THE ROLE OF CRITICAL THINKING IN ENHANCING BUSINESS LONGEVITY AMONG SOUTH AFRICAN SME OWNERS

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Abstract

According to The Global Entrepreneurship Monitor's Annual Survey on Global Entrepreneurship (2011), South Africa had an estimated 5,579,767 small business owners, of which nearly 80% were retailers while more than 20% were service providers. These businesses accounted for almost 12 million jobs in the country. It is argued that many prospective entrepreneurs want to start a new business but do not focus on acquiring the essential basic business skills to ensure long-term success and sustainability. As survival challenges arise, small and medium enterprises (SMEs) will need thought processes that include defining issues, analysing evidence, and synthesizing information, which is critical thinking. SMEs need to have a good understanding of how to manage and run a business effectively. Managerial cognitive competencies become vital in handling, managing, and running a business effectively. Critical thinking is an important cognitive competency that impacts the expansion and survival of SMEs. Very few studies in South Africa have investigated SME longevity, where critical thinking skills were considered a factor. Therefore**,** the study aimed to assess the level of critical thinking skills among SME owners in South Africa's construction and manufacturing industries and explore its impact on SME longevity. This quantitative descriptive study was among 204 SME owners selected using quota sampling from the construction and manufacturing sectors. Data were collected using a self-administered, anonymous online questionnaire and analyzed using SPSS software version 27. The questionnaire assessed the participants' levels of critical thinking. The analysis, conducted using SPSS version 27 software, aimed to determine the prevalence of these skills and their implications for the longevity of SMEs. The results indicated that SME owners in the construction and manufacturing sectors exhibited moderate critical thinking. This suggests that while critical thinking is present, further development has the potential to enhance SMEs' competitive edge and long-term viability. The study found that SME owners' overall critical thinking was moderate in both the manufacturing and construction sectors in South Africa. The study recommended that SMEs employ critical thinking skills to optimize their competitive advantage and sustainability. SME owners, therefore, need to embed critical thinking in their management skills to address complex problems.

Keywords

Managerial Cognitive ability, Critical thinking, SME Management, Longevity, Competency, Entrepreneurial skills, Management

JEL Classification

M50 - General (Management)
D83 - Search; Learning; Information and Knowledge; Communication; Belief

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Introduction

Critical thinking is one of the most vital abilities that any business manager should have. This is because most managers and business owners deal with changes daily. Effective problem-solving and strategic thinking are essential for managing smaller firms. According to [1], managerial cognitive competencies refer to a set of talents that enable a person to comprehend the knowledge and skills required for carrying out a certain task or activity inside a particular role or profession. Small businesses need these abilities to succeed and survive. The issue is that not much research in South Africa have investigated the longevity of SMEs and taken critical thinking abilities into account. Consequently, the literature research indicated that.

Literature review

Critical thinking

In this subchapter, information about the first page with paper title and abstract are presented. Success in daily life and the job depends on thinking critically [2; 3]. Furthermore, critical thinkers will have more professional, academic, and everyday opportunities than those who cannot think critically [4]. Critical thinking is vital for SME managers or business owners as they are required to function at high cognitive levels. As survival challenges arise, they will need thought processes that include defining issues, analyzing evidence, and synthesizing information. According to Ruggiero [5], critical thinking involves reviewing the ideas that have been produced, reaching a tentative decision about the best course of action or the most reasonable belief about an issue, and then assessing and refining that solution or belief. [6] categorized their comprehensive critical thinking framework into affective, cognitive, and behavioral components. All three sets of elements – attitudes, thought processes, and actions – are part of the critical thinking process (**Chyba! Nenalezen zdroj odkazů.**).

Table 1 Critical thinking components

Affective components:	Cognitive components: (thought processes involved in critical thinking)	Behavioral components: (actions necessary for critical thinking.
• Valuing truth above self-interest • Accepting change • Empathizing • Welcoming divergent views • Tolerating ambiguity • Recognizing personal biases	• Thinking independently • Defining problems accurately • Analyzing data for value and content • Employing a variety of thinking processes in problem-solving (e.g. inductive, deductive, dialogical, dialectical) • Synthesizing; resisting over-generalization. • Employing metacognition	• Delaying judgement until adequate data are available. • Employing precise terms. • Distinguishing fact from opinion • Gathering data • Encouraging critical dialogue • Listening actively • Modifying judgements in the light of new information

	(reflective or recursive thinking).	• Applying knowledge to new situations.

