparency; and balanced information processing
	Servant Greenleaf (1977); Parris and Peachey (2013)	Selflessness of the leader for the good of followers	Honesty; integrity; visionary; role modelling; listening; teaching; authenticity; humbleness; power and status sharing; and stewardship;
	Ethical Brown et al. (2005); Toor & Ofori (2009); Wu (2017)	Premised on social learning theory and emphasises morals	Role modelling; moral standing; interactional fairness; rewarding and disciplining; honesty; kindness; and courage
	Psychological or 3P Model Scouller (2016)	Self-identity, purpose and feelings	Emotional intelligence, resilience, presence, authenticity, and servant ship
	Responsible leadership Bass and Bass (2008); Cameron (2011); Ruwanika and Massyn (2019); Teodorescu (2015); Walsh et al. (2003)	Emphasises relationships with all stakeholders and ecology based on ethics, values and norms	Stakeholder engagement; sustainability centered organisational culture; learning oriented towards sustainability; measuring and reporting sustainability results; exploration and assertion; attachment and affiliation; sense of enjoyment; justice; recognition; and care

In [Table 1](#), a summary is provided from the metatheories as well as adaptable and complementary leadership theories that were used in identifying potential leadership competences.

Management theory, from which leadership theory stems, uses both quantum and systems theory as its building blocks (Olusoji, 2015). Therefore, these two metatheories were included in the analysis from a metatheory perspective. Leadership theories were classified into adaptable and complementary theories. The theories that are adaptable are contingency/situational; implicit leadership; transformational; managerial leadership; spiritual leadership; and sustainable development leadership. These theories possess attributes that enable them to respond to the changing business environment; whereas complementary theories are not adaptable to the changing business environment on their own but strengthen adaptive theories. The theories that complement adaptable theories are democratic/participative; authoritarian/autocratic; authentic; servant; ethical; psychological or 3P model; and responsible leadership. This mixture of adaptable and complementary theories is necessary, because the environment is driven by multiple forces of change. In [Table 1](#), the theories are listed, together with their orientation and the leadership competences/competencies that could potentially be incorporated in the leadership competence framework.

Review of existing LCFs

A review of LCFs found in the literature showed that the LCFs contained leadership competences that corroborate competences derived from the leadership theories in [Table 1](#). These LCFs are from the hospitality industry (Weerakit & Beeton, 2018); the health sector (NHS, 2011); global industry (Kim & McLean, 2015); manufacturing (Van Beek & Grachev, 2010); organizational sustainability (Faruk & Hoffmann, 2012); and a changing business environment (Strandberg, 2015). These LCFs have competences that make them adaptable to a changing business environment. On average the LCFs had three pillars namely, values, core leadership competences, and strategic leadership competences as shown in [Table 2](#).

The significance of [Table 2](#) is that it provides an orientation for the envisioned draft LCF, based on the three-pillar structure namely: strategic-level leadership competences, core leadership competences and core values. This three-pillar structure is the support base for the draft LCF.

The theoretical framework for this research was premised on leadership theory contextualised to sustainable development and anchored on quantum theory (Bohm, 1952) and systems theory (Von Bertalanffy, 1969). From a business perspective, sustainable development is viewed from a 6Ps framework (people, prosperity, planet, peace, partnerships & profit) as opposed to the 3Ps (triple bottom line).

Table 2. LCFs in literature that are adaptable to a changing business environment.

Derived From	LCF Characteristics	Orientation	Competences/Competencies
Hospitality industry	Hotel management	Core	Self-management; interpersonal skills; problem-solving; strategic orientation; communication; decision-making; ethics and integrity; and cultural authenticity
		Operations Strategic	Language skills; computer skills; and teamwork Concern for community; challenging others; taking calculated risks; intellectual stimulation; role model; and inspirational motivation
Health Sector	Healthcare management	Core	Values-driven; relationships; management skills; and leading
Global industry	Changing world	Strategic	Create vision; and strategic
		Core	Cultural contingency, task oriented; relationships; and awareness
Manufacturing (Unilever)	Competences for growth	Strategic	Global business knowledge; and purposefulness
		Values	Passion for growth; breakthrough thinking; organisational awareness; seizing the future; change catalyst; developing others; holding people accountable; empowering others; team commitment; strategic influencing; and team leadership
Theory	Competences for organisational sustainability	Lower level	Understanding global impact; effective dialogue; political and policy orientation; passion; optimism; analytical thinking; creative thinking; creating accountability; developing people; promoting best practices; delegating; empowering; team leadership; and team working
		Values	ethics and integrity
		Medium	Decision making; judgement; managing innovation; partnership building; courage; persistence; and securing buy-in
Theory	Competences for a changing business environment	Strategic	Supra environmental awareness; visioning; strategy formulation; risk management; stakeholder engagement; flexibility; and adaptability;
		Core	Sustainability literacy; and active values
		Strategic	Systems thinking; external collaboration; social innovation

