Financial literacy: an interface between financial information and decision-makers in organisations

D.G. Gouws & C.C. Shuttleworth

ABSTRACT

Individuals' decisions and subsequent actions flow from their understanding of the surroundings in which they operate. In order to facilitate economic and financial sustainability, individuals need the cognitive ability to understand financial information in the context of these surroundings. The intellectual construct inferred from this encompassing and complex process is financial literacy. The term 'financial literacy' consists of the words 'financial' and 'literacy', both of which are used to represent a myriad of issues that can easily lose their relevance when used together. This article addresses the interface (or gap) between information (matter) and decision-making (mind). The dualism of financial literacy, matter and mind, is explored by means of a literature review and an empirical survey. From the survey, respondents' perceptions of the financial literacy construct were gleaned. Awareness of financial literacy from the interface perspective promotes a deeper understanding of the concept. Recommendations are made to assist organisations and individuals to overcome financial uncertainties.

Key words: financial literacy, financial information, decision-makers, interface, financial training

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Introduction

The changing global business arena, with its abundance of financial and other information sources, has resulted in a need for information to be processed, understood and analysed by individuals who cannot necessarily make an authentic connection between the financial numbers and the real business world context. According to the Association of Chartered Certified Accountants' (ACCA 2005: 12) world-class research programme, "more than ever before there is a need for greater financial literacy among both the general public as well as senior management". In terms of developing a financial literacy interface, the challenge is to coherently find contexts that are sufficiently relevant to both the flow of information (matter) and the users' ability to derive meaning (mind) from the information. Prickett (2007: 23) states that individuals need more than simple access to information, "they need to be able to make sense of it, focus on the relevant areas, prioritise sources, grasp key facts and, above all, reduce the time needed to do it".

The understanding of how organisations manage information, especially financial information, has a significant effect on decision-makers' ability to plan strategies and create a competitive advantage. Meaningful information can be regarded as communicated knowledge, and according to Ditillo (2004: 401), the understanding of how an entity can manage knowledge is an issue that has received increasing attention in both theory and practice over the past decade. He also states that "knowledge and the capability to create and utilise such knowledge are the most important sources of competitive advantage" in organisations. Knowledge creation focuses attention on both information and individuals' ability to use it. Edwards, Collier and Shaw (2003: 35) also regard organisational knowledge as an asset, "the use of which is a key driver of competitive advantage".

Nowadays, financial management responsibilities are widely diffused and are no longer the exclusive interest of the chief financial officer (CFO); this demands a high degree of financial literacy from managers throughout the organisation (Beauchamp & Hicks 2005: 16). The main purpose of this study is to address the financial literacy construct serving as an interface between financial information and decision-makers in organisations.

Background

Concern about financial literacy has increased in recent years, and many countries have embarked on programmes and other research initiatives to introduce and enhance financial literacy among their populations. According to Braunstein and

Welch (2002: 445), financial literacy, or the lack thereof, has gained the attention of a wide range of banking corporations, government agencies, educational institutions, consumer and community interest groups, and other organisations. In the USA, studies on financial literacy were conducted, among others, by Cutler (1997); Chen and Volpe (1998); Jacob, Hudson and Bush (2000); and the National Council on Economic Education (NCEE 2005). In the UK, financial literacy surveys were conducted, among others, by Schagen and Lines (1996); and the Financial Services Authority (FSA 2004). While these studies mostly investigated financial literacy levels among the general public and university students, a study by Joo and Garman (1998) focused on the relationship between personal financial wellness and worker job productivity. According to a study on the financial literacy of US working adults, Volpe, Chen and Liu (2006: 94), found that working adults are not knowledgeable about personal finance topics.

According to international studies on financial literacy, the factors that make financial education increasingly important include changing demographic profiles, the growing complexity of the financial sectors, the decrease in personal savings while personal indebtedness is increasing, and the fact that government resources are limited (Orton 2007: 3). The Organisation for Economic Cooperation and Development's (OECD) landmark study, *Improving Financial Literacy*, concluded that financial understanding is low among consumers across their 30 member countries and that consumers, among other things, feel that they know more about financial matters than is actually the case. The surveys also reported that consumers believe that financial information is difficult to find and understand (OECD 2005: 98).