Affective components describe the aspects of a person's frame of mind or emotional outlook enabling them to be critical thinkers (or limiting their ability). To be a critical thinker, one should have the right attitude, which includes recognizing that the same intellectual standards apply equally to one's ideas and beliefs as those of people with whom one disagrees. Being a critical thinker involves tolerating ambiguity and recognizing that there may not be a single correct answer. The appropriate frame of mind for critical thinking includes a willingness to be flexible in forming and modifying one's beliefs. [7].

Managerial cognitive ability

The term "managerial cognitive ability" was coined by [8]to highlight that skills encompass mental and physical performance. The ability of a manager to carry out one or more knowledge-based mental tasks is referred to as managerial cognitive competence [8]. These changes give management a foundation for exploiting opportunities and countering emerging dangers. Furthermore, managers possessing cognitive skills can generate precise analysis that influences performance and forecasts [9;10]. Additionally, cognitive capacity can enhance organizational performance and assist business managers in organizing concepts and strategies [11]. Therefore, managerial cognitive skills are essential for resolving issues that most SMEs face.

Managerial cognitive ability: Critical thinking

Critical thinking (CT) can be applied to any subject, material, or problem in which the thinker improves the quality of his or her reasoning by regulating and enforcing intellectual standards on the structures inherent in cognition [11]. It includes cognitive processes such as weighing and evaluating information, leading to a more thorough understanding of an issue or problem. As a type of reflection, critical thinking also promotes an awareness of one's perceptions, intentions, feelings, and actions [12]. In addition, CT has been identified as one of the top competencies' employers require, according to the World Economic Forum [13]. According to Edward Glaser, CT is a cognitive skill related to logical reasoning and incorporates the disposition to consider problems thoughtfully [14]. Therefore, SME managers might need to use cognitive skills and CT to solve and explain problems.

Cognitive components are the thought processes of CT and include defining issues clearly, analyzing evidence, and synthesizing information. A critical thinker should be able to use different thinking skills, such as inductive and deductive reasoning. Also essential to CT is metacognition, or the ability to analyze the adequacy of one's decisions, commonly referred to as "thinking about thinking" [7]. Furthermore, behavioral components are the actions needed for CT and are identified using strategies one can employ to foster the CT process. Such strategies include using precise terms to identify issues and definitions, collecting relevant information, actively questioning others to obtain varied points of view, and listening to others. Critical thinkers must be able to apply their knowledge to new situations and change their judgments, if necessary, when presented with new information [7]. These three elements are necessary to the thinking demanded of SME managers or business owners. They enable managers to function at the higher cognitive levels of Bloom's cognitive taxonomy – the synthesis and evaluation levels – and, therefore, make judgments that will lead to management recommendations ([15]). In Addition, Dewey [16] analyzed CT as consisting of five phases:

1. Suggestions, in which the mind leaps forward to a possible solution

2. The intellectualization of the difficulty or perplexity of a problem to be solved – a question for which the answer must be sought
3. The use of one suggestion after another as a leading idea or hypothesis to initiate and guide observation and other operations in the collection of factual material
4. The mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense in that reasoning is a part, not the whole, of inference)
5. Testing a hypothesis by overt or imaginative action. [17, pp. 106-107]

Table 2 depicts the link between Dewey's analysis of CT [17] and [6] classification of CT. Most researchers agree that CT involves dispositions in addition to skills or abilities [18]. The ability to think critically is distinct from the disposition to do so [21]. These dispositions have variously been cast as approaches or habits of mind. [1] defined CT dispositions as "consistent internal motivations to act toward or respond to persons, events, or circumstances in habitual, yet potentially flexible ways" (p. 64).

Table 2 Dewey's analysis of critical thinking and Huffman et al.'s classification

[17]	[6]
The mind leaps forward to a possible solution	Thinking independently
An intellectualization of the difficulty or perplexity of a problem to be solved –, a question for which the answer must be sought	Defining problems accurately
Employing metacognition (reflective or recursive thinking)	The mental elaboration of the idea or supposition as an idea or supposition (reasoning, in the sense on which reasoning is a part, not the whole, of inference)

CT has been shown to manifest itself in connection with some identifiable activity or subject area and is never isolated. Accordingly, just as it is possible to think critically about countless activities and types of business, so there are innumerable ways in which CT can be manifested. CT requires the judicious use of skepticism, tempered by experience, to the extent that it is predictive of a more satisfactory solution or insight into the problem [19]. [19] also argued that CT does not merely refer to the assessment of statements but includes the thought processes involved in problem-solving and active engagement in certain activities.

