

## THE INDISPENSABILITY OF CRITICAL THINKING SKILLS (CTS) TO MANAGEMENT AND LEADERSHIP

<sup>1</sup>Tarisayi Andrea Chimuka and <sup>2</sup>Lesedi Mashumba-Paki

<sup>1</sup>Lecturer, Department of Theology and Religious Studies, University of Botswana

<sup>2</sup>Lecturer, Department of Sociology, University of Botswana

### ABSTRACT

The present age in one in which we find ourselves engulfed by globalization and enhanced technology. Africa has been sucked in too. Naturally this increases the speed of business and employees at all levels are facing the need for adaptation in a bid to maintain sustainability and development. Work settings are bound to change regularly, and employees find themselves increasingly assuming new roles, often with limited direction. Employees at times find themselves under pressure to make their own decisions promptly and responsibly, then justify themselves to superiors afterwards. These decisions have to be good ones. If they fall short, then business suffers. The question is; have companies trained their employees to make decisions that are sound?

**Keywords:** Critical Thinking, Logic, Analysis, Judgement, Evaluation, Innovation, Creativity Cognitive Technologies, Decision-Making, Critical Strategies, Converging Technologies, Strategy

## **INTRODUCTION**

Globalization and technological advances are twin factors which have brought significant economic development the world over. Our social and business environments have been significantly transformed, but problems of adaptation have surfaced as a result. These challenging business environments require leaders to be aggressive in their planning in order to make their entities relevant competitive. Business leaders also have the responsibility to promote sustainable development. This, among other, things involves constant reconfiguration and extending the influence of their business ventures to poverty alleviation, community development, sanitation, and environment conservation – issues that have for a long time been reserved for politicians and Non-Governmental Organizations (NGOs). In this respect, Corporations are impelled to change ways of conducting business in order to stay competitive, relevant and maintain sustainability.

The globalizing changes mentioned above have also increased the speed of business. Businesses are increasingly appropriating and harnessing technology to achieve their developmental goals. We argue that businesses will do well by embracing cognitive technologies in the form of improved communication and critical thinking. In light of the issues highlighted above, this paper, seeks to underscore the role of critical thinking skills (CTS) in business management and leadership in response to the dynamic novel demands for sustainable development. An increasing appreciation of critical thinking, particularly logical reasoning can be one of the pillars of business transformation and development, both of which are linked to improved macro-performance.

The paper is divided into four sections. The first attempts to define what critical thinking in a challenging world. The second examines why CTS are important to the business leaders – particularly to managers and company executives. The third assesses the impact of cascading CTS to lower level employees. The fourth appraises the importance of CTS to social transformation and economic development

## **CRITICAL THINKING SKILLS AND THE EVER CHANGING WORLD OF BUSINESS**

The concept of ‘development’ has changed significantly over a couple of decades (Harris, 2000, p. 1). Although several definitions can be thrown about, it generally stands for activities meant to promote the good life. It is common to talk of economic or socio-cultural development (OECD, 2001, pp. 7,9). Development thinking has for the last fifty or so years also shifted from the ‘sweat, blood and tears’ approach to the celebration of human cognitive abilities and creativity (Sen, 1997, p. 1). Sen observes that there was a time when development was considered a fierce battle. (Sen, 1997, p. 4). This was the BLAST view, where people were expected to toil and slave for progress (ibid.). However this view gave way to a more amicable view which regarded development as a ‘friendly’ process of the interdependences of the market (ibid). Sen calls the latter, the ‘getting along with little assistance from others’ (GALA) view of development (Sen, 1997, p. 6). Sen makes the qualification that this general classification is loose. GALA and BLAST can take many diverse theories of development and also allows some theories to flirt from one model to the next (ibid). Sen acknowledges that there has been a change in the conception of economic development with emphasis placed on human capital (Sen, 1997, p. 19). A correlative to this is the

issue of sustainability, which has always been associated with promoting the good life while respectful of the environment (Hardi, 1997, pp. 7,8,9). Hardi sums this up:

Sustainable development is not a “fixed state of harmony.” Rather, it is an on-going process of evolution in which people take actions leading to development that meets their current needs without compromising the ability of future generations to meet their own needs. Conversely, actions that reduce the ability of future generations to meet their own needs should be avoided (Hardi, 1997, p. 9).