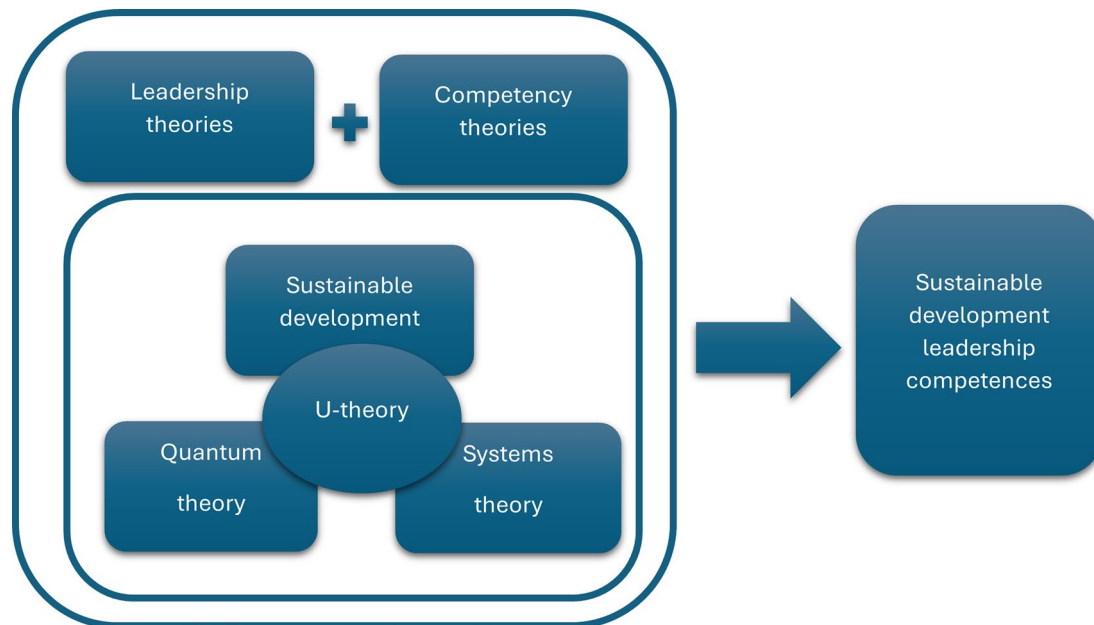


Figure 1. Theoretical Framework.

Quantum and systems are the metatheories identified for synthesis with leadership theories, that contributed to the draft LCF from literature. Quantum theory is viewed from an entanglement, indeterminism, and indivisibility perspectives. Whereas, systems theory is dissected into systems thinking, ecosystems, intergenerational systems. The relationship between these metatheories and leadership theory is premised on the collaborative tension between quantum and systems theories, cemented by interconnectedness and entanglement (Dyck & Greidanus, 2017; Scharmer, 2007), which is essential as the base that supports leadership theory. Whereas, U-theory (presencing) connects quantum theory, system theories and sustainable development (Scharmer & Kaufer, 2013). Leadership theory was considered appropriate because the research sought to identify leadership competences that would drive companies in the manufacturing industry to effectively contribute to the achievement of SDGs. Leadership theory is the study of how people influence and facilitate individuals and team efforts to accomplish shared objectives Yukl's (2012). A study of leadership theory requires understanding the various schools of leadership thought namely, trait, behavioural, contingency/situational, followership, and contemporary leadership theories. Sustainable leadership is a new area of effective leadership, established recently to cope with matters related to sustainable development (Iqbal & Ahmad, 2021) that falls under the school of contemporary leadership thought; hence, the quest for sustainable development leadership competences. Figure 1 represents the theoretical framework of this research.

The draft leadership competence framework

This draft LCF draws from the basket of theories (Table 1 and Table 2) to identify leadership competences that could drive sustainable manufacturing. The existing LCFs (Table 2) formed the basis on which the framework was built. From the metatheories and leadership theories, competences were divided into three categories, namely core values, core leadership competences and strategic leadership competences. The identification of the leadership competences to be included in the draft framework, had to take into consideration the current business context and therefore needed to be responsive to the current trends in the external environment and be able to measure the contribution to organizational goals, the SDGs and future generations. The 6P framework is used as a tool to bring in accountability.

The draft LCF has the following values that are suitable for sustainable manufacturing, mainly derived from the metatheories and complementary leadership theories: ethical, caring for all and everything, integrity, and respect for all. The values provide person-leader competencies (elements/indicators) for each key value. The core leadership competences are as follows: ecosystems awareness, multiple

intelligences, knowledge of sustainable manufacturing patterns and practices, systems thinking, and socially responsive. These core competences are required of every leader and every leadership position. The strategic leadership competences are as follows: presencing, intergenerational systemic behaviour, reflexivity, stakeholder engagement, and strategic awareness. The strategic competences are required at the top level of leadership. The contributions of this literature synthesis, coupled with the broad draft LCF, informed the empirical study and the design of questions used in the field enquiry.