- The most cited CT dispositions include:
- Open-mindedness [20]; [21]; [22]
- Fair-mindedness [20]; [22]
- Propensity to seek reason [20]; [22]
- Inquisitiveness [20]; [22]
- Desire to be well-informed [21]; [22]
- Flexibility [22].
- Respect for, and willingness to entertain, others' viewpoints [18; 20]

Methodology

This was a cross-sectional study conducted among all the SMEs from the manufacturing and construction sectors. This study uses Yoon's critical thinking disposition (YCTD) instrument to measure the participants' levels of critical thinking. The YCTD questionnaire consists of 27 questions. When [23] tested the instrument, the results showed that the YCTD demonstrated good construct validity. The

tool was tested so that each item of the YCTD presented was evaluated for its reliability using Cronbach's alpha coefficient. Reliability with the Cronbach score was .84. The sampling unit was a person chosen to complete the survey within the SMEs. The strength of the research approach lies in comparing critical thinking across the best-performing (manufacturing) and worst-performing (construction) sectors in the South African economy. Primary data collection was conducted through self-administered structured questionnaires to research participants. The research questionnaires were distributed via e-mail.

Results

The quantitative data captured from the questionnaire was assessed using the SPSS statistical tool to calculate the mean critical thinking scores for the manufacturing and construction sectors. The instrument's data analysis results consist of 27 critical thinking items. All these items were rated on a 5-point scale, with higher scores indicating a higher level of critical thinking. First, we determined the characteristics of the participants using descriptive statistics. Second, mean scores can be calculated using mean and standard deviation to test the level of critical thinking skills of SME business owners. The mean scores were calculated with segregated data for the construction and manufacturing sectors. SME business owners' critical thinking level was obtained from the Excel document and imported to SPSS software version 27 as quantitative data. The scores obtained were then processed into values categorized according to the critical thinking skills categories in Table 3 below.

Table 3 SME business Owners Critical Thinking Skills.

Category	Total	Percentage
Excellent	Between 127 and 135	>94
Moderate	Between 101 and 127	75
Poor	Below 67.5	<50

The survey was sent to 3 000 recipients, of whom 842 (28%) opened it. Of those who opened the email, 216 completed the surveys in full, representing a response rate of 7.2%. Out of 216 completed surveys only 206 were considered valid for data analysis. A comparison between of critical thinking was done between two sectors. Of the 206 participants, 99 (49%) were from construction sector and 105 (51%) from the manufacturing sector. As depicted in Table 2, the mean years in operation 21.4 years, mean headcount 106.55 and mean yearly gross turnover of R65 816 041.72. The respondents' designations, owners represented the highest number, followed by managing directors, directors, and CEOs. The research shows that the respondents were at a strategic level of the organization and, therefore, competent to comment on the various measures addressed the questionnaire, with longevity, headcount and turnover showing the desired stages of longevity of the organizations.

Table 4 Descriptive statistics (longevity, turnover, headcount)

		Current estimated yearly gross turnover (Rands)	Number of employees in the organisation	Longevity (months)
N	Valid	204	204	204
Mean		65 816 041.72	106.55	257.25

Table 5 summarizing the CT item values and their frequencies. The results show the frequencies of pertaining the data of manufacturing and construction sector set of information. The item that has highest agreement is: "***When I have a question, I try to get the answer"***, for both construction and manufacturing sectors, followed by "***When I confront a problem, I try hard to find an answer until solving it"*** item.

Table 5 Frequency distribution of statement related to CT

Statements	SD	D	N	A	SA
C1.I think I can get through any complicated problem.	0.5	2.4	4.9	40.3	51.9
C2. I am handling complicated problems by my own criteria.	1.0	2.9	12.6	38.8	44.7
C3.I do not decide depending on others' opinion.	2.4	11.2	25.7	32.5	28.2
C4.I believe my conclusion to solve the problem	0.5	3.4	13.6	53.4	29.1
C5.I continually look for pieces of information related to solving a problem.	0.5	2.4	6.8	36.9	53.4
C6.I willingly solve a complicated problem.	0.5	0.5	2.9	42.7	53.4
C7. When I have a question, I try to get the answer.	0.5	0.5	1.5	32.0	65.5
C8. I am trying to understand how the unknown thing works.	0.5	1.5	9.7	37.9	50.5
C9. When I confront a problem, I try hard to find an answer until solving it.	0.5	1.5	2.4	33.5	62.1
C10.I turn my mistake into an opportunity to learn.	0.5	1.0	4.9	35.4	58.3
C11.I willingly accept the proved truth though having different opinion.	1.0	2.9	13.1	35.4	47.6
C12.I willingly accept a criticism of my opinion.	0.5	3.4	13.1	37.9	45.1
C13.I evaluate fairly either my opinion or others' opinions.	0.5	1.0	9.2	43.7	45.6
C14.When I am questioned, I think twice before I give my answer; I have a reasonable proof.	1.0	2.9	14.1	43.7	38.3
C15.any opinion needs to have a reliable reason to insist.	1.0	2.4	9.7	46.1	40.8
C16.I explain reasons if I do not agree with others	0.5	1.5	7.3	37.9	52.9
C17.When I am questioned, I think twice before I give my answer.	29.1	34.0	16.0	12.6	8.3
C18.I tend to make a decision hastily without considering a matter carefully.	42.7	34.0	8.7	7.3	7.3
C19.I tend to act rashly and carelessly when I face a difficulty.	42.7	34.0	8.7	7.3	7.3
C20.I do not rush to judgement.	4.9	18.0	15.5	32.0	29.6
C21.I prefer to think differently from others and routines.	1.0	3.9	23.3	44.7	27.2