While it is desirable to produce goods that are needed in day to day life, it is required that the means of doing so ought to be amenable to environment protection as well as keeping a futuristic gaze and factor in the welfare of succeeding generations. Thus, sustainable development is a matter of design (Hardi, 1997, p. 9). There is need to strike a balance between environmental concern and socio-economic demands (Hopwood, 2005, p. 39). The thrust today is on development but, done at very little cost or impact on the environment (Martin, 2008, pp. 31-2). Hopwood and others accept that there are many approaches to sustainable development (Hopwood, 2005, pp. 38-41). Five characteristics of sustainable development have been identified as follows: (i) equity, (ii) social justice, (iii) responsibility, (iv) respect for others and (v) recognition of biodiversity. Hopwood sums it thus:

... the ideas of sustainable development in five principles based on equity: futurity – inter-generational equity; social justice – intra-generational equity; trans-frontier responsibility – geographical equity; procedural equity – people treated openly and fairly; interspecies equity – importance of biodiversity (Hopwood, 2005, p. 40).

As the social front, for example, education has been recognized as a vector for sustainable development in disseminating the values of equity, justice and sustainability in schools and colleges and universities (Cebrian, 2015, p. 2769). Baumgartner contends that sustainable development is a global and long-term challenge whose management is quite taxing (Baumgartner, 2010, p. 73). It is critical therefore to develop complex systems and knowledge to manage all this (ibid.). This paper focuses only on a single thread of the complex matrix of the knowledge economy. It probes how the development of human capital can promote sustainable development. Today, most development thrusts are made by knowledge, either scientific or technical (OECD, 1996, p. 3). Knowledge is now recognized as the engine that drives development (ibid.).

Today’s business environments are complex and ever-changing together with the world (Afsar, 2011, p. 144). This point is aptly captured by Duderstadt et.al when they say:

We live in a time of great change, an increasingly global society, driven by the exponential growth of new knowledge and knitted together by rapidly evolving information and communication technologies. It is a time of challenge and contradiction, as an ever-increasing human population threatens global sustainability; a global, knowledge-driven economy places a new premium on technological workforce skills through phenomena such as out-sourcing and off-shoring; governments place increasing confidence in market forces to reflect public priorities, even as new paradigms such as open-source software and open-content knowledge and learning challenge conventional free-market philosophies; and shifting geopolitical tensions are driven

by the great disparity in wealth and power about the globe, manifested in the current threat to homeland security by terrorism (Duderstadt, 2008, p. 2).

Confronted with these complex changes, the business world must not cringe and regard this as insurmountable obstacles. Instead, companies must interpret these developments as opportunities for their sustainability and community development (Duderstadt, 2008, p. 3). Now of the many changes listed above, we want to highlight how technology is driving this change. We would like to explore also how ‘converging technologies’ provide opportunities for businesses to grow. Rocco et.al defines it as:

... the synergistic combination of four major “NBIC” (nano-bio-info-cogno) provinces of science and technology, each of which is currently progressing at a rapid rate: (a) nano-science and nano-technology; (b) bio-technology and bio-medicine, including genetic engineering;(c) information technology, including advanced computing and communications; (d) cognitive science, including cognitive neuroscience (Rocco M. C., 2002, p. ix).

Scientists are optimistic that the convergence and synergy of technologies are poised to benefit humanity in development. Before this, the sciences have been developing separately in competition with one another and never integrated for the common purpose of benefiting humanity. Rocco and partners advance the view convergence of technology has materialized particularly in the 21<sup>st</sup> century where a lot of things are being brought together – communities, technologies, activities – all for the sustainable development of human kind (Rocco M. C., 2013, pp. 1,2). Further, the authors contend that this movement presents immense advantages to people:

CKTS allows society to answer questions and resolve problems that isolated capacities cannot, as well as create new competencies, technologies and knowledge on this basis. This concept is centered on the principles presented in this report: of interdependence in nature, and society with application to the essential platforms of human activity systems; the enhancement of creativity and innovation within knowledge and technology through convergence – divergence (spin-off) evolutionary processes; a holistic system deduction approach being applied in decision analysis; the value of higher-level cross-domain languages to generate new solutions and support transfer of new knowledge; and the value of vision-inspired basic research endeavours (Rocco M. C., 2013, p. 2).