Methods

The draft LCF from literature was the basis of the research design whose research approach was a qualitative inquiry of a phenomenological nature. The phenomenological approach sought to establish the lived experiences of leaders in the beverage manufacturing industry guided by questions formulated from a draft LCF derived from literature review. The reconstructed LCF, after field enquiry, was subjected to validation by experts culminating into the leadership competence framework for sustainable development (LCFSD).

Semi-structured interviews were conducted with 12 participants from the beverage manufacturing companies listed on a stock exchange in Zimbabwe. Table 3 shows the profiles of participants.

Table 3. Profile of participants.

Gender	Job Title	Status in this research	Gender	Job title	Status in this research
Male	CEO	Former executive	Female	Divisional director	Executive
Male	Retired CEO	Former executive	Male	CEO	Non-executive
Male	CEO	CEO	Male	Divisional executive	Executive
Male	CEO	Former CEO	Male	General manager	Executive
Male	Divisional executive	Executive	Male	Divisional director	Executive
Male	CEO	CEO	Male	General manager	Executive

This sample was purposively selected using the snowball technique targeting four CEOs as the nucleus. These companies were targeted because they were obliged to do sustainability reporting in compliance with stock exchange regulations. It was believed that such participants could inform understanding of leadership competences in the context of sustainable development. The focus was on the experiences of participants with LCFs; the meanings they attach to LCFs for sustainable manufacturing; and their subjective views.

The draft LCF was subjected to a field inquiry to test its viability based on interview questions derived from the draft. Data was audio recorded, transcribed, analysed and interpreted leading to some themes from the draft LCF being confirmed, de-confirmed or new ones added resulting in a reconstructed LCF.

The process as well as the reconstructed LCF were validated by four experts: an academic in Lesotho, a telecommunications industry executive in Zimbabwe, a construction industry CEO in Zimbabwe, and a CEO and board chair of various companies in Zimbabwe. The validators were selected according to Anney's (2014) argument that transferability of findings is aided by purposively selecting experts. Suggested changes from validation experts were incorporated leading to the LCF for sustainable development (LCFSD) depicted by the bicycle metaphor.

Data analysis and interpretation

The data was dissected into three category themes and nine subcategory themes, producing results shown in Table 4.

The initial category themes were deducted from the draft LCF; whereas subsequent category themes were identified from interview data. The three category themes are sustainable development, integrated leadership competences development, and effective leadership competences. The category or subcategory themes in bold font in Table 4 are new themes arising from the field inquiry, whereas the rest are from the draft LCF. The new category theme is *integrated leadership competences development*, and the new subcategory theme is *collaborative leadership competences*. The category themes and their subcategory themes are discussed next.

Table 4. Data categories and outputs.

	Category theme	Subcategory themes	Outputs – Themes, competences or elements
1	Sustainable development	Context	SDGs; livelihoods; future generations; responsible management; quantum; ecosystems; intergeneration systems; and presencing
		Knowledge	Relevancy of SDGs; the changing business environment; partners in sustainable development; and resource management
2	Integrated leadership competences development	Organisational leadership competences	Dialogue; culture change; capacity building; programmes for developing leadership competences; and channels for developing leadership competences
		Person-leader competencies	Training; personal development; conscience development; performance management; mentorship; coaching; and counselling
3	Effective leadership competences	Strategic leadership competences	Presencing; intergenerational systemic behaviour; reflexivity; stakeholder engagement; strategic awareness; <i>sustainability thinking; knowledge of metrics of measurement; inclusivity skills; and multiple leadership styles</i>
		Core leadership competences	Social responsiveness; ecosystem thinking; <i>self-leadership; knowledge of SDGs; and innovative thinking</i>
		Core values	Ethical; caring for all; respect for all; <i>doing the best for local communities; diplomacy; and beliefs in sustainable development</i>
		Collaborative leadership competences	Build diverse teams; and partnering skills
		Person-leader competencies	The competences in this table become competencies when viewed from the personal level of the leader; hence, there is no need for duplication. The focus of this article is on organisational competences and not person-leader competences.

Sustainable development

Knowledge of sustainable development is important, because it provides the context in which leadership competences were contemplated. Kawulich (2004) emphasizes the importance of understanding context, because it enables one to respond appropriately to the questions of a study. Most participants who declined to participate reviewed the interview questions supplied in the invitation, then replied that they had little knowledge of sustainable development, or of SDGs. For example, CEO D1 replied:

Thank you for inviting me to participate in your leadership in the context of SDGs research. To derive value from participants, it seems to me the participants must be familiar with SDGs. I am not very familiar. Without that context, I do not believe the research will benefit from my input.