C22.Although something is already set firmly, I have questions on it.	1.9	6.8	21.8	43.7	25.7
C23.I continually evaluate whether my thought is right or not.	0.5	5.8	15.5	44.2	34.0
C24.When I see the world, I see it with a questioning mind.	2.4	4.9	16.0	38.8	37.9
C25.When I judge a matter, I judge objectively.	0.5	1.9	14.1	49.5	34.0
C26.I have a reputation of being a rational person.	1.0	1.0	12.1	44.2	41.7
C27.When I solve or judge a problem, I utilized a collection of data by organizing it systematically.	0	4.4	11.2	45.1	39.3

Table 6 displays the descriptive statistics regarding critical thinking levels of SME business owners: Mann-Whitney Test mean ranks. The participants consisted of 99 for the construction sector and 105 for the manufacturing sector. In these results, the summary statistics are calculated separately by sector. The results showed that the construction sector (108.14) exerted higher critical thinking skills than the manufacturing sector (97.18)

Table 6 Mann-Whitney Test Ranks: Critical Thinking Descriptives

Sector		N	Mean Rank	Sum of Ranks
Average score	Manufacturing	105	97.18	10204.00
	Construction	99	108.14	10706.00
	Total	204		p<0.005

The results in Table 0 show the mean skewness and kurtosis for critical thinking. Skewness was -0.953, while Kurtosis was 4.196; therefore, the skewness and kurtosis of the critical was within acceptable limits.

Conclusion and discussion

In this research, descriptive statistics were employed to assess the levels of critical thinking of SME business owners. Measures such as the mean, median, and standard deviation provided insight into the overall level of critical thinking within the sample. The respondents' designations, owners, represented the highest number, followed by managing directors, directors, and CEOs, and therefore, the respondents were at a strategic level of the organization, and that made them competent to comment on the various measures addressed in the questionnaire, with longevity, headcount, and turnover showing the desired stages of longevity of the organizations. In the results, the average score on the critical thinking assessment was calculated, revealing whether SMEs owners generally exhibited high or low levels of this skill, and the construction sector exerted higher critical thinking skills than the manufacturing sector in South Africa. Additionally, the frequency distribution highlighted patterns, for example, the frequencies of pertaining the data of the manufacturing and construction sector set of information. The item that has the highest agreement is "***When I have a question, I try to get the answer"*** for both the construction and manufacturing sectors, followed by **the "*When I confront a problem, I try hard to find an answer until solving it"*** item. And therefore, the results align with one of the components of critical thinking: thinking independently, defining problems accurately, analyzing data for value and content, and employing a variety of thinking processes in problem-solving ([6]).

Furthermore, this article focused on a managerial cognitive competency that can be used to solve complex problems. The primary objective was to determine the level of critical thinking skills of SME business owners in South Africa. This was a quantitative descriptive study conducted among 204 SME

owners who were selected using quota sampling from the construction and manufacturing sectors. The results showed that the construction sector (108.14) exerted higher critical thinking skills than the manufacturing sector (97.18). And the overall critical thinking score was 109.61 for both sectors combined. This shows that the managerial cognitive competencies are vital for addressing the challenges common to most SMEs and are a critical factor contributing to the performance and survival of small-scale businesses. This research found out that critical thinking is one of the cognitive competencies required for problem solving. And based on the results, it showed that critical thinking skill is crucial for SME business owners as they perceive themselves to be critical thinkers. And therefore, testing the critical thinking skills level simulated critical thinking skills level of SMEs. This can assist the SMEs to incorporate critical thinking skill as a key strategic resource that can be incorporated in the management skill.

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