Granted that these converging technologies are a feature of the 21<sup>st</sup> world order encapsulating economic development, their impact on the world of business is undeniable. Some researchers have lamented this development:

Today, complexity and uncertainty are palpable. Planning for even the next quarter is a challenge. Even more difficult is committing to decisions that will play out over one to five years. In the words of one senior executive: “We’ve lost our crystal ball.” What is the next breakthrough product, game-changing service, or compelling vision? What’s the process for getting there? (Horth, 2014, p. 2)

As a consequence, leaders of business are impelled to strategize and promote dynamic operations in order to bring sustainable development as well as stay relevant. This involves developing competitive abilities and competencies which would transform their respective organizations. According to Frederick Ricci, critical thinking is required among managers and the teams of employees they lead to promote sustainability. At all levels, when one is confronted with vexing situations,

one must be able to consider the evidence at hand from all sides and be able to come up with rational and realistic strategies for action (Ricci, 2014, pp. 69,70).

The need for critical thinking skills in business circles is corroborated by Crystal King who advocated for the cultivation of critical thinking skills in the entire employee body beginning with management:

Smart companies around the globe are dependent upon active critical thinkers in order to develop, produce and disseminate their goods and services. Managers in a position of creating change within their organizations need to learn, exhibit and teach critical thinking skills to their colleagues and employees. Why? Because making decisions in today's world—a world of increasing pressure, uncertainty, conflicting ideas and opinions create challenges that managers need to adeptly navigate. Understanding key methods of critical thinking helps managers learn to address the right problems, identify risks and make better decisions (King, 2015).

One may inquire what role mere critical thinkers would play in profit-making ventures. Critical thinking promotes critical discussion, which in turn promotes the essential skills for individuals and groups. In this respect it is important for strategic planning and decision making (Wang, 2007, p. 74), risk management (Cokely, 2009, pp. 20,21) and audit (Schleifer, 1996, pp. 6-8), among others. Critical thinking allows one to see both sides of the coin. As Yildirim and Ozkaihraman contend:

Critical thinking includes creative thinking, open-mindedness, inquisitiveness, and is not bounded by predefined standards and objectives. Critical thinking does include knowledge, skills, and attitudes, and it definitely incorporates the important component of the nursing process and problem-solving approach, but it goes beyond to higher-order thinking and is not a synonymous term with "nursing process." Critical thinking is not a single way of thinking, but is a complex, multidimensional cognitive process dependent on reflective thought and tolerance for ambiguity essential for decision making in nursing practice (Yildirim, 2011).

Critical thinking skills are imperative for the individual employee, teams of employees and their respective supervisors going up or the other way round Without them adaptation and sustainable development will only be but a dream. There are essential skills employers look for in every new hire, before they are trained for work-related skills. These may include: communication, higher order thinking skills and personal qualities (Precision Consultancy, 2007, p. 2). Among the desirable higher order skills are the ability to; analyze, interpret, reason out, synthesize or evaluate the given information (Ramos, 2013, p. 48). Paul and Elder would place creative thinking and innovation into this class (Paul, 2008). The importance of innovation has been underscored by Riccki:

Today's executive leaders require the ability to change, rethink and prepare for mobility, innovation, flexibility, agility, and change. The importance of critical thinking as a basis for self-empowerment and

design thinking are necessary toward growth and innovation in a socially networked global society. Executives need to cultivate critical thinking within their organizations to assure successful decision making occurs leading toward organizational advancement, whether measured in achievements or net profits (Ricci, 2014, p. 67).