However, knowledge of context helped participants, because they understood that SDGs impact and are impacted by the corporate world. Participant P9 explained:

I know SDGs developed from millennium development goals (MDGs). I think at that point, which is three or four years back and beyond, it was just academic. We thought these are NGO and UN issues. But I know for a fact [that], over the last year or two we have focused on SDGs, which we think, at least, are relevant to our industry.

Integrated leadership competences development

This theme focuses on how to develop leadership competences to optimise sustainable beverage manufacturing. The theme is important to the study, because leadership competences need to be developed that respond to a business environment premised on sustainable development as indicated in Table 4 item 3. Participants agreed unanimously that existing leadership competences were not effective, and they suggested methods to develop organizational leadership competences and person-leader competencies. On organizational leadership competences, participant P8 made a representational statement saying:

We need to clearly define, which goals are key to the company; set minimum standards to be met on each goal; learn and develop; set specific training for the set standards; and inculcate a culture of ownership of the sustainability agenda.

Participants P3 and P4 suggested national dialogue that includes all economic sectors. Participants P2, P8 and P12 called for the inculcation of a sustainability culture and culture change. Most participants advocated for capacity development, with participant P6 saying:

Capacity building of corporate leaders is something that should be happening regularly. What I have seen in many of the companies' CEOs, managing directors or general managers, is that once they reach the top, some of them are not keen to keep learning. They should take advantage of programs such as sustainable development management.

Participant P6 wanted organizations to learn from the best, whereas P5 suggested channels for developing leadership competences, such as local chapters of Business Council for Sustainable Development and Confederations of Industries.

Participants P1, P4 and P6 identified training as a starting point for amplifying person-leader competencies, with P4 saying:

My preferred way is that, nothing beats taking leaders from their own immediate setting and putting them in a situation where they have a different learning environment. This can be achieved in different ways such as sending them away on training programs. Our company has done that consciously over the last couple of years.

Participants P2, P3 and P4 suggested personal development, by emphasizing management development programs, secondments to other companies, continuous learning and continuous improvement. P5 suggested conscience development anchored in self-introspection. Lastly, P5, P6 and P8 believed performance management was essential for the development of person-leader competencies – this should close the gap for mentorship, coaching and counselling.

Effective leadership competences

Effective leadership competences are determined by a particular context, such as competences for project leadership (Mazibuko et al., 2015); leadership competences for a globally competitive Thai hospitality industry (Weerakit & Beeton, 2018); competences for global leadership (Kim & McLean, 2015); and core leadership competences for successful corporate growth (Van Beek & Grachev, 2010). The requirements of different contexts suggest that effective leadership competences are contingent upon the situation (Van Beek & Grachev, 2010). Hence, the orientation of this article, which found contingency/situational leadership to be the most suitable, and the most adaptable in a changing business environment, both internally and externally. Participants viewed the effectiveness of existing leadership competences in the context of SDGs according to three sub-themes, namely, the need to upscale existing leadership competences, the existence of gaps, and areas where competences existed; thus, corroborating the views of Peterlin et al. (2015) and Schriberg and McDonald (2013). The desired leadership competences discussed next are strategic leadership competences, core leadership competences, core values, collaborative leadership competences, and person leader competencies.

Desired strategic leadership competences

Participants unanimously confirmed the five key strategic leadership competences in the draft LCF. Participants supported presencing, with participant P5 summarizing their general feelings saying,

It [presencing] is almost like the antenna of the business. If the antenna is picking up the wrong signals, it can lead us into danger. So, precisely it is a very important competence to have. Especially if we are talking about guaranteeing a better future for generations to come. That ability to be able to presense and therefore, be able to bring it into actual (sic) today, and be part of the future, can be sound.

Participants P4 cautioned on the dilemmas associated with presencing, saying,

My own take on presencing is that there are several dilemmas. The first one is that you cannot presense if you focus too much on the present. So, one is looking at a balance between focus on the past, focus on the present, and a focus on the future.

These views corroborate U theory, where Scharmer and Kaufer (2013) aver that, to enable “letting come” the future, one should have an open mind, open heart and open will to actualize future possibilities. Participants also supported strategic awareness, with participant P6 marrying strategy and SDGs

saying, “What we need to see in the companies, is the mainstreaming of sustainability, pitching of strategy and sustainable development at the board level”.

Participant P2 argued that strategic awareness and presencing mean the same, stating, “We are saying the same thing in different terms. Essentially, they are related. It’s just the level of emphasis which differs”.

However, participant P12 insinuated disagreement based on the sequencing of the interview questions saying:

I see your questions are coming out nicely [With reference to presencing]. You started off saying the future. So, somebody has said look this is what is going to happen. Then someone says, if it’s happening like this, we will be here [there]. This is where we prefer to be. Then the strategist says, if you want to get there, this is the route.