ECI*Africa* conducted a study on financial literacy programmes in South Africa on behalf of FinMark Trust. The final report on the Financial Literacy Scoping Study and Strategy Project was published in March 2004. According to this study, despite multiple financial literacy initiatives, South Africans remain underserved by programmes offering financial education (Piprek, Dlamini & Coetzee 2004: iii). This study also indicated a high level of confusion about financial matters, even among fully banked individuals (Piprek et al. 2004: 1). This high level of confusion among the respondents in that study (approximately 40% of whom were fully banked and approximately 60% of whom did not have bank accounts), confirms that there are still problems with financial capacity building and that there is an ongoing challenge to provide more financial literacy programmes or more specific fit-for-purpose financial education.

Problem statement and objective of the study

The problem addressed in this article relates to the complexity of the financial literacy phenomenon to act as an interface between financial information and the decision-making proficiency of individuals in organisations.

This phenomenon can be conceptualised in the following dimensions: firstly, it involves the haphazard use of the term 'financial literacy'; secondly, it relates to the perception that financial literacy involves two separate systems (the information system and the human behaviour system), which means that it is not regarded as a single encompassing process; and thirdly, the gap between complex financial and economic information, on the one hand, and the decision-makers' mental processes, on the other, is difficult to reconcile without using an interface.

The research problem focuses specifically on the complexity of the financial literacy construct with regard to its role in organisations. The problem is further exacerbated by the fact that the majority of existing financial literacy programmes focus on financial literacy at consumer level rather than in relation to organisations. Although it is acknowledged that decision-makers in organisations are also consumers in their personal capacity, it should also be recognised that financial decision-making in organisations requires an industry-specific kind of financial literacy. Hence, before financial literacy education for decision-makers in organisations can be contemplated, it is necessary to determine the decision-makers' perception of the financial literacy construct.

The objective of this article is to investigate how individual decision-makers in organisations perceive the financial literacy construct, as well as how it is perceived by the various economic sectors and decision-making levels. In order to achieve this objective, a literature study on the complexity of financial literacy in organisations was conducted. This was followed by an empirical study of decision-makers' perception of the financial literacy construct from an organisational point of view.

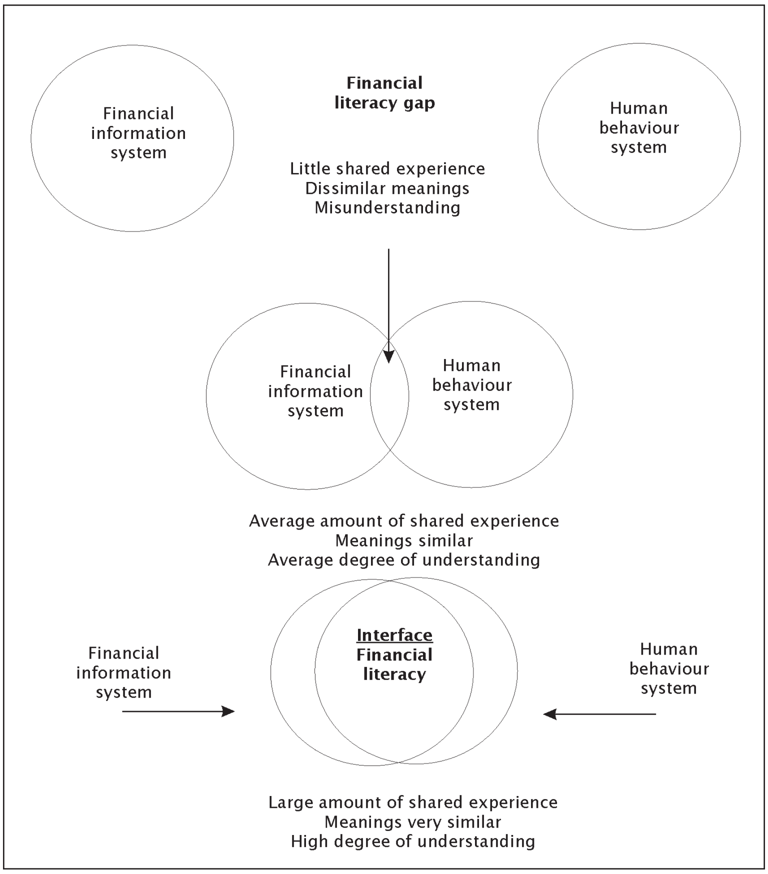
Perspectives on the complexity of the financial literacy construct

The general use of the term 'financial literacy' poses a problem, because of the different meanings attached to it. Various research studies (Dopfer 2005; De Beer 2006) have shown that terminology is considered to be one of the primary obstacles in transcending meaning. Dopfer (2005: 18) contends that disciplines such as economics suffer from a *language deficit*, which is a handicap in both theoretical expression and in communication of the theory of the particular discipline. It is necessary to distinguish between the general and specific meaning of the term 'financial literacy'. The term 'financial literacy' comprises the words 'financial' and 'literacy', both of which are used to represent a myriad of issues that can easily lose their relevance when used together.