In the area of nursing science, for example, any patient who walks out of hospital is testimony of critical interventions by the nurses and other health professionals:

Critical thinking clarifies goals, examines assumptions, uncovers hidden values, evaluates evidence, accomplishes actions, and assesses conclusions. “Critical” as used in “critical thinking” implies the importance or centrality of thinking to an issue, question, or problem of concern.

It does not mean “disapproval” or “negative.” Nurses often use critical thinking to imply thinking that’s critical to be able to manage specific problems. For example: “We’re working with our nurses to develop the critical thinking needed to identify people at risk for infection early.” (Alfaro-LeFevre, 2011, p. 3)

Perhaps a similar perspective is advanced by Clara McDermott who contends that business endowed with critical thinking skills stand a better chance of sustainability compared to those without. Critical thinking managers are objective and do not believe, for example, that “what has worked in the past will always work in the future.” They apply their experience and a search for the facts within their environment as the decision-making process evolves (McDermott, 2015).

In addition McDermott adds that, Effective critical thinkers keep up with their profession, and are aware of alternatives as the fact-finding process evolves. They understand that some resources are more credible than others, and they rely on only the best information even if additional time and energy are required to identify it (McDermott, 2015).

Not only are critical thinking skills needed on the practical side of business, but are also required at managerial training for sustainability:

... we need to recast our educational objectives in somewhat different terms. Being educated simply put, is being adept to critical thinking. While this might seem too obvious a point to warrant initiating this discussion, it seems that the development of critical thinking is being largely ignored in the actual practice of instructional task (Das, 1994, p. 336)

## **INDISPENSABILITY OF CTS TO THE BUSINESS LEADERSHIP**

Critical thinking, particularly Logic, is indispensable to business managers regardless of station – operations, financial, human resource, risk etc. Since the job of a manager at every level is to satisfy the demands of the superiors, solve problems creatively and plan for sustainability, promoting skill enhancement practices becomes imperative. A lot of middle and top managers are involved in critical decision-making processes. Thus, Business leaders must be critical thinkers and consequently have an obligation to create an enabling environment for their teams all in the interest of sustainability. Scholars have emphasized on two kinds of leadership styles. The first, Marvin Cohen paints it thus:

“Leadership,” Eisenhower said, “is the ability to decide what is to be done, and then to get others to want to do it”. These two sides of leadership seem, on the surface, to involve distinguishable behaviors, skills, and attitudes. On the one hand, leaders are expected to make choices in uncertain and rapidly changing conditions, to develop solutions or even new visions in the face of novel challenges, and to determine appropriate allocations of resources. Task-oriented leader’s behaviors include not only decision making and problem-solving, but “planning and scheduling work, coordinating subordinate activities, and providing necessary supplies, equipment, and technical assistance”. At the same time, the most successful leaders are also able to inspire enthusiastic commitment, loyalty, and exceptional performance from other members of the group, rather than mere compliance (Cohen, 2015).

Cohen also sheds light on the other style of leadership which places emphasis on humane aspects and is premised on fellow feelings and cordial ties which include, “showing trust and confidence, acting friendly and considerate, trying to understand subordinate problems, helping to develop subordinates and further their careers, keeping subordinates informed, showing appreciation for subordinates’ ideas, and providing recognition for subordinates’ contributions and accomplishments” (Cohen, 2015)

Apparently, there is difference between these two approaches to leadership, but Cohen admonishes scholars from reading too much into this difference. They are necessary sides of a coin. Business leaders cannot produce spectacular goods and services if they do not plan for development nor create visions and decisions about their operations. On the other hand, they may not succeed without supportive teams of employees committed to the vision of the company (Cohen, 2015).

A leader/manager must be tactful in approach. This involves competency and innovation. Again as Cohen puts it, “Leadership is the skillful orchestration of different types of dialogue to achieve team or organizational objectives” (Cohen, 2015). It is these skilful maneuvers that Critical thinking and logic, in particular are poised to promote. These skills need to be nurtured and cultivated both in leaders and in the respective teams of junior staff. Leaders must improve self-judgement through the interpretation, analysis, evaluation and inference of his/her own decisions and actions (Jenkins, 2011, pp. 1,3).