Support for reflexivity was represented idiomatically by participant P7, who said,

In our organization we call it ‘wearing our pants loose’. Last week we were selling [our products] in United States dollars, this week we have said we want local currency. But we are responding to the environment because there are some forces in the environment that might get us to that.

Participant P11 brought a generational perspective to reflexivity, by arguing that, “The older the leadership, reflexivity is a problem. The younger the leadership, they are very agile”. P11 insinuates that the old guard is conservative in relation to change. However, conservatism cannot be limited to the older generation, as it also affects young people – conservatism is associated with one’s attitude to taking risk. Anyhow, reflexivity and change move together, because a continuously changing environment requires maintenance of flexibility and adaptability, by revisiting vision, goals and objectives (Akins et al., 2013). The inclusion of the young generation in leadership structures requires competences of intergenerational systemic behavior.

Participant P1 explained the enabling perspective of intergenerational systemic behaviour saying:

As an organization moves forward, one generation takes on another one, as change goes... One has to take some key legacy issues and be able to transmit them to a future generation. So, a lot of talent development or training is required to move forward, ensuring that, whatever you do today, you create a sustainable future for generations to come.

Participant P4 argued for intergenerational systemic behaviour, saying, “Bring in young people into management teams and boards. We are not doing enough right now”.

Recruitment must encourage an intergenerational mix and mainstreaming the youth. Hernandez et al. (2015) agree, by emphasizing promotion of corporate sustainability through creating intergenerational systems. The foregoing suggests that future generations are stakeholders, because they have an indirect interest in the present.

Participants acknowledged the importance of stakeholders in business. P1 argued that “relevant SDGs created stakeholders for each goal adopted by the organization”. This plurality of stakeholders is reinforced by the IoDSA (2012), who argue that a company that seeks to endear itself with society must be prepared to account to a diverse group of stakeholders. Participant P12 agreed, saying,

We actually have a stakeholder management program, which categorizes stakeholders into bands. What are we doing with government, employees, and customers? Do we understand them? So, stakeholder relations are a deliberate act. We have an office that just looks at stakeholders that reports (sic) to the general manager.

With reference to stakeholder relations, participant P4 said:

Now with the SDGs approach, it means corporate leaders have to give-up power. They have to recognize that it is an interdependent world [and] that interdependence means they have to consult more.

However, this article exposes the inadequacy of the stakeholder model, in that the future generation is not recognized as a stakeholder.

Four new themes that emerged from the data are sustainability thinking, knowledge of metrics for measurement, skills of inclusivity, and multiple leadership style. Sustainability thinking is induced from participant P9’s explanation:

I have a simple understanding of strategic competences; that [it] is the ability to operate sustainably. Whatever decisions, whatever you are doing, must have a bearing into the future, long-term. That way you don’t then live for the day. It takes you into a space of not being selfish. Whatever issue you are looking at, you are then saying it is like this today, what is the ideal destination?

P9's statements encapsulated the now, and future issues, which resonate with presencing – P9 referred to idealizing the future. P9's reference to the ability to operate sustainably suggests organizations should inculcate sustainability thinking. IoDSA (2012) corroborates this view, stating that sustainability thinking engenders accountability to a diverse group of stakeholders, and for taking responsibility for common ecological capital. Lozano (2015) concurs, arguing that the new world order demands organizations to think about sustainable development in the entire strategic management process.

Participant P6 proffered knowledge of metrics of measurement, by saying:

It is quite obvious that you cannot manage something, which you cannot measure. In the beverage industry, one might want to measure how many kilowatt hours have been used per litre of beverage? Then you will be able to compare. It is not sufficient to know and sing the SDGs [agenda], without the knowledge to measure its implementation.

Harris and Tayler (2019) argue in favour of metrics of measurement because measuring levels of behaviour gives form to strategy, since strategy is abstract. However, skills of inclusivity bring everyone on board, to which participant P7 said,

What I have found is that, after five to six years, you begin to see the new skills of leaders popping up. What is it that you now start seeing that is different? There is a tendency to be inclusive. Let's hear what John has to say.

Nonetheless skills of inclusivity should not come into being after five to six years of leadership but must be inculcated right at the beginning of the leadership cycle. Skills of inclusivity are pertinent to the sustainable development agenda, because they resonate with the Agenda 2030 mantra that "no one will be left behind" (General Assembly, 2015). These skills speak to SDGs 4 and 16.

Multiple leadership styles replace multiple intelligences, because intelligence is associated with the person-leader. Hence, participant P6 said, "The modern day 21st century business leader should be multi-skilled. Whatever you were talking about, I want to look at it as multi-skilled; to say, what is the modern-day leader supposed to have?" Participant P10 questioned the need for multiple leadership styles arguing that, "They [multiple leadership styles] can never be developed to the same extent, which is why you always win in teams". However, Amanchukwu et al. (2015) observed convergence among researchers, that there is no one leadership style that is universal in all situations, and this is why the behavioural leadership approach has devolved into the different leadership styles/models that leaders can adopt.