According to *Collins Dictionary and Thesaurus* (2005), the word 'financial' also relates to the words 'economic', 'business', 'commercial', 'monetary', 'fiscal' and 'pecuniary', each of which has its own meaning. 'Literacy', according to the same dictionary, basically means or is synonymous with the ability to read and write; education, learning and knowledge. When these words are combined to form the single term, 'financial literacy', a whole new dimension emerges, which encompasses more than the individual terms listed. Widdowson and Hailwood (2007: 37) contend that for some, financial literacy is "a wide-ranging concept, incorporating an understanding of economics and how household decisions are affected by economic conditions and circumstances" while for others, it means "focusing quite narrowly on basic money management skills – budgets, savings, investment, insurance". In an organisational context, financial literacy can refer, among other things, to the process of obtaining financial knowledge in order to understand and use financial information for organisational decision-making related to planning, control and profit maximisation.

Although the word 'literacy' means to be 'learned' or 'skilled in reading and writing', on International Literacy Day in September 2006, Koïchiro Matsuura, the Director-General of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), highlighted the fact that "literacy is not merely a cognitive skill of reading, writing and arithmetic, for literacy helps in the acquisition of learning and life skills that, when strengthened by usage and application throughout people's lives, lead to forms of individual, community and societal development that are sustainable". From Matsuura's message, one can infer that without basic literacy, it is difficult to ensure a sustainable livelihood. 'Financial literacy', however, is generally defined as "the ability to make informed decisions and take appropriate actions on matters affecting one's financial wealth and well-being" (Piprek et al. 2004: 4). It would therefore seem that literacy alone will not necessarily ensure sustainability, but that individuals should also be financially literate to be able to create wealth and promote well-being. Wealth, according to Beinhocker (2005: 317), is the same thing as information, or rather, fit information – in other words, knowledge. Hence, while information on its own may be worthless, in this context, knowledge is information that can be used to create wealth. Education in economic and financial matters, like educating people to read and write, therefore affects the financial well-being of every individual, organisation and the community as a whole.

While the term 'financial' refers to the information dimension, the term 'literacy' refers to the mental processes of individuals when using this information. This implies that in an organisational context, both the information system (matter) and the human behaviour system (mind), can only become more than their individual parts if they are linked by an interface (see Figure 1) that can enhance the feed-forward (prediction) and feedback action between them. Although there may be many such interfaces, this study will focus on financial literacy as a necessary link in bridging the gap between these two systems.



Source: Adapted from Thill & Bovée (2002: 13)

Figure 1: Towards a financial literacy interface

From Figure 1, it is clear that the aim of the interface is to integrate both the financial information system and the human behaviour system into a single encompassing process in which decision-making can be facilitated. This will only be possible if there is a large amount of shared experience, similar meanings and a high degree of understanding between these systems. Financial literacy can be seen as the interface facilitating a high degree of understanding between the financial information system and the human behaviour system.

Method

Empirical research was conducted to supplement the theoretical component of the study. To implement the survey research, interviews were used as a basis for developing the questionnaire. Interviews were deemed necessary, because the literature review did not show substantive evidence of research into financial literacy pertaining to organisations. The researcher therefore needed to establish financial role-players' perceptions of the financial literacy construct before the questionnaire could be developed. The questionnaire investigated the perceptions of decision-makers at different levels of the organisation on the financial literacy concept and their perception of the financial literacy proficiencies needed by decision-makers in organisations. A predominantly qualitative research approach was followed.

Interviewing as orientation

As opposed to consumers' financial literacy, little has been published on the financial literacy needs and proficiencies of decision-makers using financial information in organisations, especially in a South African context. Because this study adopts an organisational rather than a consumer approach to the financial literacy construct, the development of a questionnaire as the basis for an empirical research investigation was challenging. In order to compile the proposed questionnaire, the researcher therefore decided to use qualitative interviews with leading role-players in organisations to gain insight into their perceptions of the financial literacy construct and decision-making in situations of uncertainty.