There are many positive uses of critical thinking — for example, formulating workable solutions to complex problems, deliberating about what courses of action to take, or analyzing the assumptions. There is also need to constantly inspect the efficacy and quality of the methods used in hypothesis formulation and the reliability of the projected outcomes from the

whole process. Facione invites us to learn the skill from trial lawyers (Facione, 2011). Using critical thinking, we evaluate lots of argument — for example, whether it is valid. This can only happen after a meticulous and rigorous analysis. It is only after such a process that we come to decide whether to accept a postulate, plan or suggested action (Alfaro-LeFevre, 2011).

The general goal of critical thinking is to free a person from dogma, superstition, and intellectual laziness, and this task demands a stringent, isolated effort of thought. However, our worldviews influence how we construe the issues (Facione, 2011). Confronted with an issue, some people are mere spectators, others trust that things will work out in the end, whereas some are feelers, who rely on authorities above them; others are idiosyncratic and are skeptical about any lasting solution to any problem. Lastly, whereas some are evaluators, who see in principle the possibility of developing criteria for rating some plans or positions as feasible or not; others are philosophical sages, who while granting that no knowledge is final, allows improvement, revision and continuous interpretation of information and gleaning for utility in all things (Facione, 2011). The challenge therefore is to transform, through reasoning, all employees and teams into sages as they analyze and assess thoughts, plans or designs. Reasoning may focus on one argument at a time or proceeds from a number of perspectives. An argument contains a set of propositions that function as support or evidence, and another statement that is its conclusion, the point one is making at the end of the reasoning process. Knowledge must be built up from empirical foundations (e.g., truths based on perception) or by formally valid steps of logical inference. If an argument is valid, the conclusion can be added to the store of accepted beliefs, and can be used as a premise in subsequent arguments (Cohen, 2015).

The fact of the matter is that business leaders and managers are a very significant group either as individuals or collectively. They need to be knowledgeable and open to innovation and creativity. They make significant impacts on the communities in which they are operating, hence the need to promote social responsibility. They can promote healthy living, can make the workers like their work or loathe it. However, their thinking is critical for success (Smith, 2003, p. 25). This pivotal function is aptly captured by Reymonds:

Collectively, if not individually, managers are in a position to create employment opportunities or diminish them, to determine whether the ethos of the workplace is sustaining or oppressive, and to promote values in work and business that are more or less in harmony with current concerns for the environment...the impact which managers can exert on the lives and livelihoods of employees, and their influence in shaping moral, economic and ecological conditions, are too great for their activities to be “guided by a narrow, instrumental form of rationality” (Reymonds, 1999, p. 538).

It goes without saying that managers need to be equipped and to continue to be trained to follow theoretical principles as well as practical steps as in decision-making. These include defining the problem, determining the requirements, establishing goals, identifying alternatives, defining criteria, selecting appropriate tools, evaluating alternatives using criteria, validating solutions against problem statement (Fulop). Only then can they take initiatives to equip junior staff with the same.

## **A COMMITMENT TO CRITICAL THINKING SKILLS IN THE ENTIRE WORKFORCE**

Assuming that all managers and business leaders have CTS and they value it, the next question is how can they make the other junior employees develop these skills? One way is to develop a hiring policy for new employees that emphasize on critical thinking skills as part of their college education (Stassen, 2011, pp. 126-7). Another approach is on the job training (Krebs, 2010, p. 8). There is need to create a conducive environment which fosters the growth of the said skills. Every sector of business needs critical thinking to create dynamic and critical operations (Slack, 2010, p. xvii) to sales (Ball, 1999, p. 1), audit (KPMG International, 2014, p. 3), risk (Frigo, 2011, pp. 2,8), and even tactical operations (van den Bosch, 2003, pp. 1,2)!