Desired core leadership competences

Only two of the core competences in the draft LCF gained participants' support, namely, social responsiveness, and ecosystems thinking, formerly ecosystems awareness. Participants considered social responsiveness important to the survival of their organizations. Participant P4 explains: "We now see ourselves as a citizen of society and getting our Licence to trade from the community and society in which we operate". Whereas, participant P7 argued for responsible management, saying: "No-one has a right to profit. Do this in a responsible manner, understanding that we must share value creation equally [equitably]".

Ecosystem awareness was renamed ecosystems thinking to integrate it with systems thinking. Consequently, participant P1 said: "The whole concept of an ecosystem engenders systems thinking and that you are looking at the system as opposed to looking at it in parts". Participant P2 discredited systems thinking by saying:

[Systems thinking] It's an old buzzword, which has not been taken up generally in many countries, because of the nature of its complexity. It's easy to say the words, but it's not easy to conceptualize it and to bring it together, essentially... issues, which emerge from systems thinking find their way into strategic thinking, because systems thinking is only a tool to facilitate better strategic planning.

Thus, in support of ecosystem system thinking participant P3 said,

I think an understanding of how environmental pollution works, leads to an appreciation that this is something that is borderless and cannot be contained in a single unit. Therefore, actions need to be coordinated to make an impact that we are all interdependent in that, actions of others may impact on others in other parts of the world.

Knowledge of sustainable manufacturing was integrated into “knowledge of SDGs”. Whilst, multiple intelligences, was renamed multiple leadership styles and moved to strategic level of leadership.

Participants proffered three emerging themes, as follows: self-leadership, knowledge of SDGs, and innovative thinking that engenders smart technologies. Participant P7 emphasized the importance of self-leadership, by saying, “Before you can lead others, first of all you must be able to lead yourself”. Participant P10 agreed. Cottrell (2015) corroborates by equating self-leadership to self-discipline, because it involves regulating emotions, feelings and conduct in different contexts. Weerakit and Beeton (2018) consider self-leadership as a generic competence. On knowledge of SDGs, P3 summed up the views of participants by saying,

I think the core competences to really bring this to life revolve around an understanding and appreciation of how our operations and processes can impact on SDGs, either positively or negatively. Also understanding how we can innovate on our processes to mitigate adverse impact or to promote the advancement of the SDGs.

Knowledge of SDGs resonates with sustainability thinking and helps to embed SDGs in operations. Hence, the General Assembly (2015) urges the private sector to be partners in contributing to achieving the 17 SDGs, bearing in mind that these goals are global, integrated, and indivisible.

However, participant P3 argued for inculcating innovative thinking in advancing the SDG agenda. Participant P12 agreed, saying, “The mind-set and the skills required are changing. So, we need thinkers, innovators, people who come up with new ideas; people who understand their area”. Tabbah and Maritz (2019) corroborate by stating that disruptive innovation challenges the status quo and impacts the economy, society and ecology.

Desired core values

Ethical, caring for all, and respect for all were fully supported. Participants acknowledged the role of ethics and integrated integrity into it; participant P3 explains:

Ethics sit very squarely when we are preparing products for consumption by consumers. When I look at our need for consistent quality and food that is safe for consumers, it just seems to me that ethics are the bedrock of that entire value chain that leads to the manufacturing of foods and beverages. Because we all need integrity about product declarations [on] what is contained in those products. We are also depending on our suppliers to be ethical in terms of what they are disclosing about the raw materials they are supplying, because we rely on that to make claims about our final products to the consumer.

Kibert et al. (2012) corroborates this view, arguing that ethics is implicit in sustainable development. In integrating ethics and integrity, participant P8 said, “These values are interwoven. You cannot talk of ethics and leave out integrity”.

Participants agreed that caring for all and everything was important; participant P3 sums up saying,

I see at the center of the entire global sustainability agenda, I think the foundation of that is caring: caring about what is going to happen to our planet in 50 years or 100 years, when we are not here. That implies, it is a concern for us. The fact that, it is a concern suggests that we are caring.

Participant P7 disagreed, saying, “Look, this sounds like blue sky stuff”, though P7 admitted that, “We worry [care] about our environment. This is why we do things that we spoke about”. Taking into account P7’s dissent, the word ‘everything’ is dropped and the value shortened to ‘caring for all’.

Participants agreed that respect for all is a fundamental value. Participant P5 elaborated the human relations and the environmental perspectives of respect saying,

Respect is almost like a given. When we talk about relationship building, where there is respect there is progress, so to speak. So, when it comes to even the conduct in the business environment, I think even when we talk about SDGs, your topmost is, respect women through your gender policies. If you respect nature, you gonna [will] be asking questions around how I can use chemicals properly. If respect flows throughout the organization, it can mean a lot in terms of unity of purpose.