Qualitative interviews are frequently used as an information collection method, especially if one is trying to introduce a fairly new topic to a population. Qualitative interviews can be either *unstructured* or *semi-structured*. De Vos, Strydom, Fouché and Delport (2005: 292, 296) explain that while unstructured interviews are conducted without utilising any of the researcher's prior information, experience or opinions in a particular area, the semi-structured interview is organised around areas of particular interest in order to gain a detailed picture of a participant's beliefs about, or perceptions of, a particular topic. For the purposes of this study, the semi-structured one-to-one interview was used to gain a fuller picture of the financial literacy dilemma in organisations as perceived by the interviewees.

The interviewees were selected from various organisations representing financial institutions, providers of financial information, users of financial information, educators and trainers. A procedure known as *purposive sampling* was used to select the interviewees. Purposive sampling simply looks for people who can help build the substantive theory further – people who, according to the researcher's knowledge of the subject, fit the criteria of *desirable participants* (Henning 2004: 71). The selected interviewees were asked if they were willing to participate in the interview. After obtaining their consent, a letter or e-mail explaining the purpose of the interview and confirming the date, time and venue was sent to them. This letter also assured the participants of the confidentiality of the process and adherence to ethical principles of research. Although a set of predetermined questions was used during the interview, the interviewees were not provided with the questions beforehand. This was done to prevent pre-empted responses.

The interviews were recorded, and the transcripts were analysed and interpreted. The transcribed results were used to develop the final questionnaire.

Questionnaires

The literature review, the interviewees' responses and the researcher's experience in the financial decision-making field were used as the basis for compiling the individual statements used in the questionnaire.

The questionnaire was designed to assess the perceptions of financial literacy of individuals participating in different economic activities and decision-making categories. A covering letter, explaining the purpose of the survey and the confidentiality of the responses, accompanied the questionnaire. In order to obtain background information, the respondents were asked to indicate whether they participated in the primary, secondary or tertiary sector of the economy, or in the government sector, a parastatal organisation or an academic institution. They were further required to indicate whether they participated at the executive, senior management, middle management, junior management or ordinary employee level of decision-making.

Section A of the questionnaire focused on the *financial literacy concept*. Section B comprised statements relating to *financial literacy for decision-making in an organisation*. The statements in sections A and B were evaluated on a five-point agreement Lickert scale rating. The letter of consent attached to each questionnaire ensured that the respondents understood the purpose of the questionnaire and afforded them the opportunity to declare their willingness to participate in the research.

Sample choice and response rate

Since the total population of decision-makers in organisations could not be determined, use was made of purposive sampling. The sample chosen for the empirical survey comprised members of organisations in the economic categories based on those used in certain research studies conducted by Statistics South Africa and adapted to suit the purpose of this study. As suggested by the statistician consulted for this study, at least two organisations per economic activity category were chosen, namely: primary sector (agriculture and mining); secondary sector (manufacturing and construction); tertiary sector (financial intermediation and business services); government sector; parastatals (government-owned contractors) and academic sector (secondary and tertiary).

Once the organisations had been selected, the researcher identified a specific contact person to ensure the distribution and completion of the questionnaires and increase the response rate. Some questionnaires were sent by e-mail, but for the most part, hard-copy questionnaires were distributed to the participants.

Table 1 provides a summary of the sample size, completed questionnaires and response rate by sector. Due to confidentiality considerations, the names of the chosen organisations that participated per sector were not listed.

Table 1: Summary of responses to the distributed questionnaires

Sector	Sample	Completed questionnaires	Response rate (%)
Primary sector	56	43	76.8
Secondary sector	34	26	76.5
Tertiary sector	56	41	73.2
Government sector	25	23	92.0
Parastatal	51	39	76.5
Academic	52	44	84.6
TOTAL	**274**	**216**	**78.8**

The high response rate may be attributed to the fact that dedicated contact persons at the different organisations accepted responsibility for the distribution and collection of the questionnaires. In total, 216 questionnaires were returned and captured.

Statistical presentation of the data

Both descriptive and inferential analysis was done to determine the relationships between the different economic sectors and the way in which the statements in the questionnaire were scored.

The SAS program (version 8.2) and the Statistical Program for the Social Sciences (SPSS) (version 15) were used to conduct the statistical analysis of the data. Means and medians were calculated for each statement in the various sections in the questionnaire. Frequency percentages were calculated to summarise the response to each statement.