How CTS training is conducted depends on the disposition of the organization to change. But as we have already intimated the ever-changing nature of business and of work today requires highly skilled workers adaptable to change. Hence, if company executives discover that their employees lack critical thinking skills, they must train them or facilitate for such training. The advantages for having employees with critical thinking skills are not hard to see. In the first instance, there is free flow of ideas:

Communications skills such as reading comprehension, critical thinking, speaking, and active listening are skills that are highly valued in occupations. Active listening is a skill that to be extremely important to almost all jobs that require you to work in hierarchical teams or to serve customers. Forty-eight percent of jobs require very high levels of active listening, with reading comprehension, speaking and critical thinking following closely behind (Carnevale).

Secondly, critical thinking can create teams that advance corporate goals in ways that transcend individual biases. Teams need not compete for recognition but must be bound together by a sense of common purpose and rally their efforts to achieve common goals. This is particularly true to the following departments - public relations, sales and marketing. Employees in these critical areas utilize critical thinking skills in making decisions about the public's perception of their company's products and services (Fapohunda, 2013, pp. 1,3).

Thirdly, the said skills may be used as a way of introspection and personal advancement. Critical thinking is skillful, responsible thinking that is conducive to good judgment because it is sensitive to context, relies on criteria, and is self-correcting. However one often neglected area of critical performance is communication (Finch, 2010, pp. 8,9). Fourthly, critical thinking skills may be used as handy instruments of conflict resolution Employees may use critical thinking skills to manage conflict with co-workers or supervisors thereby promoting stability and sustainability at the work place (Leary, 2011, p. 9)

## **CRITICAL THINKING SKILLS: PILLARS TO TRANSFORMATION AND DEVELOPMENT**

Critical thinking, as it feeds into the form of strategic planning is very important to for transformation and growth in business. We may begin this section by a quotation by Teece:

Whenever a business enterprise is established, it either explicitly or implicitly employs a particular business model that describes the design or architecture of the value creation, delivery, and capture mechanisms it employs. The essence of a business model is in defining the manner by which the enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit. It thus reflects management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit (Teece, 2010, p. 172).

The aspects of design, course charting and projection of possible profits are all important to the critical thinking project. It is no light matter to underline the fact that design is at the centre of business and its future (Razzouk, 2012, pp. 330-3). Furthermore, it is only through innovation that businesses can maximize their maximum potential and contribute to development (Bohemia, 2012). Teece underscores the role of logical thinking in these processes:

A business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers. It also outlines the architecture of revenues, costs, and profits associated with the business enterprise delivering that value...The issues related to good business model design are all interrelated, and lie at the core of the fundamental question asked by business strategists how does one build a sustainable competitive advantage and turn a super normal profit? (Teece, 2010, p. 179).

As we look into the prospects of the future business entities, the capacity to bring innovation successfully has the potential of promoting expansion and economic growth (Davies, 2011, p. 12). Innovative activities drive economic development and well-being of any society. Also, it is as a potential factor in meeting global challenges such as the environment and health (OECD, 2007, pp. 1,21). However, innovation is not the magic ball, it needs institutional support.

## **CONCLUSION: ADAPTATION TO COGNITIVE TECHNOLOGY?**

With all the changes facing business all over the world, Botswana cannot fold her arms and look on. These changes, particularly in technology must be harnessed and adapted to suit the local conditions and the needs of sustainable development. That is where critical thinking comes in. It is our contention that the business sector in Botswana must be awake to processes that promote careful analysis and decision-making of teams and individuals constituting the labour force at all levels. Our argument is not that critical skills are a panacea to all business problems, but that it allows employees to own the vision of the company and consciously work towards accomplishing sustainability either as teams or individuals. This is the way to go in such challenging times. This way, business will be harnessing the cognitive resources for development and the benefit of posterity.

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**About the Authors:**

Tarisayi Andrea Chimuka – (DPhil) - teaches Philosophy at the University of Botswana, Department of Theology and Religious Studies. Research interests: Philosophy of Culture, African Philosophy and Critical Thinking & Logic

Anitah Lesedi Mashumba-Paki – (Staff development Fellow studying towards MA): Department of Sociology. Has special interest in Criminology