Participant P12 added, “We have moved away from the term employee to associates to try and bring in the humane element”. Respect is a leadership behaviour found in many leadership models: the spiritual

model (Reave, 2005); the ethical model (Littman & Littman, 2017); the visionary model (Dwivedi, 2006); sustainability leadership (Peterlin et al., 2013); and the ecosystem model (Scharmer and Kaufer (2013).

Three new core values that arose are beliefs in sustainable development; doing the best for local communities; and diplomacy. About beliefs, participant P12 said,

The [SDG] agenda is saying let's correct what is not right. What we have done is, we got the values framework right to say, 'we believe it is not right to have poverty; [and] we believe that it is not right not to have integrity'. Then we say, because you believe, now you can have competences. Competences are now enabling you to execute what you believe.

Participant P8 added to the beliefs perspective by saying, "If what we are producing here is not going to make the environment better, stop the machine! That's our value".

Participant P12 emphasized the importance of doing what's best for local communities, saying, "We are going into communities and doing projects where we are operating, focusing on poverty alleviation; education; and other works. I think we have gone past being too excited by profits, but with impacts".

This value advances a business agenda for SDGs that endears corporates with communities.

Participant P6 identified diplomacy as a SDGs value saying:

One of our values is diplomacy, which resonates very well with SDG 17 of partnerships for goals, peace, justice, strong institutions, and climate diplomacy. I have just completed a course in climate diplomacy on the road to be one of the negotiators of climate change.

Desired collaborative leadership competences

SDG 17 speaks to collaborative partnerships, including the corporate world. This pillar relates to the ability to build diverse teams, and partnering skills. On the ability to build diverse teams, participant P12 said:

We have done an exercise around ourselves and properly placed the team such that, if you look at the whole team, what you are seeing is, it has all the competences necessary to execute the [SDG] agenda. We have done that assessment already to say, what is so and so able to do and properly placed the team so that achievement of goals is easier.

Role theory supports the foregoing in that incumbents in distinct roles are linked to complement one another (Vandenberghe et al., 2017). On external collaboration teaming-up, participant P12 said, "We have teamwork, although it sometimes refers to internal [teams]. We work with a lot [of] others in building programs that are directed at achievement of these goals". The ability to build diverse teams is pertinent, because the SDGs agenda is pregnant with inclusion issues, particularly SDGs 4, 5, 8, 9 and 16 (General Assembly, 2015).

Partnering is a perspective of collaboration. It is encapsulated in SDG 17, which requires multi-stakeholder partnerships to implement the SDG Agenda: "Strengthen the means of implementation and revitalize the global partnership for sustainable development" (ECOSOC, 2015, p. 1). Hence, participant P12 put partnering skills into perspective by stating that,

We expand a lot, around other communities, between ourselves; amongst ourselves; [and] externally. I think it's quite encompassing; and when you are using it as a frame of reference for what you then plan to do, I think it still directs you to the same thing that your organization should actually see profit as a by-product rather than a principal product.

Desired person-leader competencies

Most participants believed that their comments in the competences section were applicable to the person-leader. This correspondence is corroborated by Wickramasinghe and De Zoyza (2011), who explain that the concepts of competencies and competences are used either to mean the same thing, or as concepts with different meanings. However, in this research the word competencies apply at person-leader

level. The field inquiry did not seek participant views on person-leader competencies. However, participant P12 advocated for social intelligence as an important person-leader competence.

Validation of the reconstructed leadership competence framework

An analysis of the validation results culminated in the following inductive themes: overarching views; views on the developed LCF and the graphical integration; and applicability of the framework. There was consensus on overarching views that the study contributed to leadership development, and that the outcome was relevant and had practical implications for business. The validators considered the draft LCF and the conceptual framework to be a fair representation of the literature. One validator suggested that 'sustainability living' should be added as a core value, because it would integrate the SDGs into organizational values. This suggestion was taken on board and sustainability living was added to the final LCF in Figure 3. Sustainability living is practiced by Unilever (2023) and centres on improving health, reducing environmental impact, and enhancing livelihoods and well-being. Validators confirmed that the proposed LCF fully integrates the findings from literature and the empirical study. Lastly, they confirmed unanimously the transferability of the LCF, agreeing that it is applicable and transferable to any manufacturing organization and any other industry in a developing country.

Leadership competence framework for sustainable development

Figure 2 presents a graphical representation of the LCFSD. This is the main outcome of the conception process as depicted by the bicycle metaphor. The LCFSD is conceived from three main themes. The context is sustainable development (rear wheel) supported by the metatheories (spokes), integrated leadership competences development (middle frame), and the organization (front wheel) is where the contingency/situational leadership style is applied resulting in key sustainability leadership competences (triangle and cog). The leadership (steering handles) ensures that the organization (front wheel) is focused on contributing to SDGs and the future generation.