In the statistical analysis, Lambda is used to determine the statistical relationship between financial literacy aspects and the economic sector as well as the decision-making levels of the respondents. This method is used because it is specifically designed to test for significant relationships between variables on the nominal level of measurement where an unequal number of respondents per category is found in respect of each input variable.

The following decision rules were used to interpret the results:

- Between 0 and ± 0.20: very weak;
- Between ± 0.20 and ± 0.40: weak;
- Between ± 0.40 and ± 0.60: moderate;
- Between ± 0.60 and ± 0.80: strong;
- Between ± 0.80 and ± 1.00: very strong.

Restrictions encountered in conducting the survey

In concluding the discussion of the research methodology used to determine the decision-makers' perceptions of the financial literacy concept and financial literacy for decision-making in an organisation, it should be noted that the research results were subjected to certain restrictions.

Firstly, the target groups used in the research were not determined by means of random sampling, but were selected by means of convenience sampling. Although the results of the study cannot be generalised to the entire decision-making population, the responses were obtained from decision-makers participating in such a broad spectrum of economic activities that one could infer that the responses generally represented decision-makers in organisations.

Secondly, the questionnaire did not test the respondents' level of financial education. The reason for this was the sensitivity and ethical issues pertaining to the financial literacy levels of decision-makers in organisations. Presumably more inferences would have been made if the respondents' financial backgrounds had been tested.

Summary of the results

Sociodemographic information

Statements 1 and 2 of the questionnaire tested the economic activity and decision-making category in which the respondents participated. Of the 216 respondents, 19.9% were employed in the primary sector, 12.0% in the secondary sector, 19.0% in the tertiary sector, 10.6% in the government sector, 18.1% in parastatals and 20.4% in the academic sector. A satisfactory distribution of the different sectors of the economy was thus achieved. Although the aim of the statement was only to ensure that all the sectors of the formal economy were represented, several interesting correlations were made, which will be discussed.

Respondents also had to indicate the decision-making category into which they could be classified in the organisation. Executives constituted only 9.7% of the total number of respondents. The distribution of the other decision-making levels was as follow: 26.4% represented senior management, 24.5% middle management and 13.4% junior management; and 25.9% employees were not part of management.

Perceptions of individual decision-makers on financial literacy

This section addresses the objective of how individual decision-makers perceive the financial literacy construct and the need for financial literacy in an organisational context.

Information on the financial literacy concept

Section A of the questionnaire contained statements testing the respondents' perceptions of the financial literacy concept. The research findings from section A of the questionnaire are summarised in Table 2.

In **statement 3**, a great number of respondents (96.8%) agreed or strongly agreed that *financial literacy entails more than the mere understanding of the terms 'financial' and 'literacy'*. This response confirms the supposition that because the individual terms encompass many different meanings, the meaning of the combined term 'financial literacy' is complex and not easily demarcated. Stuart (2004: 16) highlights the complexity of the financial literacy construct in stating that "even the best director education cannot clarify the murky definition of *financial literacy* or define the level of expertise that regulators expect".

Table 2: Responses to statements on the financial literacy concept

	Rating scale (%)					
	Strongly disagree	**Disagree**	**Unsure**	**Agree**	**Strongly Agree**	**Total**
Statement 3: Financial literacy entails more than the mere understanding of the terms 'financial' and 'literacy'.	0.0	0.5	2.8	43.1	53.7	100.0
Statement 4: Financial literacy is dependent on the understanding of the use of numbers.	2.3	15.7	3.2	50.9	27.8	100.0
Statement 5: Financial literacy is not a language proficiency issue.	5.6	21.3	13.0	46.0	13.9	100.0
Statement 6: There are different financial literacy levels for different purposes.	0.0	0.9	1.4	60.2	37.5	100.0
Statement 7: The financial literacy concept requires an awareness of the available information in a decision-making situation.	0.0	1.4	4.6	59.7	34.3	100.0
Statement 8: Financial literacy is about perceiving value.	2.8	16.7	20.4	50.0	10.2	100.0
Statement 9: Financial literacy involves contemplating future scenarios.	0.9	7.4	6.9	61.1	23.6	100.0
Statement 10: Financial literacy mitigates against the risks involved in decision-making.	0.5	5.6	18.1	55.1	20.8	100.0
Statement 11: Financial literacy requires a scale of measurement to compare options.	0.5	6.5	8.8	64.8	19.4	100.0
Statement 12: Financial literacy is a process to be followed rather than an achieved result.	4.6	13.9	13.4	45.8	22.2	100.0
Statement 13: The outcome of financial literacy is the optimal allocation of resources.	2.3	11.1	16.7	50.5	19.4	100.0
Statement 14: Financial literacy is an important step on the road to sustainability.	0.0	4.2	3.7	51.4	40.7	100.0
Statement 15: Financial literacy lays the foundation for decision-making under uncertainty.	0.0	6.5	9.3	56.5	27.8	100.0

From the positive responses to **statement 4** (78.7%) and **statement 5** (59.9%), it can be inferred that the participants perceive financial literacy to be dependent on the understanding of the use of numbers rather than a language proficiency issue. However, Claxton (1999: 120) explicitly states that "learning power comprises both literacy and numeracy, and is ultimately more fundamental than either of them". Financial information currently encompasses a great deal of narrative information. Decision-makers therefore have to understand the whole financial picture expressed in both language and numbers.

An overwhelming percentage (97.7%) of the respondents agreed or strongly agreed in response to **statement 6** that there are different levels of financial literacy for different purposes. In this regard, Berman and Knight (2006: 229) also point out that although one cannot expect everyone to become a Wall Street analyst or even an accountant, the fact remains that employees need to at least understand the operating numbers of the department in which they work.

A high percentage (94.0%) of the respondents also indicated in response to **statement 7** that they agree that *the financial literacy concept requires an awareness of the available information in a decision-making situation*. While it is necessary for decision-makers to be aware of the available information, Goldberg (2001: 155) argues that any collection of information about any given set of circumstances is incomplete in some respects and that these limitations should be admitted. Financially literate individuals should therefore also be aware of the fact that the information that is available may to some extent be incomplete.

From the results, it would seem that **statement 8**, *financial literacy is about perceiving value*, was not clear, because 20.4% of the respondents were unsure. A possible explanation for so many respondents being unsure is that the term 'value' has several connotations. Harrison and Sullivan (2006: 195) observe that "value is in the eye of the beholder". Moreover, value can be interpreted differently, depending on the decision-maker's disposition at a specific time and place.

Regarding **statement 9** in the second cluster, 84.7% of the respondents agreed that *financial literacy involves contemplating future scenarios*. Simon (1996: 147) argues that sound predictions require a theoretical understanding of the phenomena to be predicted and having reliable information about the initial conditions. Contemplating future scenarios or making financial predictions involves an understanding of the financial information set. The contemplation of future scenarios will therefore be almost impossible unless the decision-maker has the financial literacy to understand the financial information.

Notwithstanding the somewhat high percentage (18.1%) of unsure responses to **statement 10**, a significant 75.9% still agreed that *financial literacy mitigates against* *the risks involved in decision-making*. According to Bernstein (1998: 113), individuals can test their own degree of risk aversion by determining their 'certainty equivalent'. Thus, the more financially literate decision-makers are, the higher their 'certainty equivalent' will be. One can therefore deduce that financially literate decision-makers are better equipped to make a trade-off between risk and return.

Statement 11, *financial literacy requires a scale of measurement to compare options,* had an 84.2% response of agree or strongly agree. From this high positive response, one could assume that financially literate decision-makers should be able to compare different scenarios by using the same measurement scale.

In **statement 12**, 68.0% of the respondents agreed that *financial literacy is a process to be followed rather than an achieved result*. Financial literacy is a lifelong process. Because economic circumstances continually change, decision-makers' financial knowledge and skills have to adapt to these changes. Although 16.7% of the respondents were unsure, 69.9% nevertheless agreed with **statement 13** that *the outcome of financial literacy is the optimal allocation of resources.* In this regard, Widdowson and Hailwood (2007: 41) concur that "financial literacy can influence the allocation of resources in the economy". Financially literate decision-makers are likely to choose more wisely when they allocate the organisation's resources.

Of those that responded to **statement 14**, 92.1% agreed or strongly agreed that *financial literacy is an important step on the road to sustainability.* Although growth in the organisation and the economy is attributed to many factors that go beyond financial literacy, Widdowson and Hailwood (2007: 41) contend that "financial literacy does make a longer-term contribution to the growth and robustness of the economy". Arguably, if this is applicable to the wider economy, financial literacy will also contribute to an organisation's long-term growth and sustainability.