Figure 2. The leadership competence framework for sustainable development.

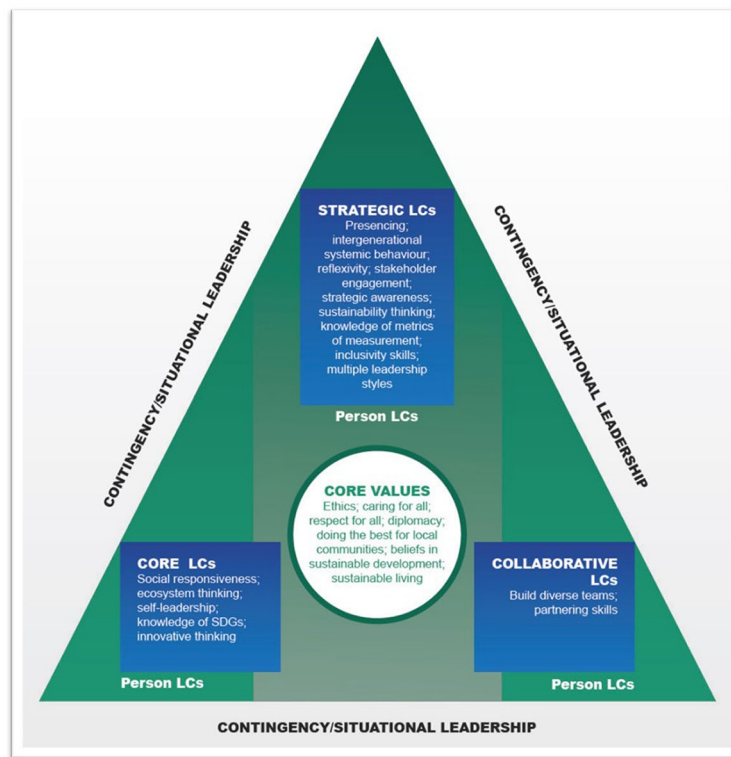


Figure 3. Key leadership competences for sustainable development.

The rear wheel drives the sustainable development agenda, as one cycles the gear pedals. It is backed by the following metatheories: ecosystems; intergenerational systems; presencing; and quantum theories. The 6P framework is the template for strategic planning that embeds sustainable development into business strategy. However, to develop the leadership competences desired for sustainable development, an integrated leadership competences development framework is required (middle frame). This middle frame helps the organization to develop competences at both organizational and personal levels (Table 4 item 2). Therefore, the article proposes a LCFSD using key leadership competences based on the contingency situational leadership approach (front wheel), which comprises nine strategic leadership competences, five core leadership competences, seven core values, and two collaborative leadership competences. These competences should assist to optimize sustainability in the manufacturing industry. Figure 3 zooms out the triangle in the front wheel of the bicycle (Figure 2), to show, in metaphorical form, the key leadership competences.

Figure 3 shows that the core values (middle circle), as a front gear, drive the rest of the leadership competences. Sustainability living as a value is an input by the validation experts. The person-leader competencies are found in every leadership competence pillar, because organizational leadership competences require people to drive them. Therefore, with this new revelation, person-leader competencies become sub-pillars of leadership competences at organizational level, and not stand-alone pillars.

Conclusion

Practical implications for business

Business should adopt the LCFSD as a toolkit for developing leadership competences that will enable the organization to contribute to SDGs, for the benefit of future generations. Start by exploring using the integrated leadership competence development framework, to develop institutional competences and person-leader competencies. This will result in developing leaderful organizations with a collective responsibility for leadership, as opposed to the traditional approach of developing competent leaders. This potentially could accelerate a future where sustainable development is part of the fiber of organizations.

Secondly, to attain sustainable leadership, business could simply adopt the generic key leadership competences espoused in [Figure 3](#) comprising 16 leadership competences and seven core organizational values. The leadership style recommended for this framework is contingency/situational style.

Theoretical implications

LCFSD is a new term developed from the results that is contextualized to SDGs and resonates with sustainable development leadership, which is in its infancy. Hence, this research contributed the LCFSD to the discourse on sustainable leadership where a literature gap exists.

Limitations of the research

The study was confined to executives and former members of beverage manufacturing companies and not to the various levels of stakeholders in the organizations.

Directions of future research

Considering that the study was confined to executives and former members of beverage manufacturing companies, research can be extended to the testing of the LCFSD to the various levels of stakeholders in organizations. Whilst the validation experts believed the LCFSD is applicable to the manufacturing industry and transferable to other industries, applying the framework to other industries will test the validation results. Further research is required on how the sextuple bottom line (6P) framework can be operationalized, and whether it should be the successor to the triple bottom line (3P) framework.

Disclosure statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability statement

The data that support the findings of this study are available on request from the first author. The data are not publicly available due to the data containing information that could compromise the privacy of the research participants.

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