The responses to **statement 15** indicated that 84.3% agreed that *financial literacy lays the foundation for decision- making under uncertainty.* While the future is always uncertain, it will at least help if the decision-maker understands the information upon which decisions for future actions are based.

Information on financial literacy for decision-making in an organisation

In section B of the questionnaire, participants had to indicate their perception of the current status or need for financial literacy for decision-making in organisations. The research findings from section B of the questionnaire are summarised in Table 3.

Table 3: Responses to statements on financial literacy for decision-making in organisations

	Rating scale (%)					
	Strongly disagree	**Disagree**	**Unsure**	**Agree**	**Strongly agree**	**Total**
Statement 16: Decision-makers (DMs) at executive level should know that they are both individually and collectively responsible for the organisation's financial activities.	0.5	0.0	1.9	30.1	67.6	100.0
Statement 17: DMs at all levels should understand the financial and accounting terminology generally used in the organisation.	0.0	2.8	0.5	40.3	56.5	100.0
Statement 18: It will be to the overall benefit of your organisation if decision-makers at all levels are financially literate.	0.5	4.2	0.5	38.0	56.9	100.0.
Statement 19: White-collar crime will generally be better addressed if more people are financially literate enough to ask the right questions.	3.2	7.9	10.7	44.9	33.3	100.0
Statement 20: DMs perceive financial literacy as 'knowing about money'.	2.8	20.4	22.7	46.8	7.4	100.0
Statement 21: Senior managers have to understand the meaning of financial ratios in order to evaluate their organisations' performance.	0.0	3.2	7.4	55.6	33.8	100.0
Statement 22: Generally, organisations with a financially literate workforce have a competitive advantage over those who do not.	1.9	3.7	6.9	47.7	39.8	100.0

(continued)

Table 3 (continued)

	Rating scale (%)					
	Strongly disagree	**Disagree**	**Unsure**	**Agree**	**Strongly agree**	**Total**
Statement 23: Financial literacy courses need to be industry specific (fit-for-purpose).	1.4	18.1	7.4	50.0	23.2	100.0
Statement 24: Knowledge of good corporate governance is an essential ingredient in becoming a financially literate decision-maker.	0.0	4.6	6.9	58.8	29.6	100.0
Statement 25: Employees in your organisation do not need financial training to understand the basics of how business success is measured.	23.2	51.9	7.9	14.8	2.3	100.0
Statement 26: Employers should evaluate the financial literacy levels of prospective employees' before appointing them, or of existing employees before promoting them.	4.2	22.7	18.1	45.8	9.3	100.0
Statement 27: Managers seldom admit that they do not know how to read their organisation's financial statements.	0.5	7.4	15.3	54.6	22.2	100.0
Statement 28: Employers generally have an obligation to provide financial training to their employees.	1.4	14.4	19.4	50.5	14.4	100.0
Statement 29: In general, there is a shortage of financially literate people in decision-making positions.	0.5	8.8	15.3	50.5	25.0	100.0

Of the 216 respondents, 97.9% agreed with **statement 16** that *decision-makers at executive level should know that they are both individually and collectively responsible for the organisation's financial activities*. This high percentage of agreement is in line with the statement in the King II Report (IoD 2002: 22) that the "board is ultimately accountable and responsible for the performance and affairs of the company". This means that decision-makers at executive level cannot mitigate their responsibilities on the basis of a lack of financial knowledge.

In **statement 17**, 96.8% of the respondents agreed that *decision-makers at all levels should understand the financial and accounting terminology generally used in the organisation*. A significant percentage of respondents (94.9%) to **statement 18** were of the opinion that it would be to the overall benefit of the organisation if decision-makers at all levels were financially literate. Zulauf (2003) confirms that "entrepreneurs and governmental organisations alike recognise that financial literacy contributes greatly to financial success". Organisations would thus benefit from the combined financial literacy of role-players at every level of the organisation.

From **statement 19**, it is interesting to note that 78.2% of the participants agreed that *white-collar crime will generally be better addressed if more people are financially literate enough to ask the right questions*. With regard to white-collar crimes or corporate scandals, Wright (2002) states that the "Enron debacle has increased the need for financial literacy of oversight officers". He also holds that executive decision-makers should be aware of red flags that could indicate that organisations are in financial difficulty.

A total of 54.2% of the respondents agreed with **statement 20**, *decision-makers perceive financial literacy as 'knowing about money'*; however, Lanfranconi and Robertson (2002: 3) contend that "the first step in financial reporting literacy is to understand the underlying economics of the business". Even though these authors refer to "financial reporting literacy", financial literacy as such encompasses more than only 'knowing about money' – it also requires a basic knowledge of the organisation's business as a whole. The high unsure (22.7%) response to **statement 20** would appear to corroborate the notion that financial literacy requires a basic understanding of the business of the organisation, beyond simply knowing about money.

The high unsure (22.7%) response to **statement 20**, *decision-makers perceive financial literacy as 'knowing about money'*, corroborates the statement in the discussion that "financial literacy encompasses more than only 'knowing about money' and that it also requires a basic knowledge of the organisation's business as a whole".

In response to **statement 21**, a fairly high percentage (89.4%) also agreed that *senior managers have to understand the meaning of financial ratios in order to evaluate their organisations' performance*. Although it is necessary for managers to understand the meaning of financial ratios, Brooks (2007) mentions "the extremely important need for non-financial managers to know about and recognise the limitations of ratio analysis". In other words, ratio analysis and the views based on the results of these analyses should not be blindly accepted by those who are less financially literate.

Statements 22 and 24, which are more general, elicited similar responses. In **statement 22**, 87.5% of the participants agreed that *organisations with a financially literate workforce generally have a competitive advantage over those that do not*. In accordance with this response, Ditillo (2004: 401) concurs that "knowledge and the capability to create and utilise such knowledge are the most important source of competitive advantage". A considerable percentage of respondents (88.4%) to **statement 24** also agreed that *knowledge of good corporate governance is an essential ingredient in becoming a financially literate decision-maker.* Pointer and Stillman (2004: 24) regard information as the critical ingredient of truly great governance. Knowledge of good corporate governance thus implies that decision-makers at least know where to find information and how to interpret it. The capacity to understand information and use it for decision-making is also a critical ingredient in becoming financially literate.

Regarding the financial literacy training and competence of employees, 73.2% of the respondents agreed with **statement 23** that *financial literacy courses need to be industry specific or fit-for-purpose.* In line with this response, Berman (2001) clearly states that financial literacy training should be customised, because every organisation's financials are different and every organisation has different key areas. With regard to training, 64.9% of the respondents concurred with **statement 28** that *employers generally have an obligation to provide financial training to their employees.* Nonaka (1991: 97) puts knowledge creation at the very centre of an organisation's human resource strategy. Even if an organisation does not have an obligation to provide financial training, it should at least form part of the organisation's human resource strategy. However, in **statement 25**, 75.1% of the respondents agreed that employees in an organisation do need financial training to understand the basics of how business success is measured.

From **statement 26**, it is clear that the respondents were not altogether comfortable that employers should evaluate the financial literacy levels of prospective employees before appointing or promoting them. Although 55.1% agreed that this is necessary, 26.9% disagreed, while 18.1% were unsure. This is a contentious issue – the responses indicate that individuals may feel threatened by such an evaluation.

Of the respondents, 76.8% agreed with **statement 27** that *managers seldom admit that they do not know how to read their organisation's financial statements.* This corroborates Berman's (2001) concern that 60% of employees cannot read an income statement. Hence 75.5% agreed with **statement 29** that there is a general shortage of financially literate people in decision-making positions.

Relationship between financial literacy aspects, the economic sector and decision-making levels

In order to address the objective of how the different economic sectors and decision-making levels perceive the financial literacy construct, Lambda was applied to determine the association between the individual results and the different socioeconomic groups.

Table 4 shows the strength of the relationship between the economic sector, decision-making levels and the different financial literacy variables. In Table 4, the Lambda values are shown, which will be interpreted on the basis of the decision rules discussed in the section on the statistical presentation of the data as well as the levels of significance applicable to such values.

Table 4 clearly shows that significant relationships (see shaded rows under economic sector columns) were only found with respect to the different economic sectors and four financial literacy aspects, namely the following statements:

- Financial literacy mitigates against the risks involved in decision-making (sig: 0.044).
- Financial literacy is a process to be followed rather than an achieved result (sig: 0.018).
- It will be to the overall benefit of your organisation if decision-makers at all levels are financially literate (sig: 0.004).
- Employees in your organisation do not need financial training to understand the basics of how business success is measured (sig: 0.003).

Although these relationships fall within the 5% level of significance, the Lambda values based on the decision rules previously discussed are very weak. This indicates that participants in the various economic sectors do not perceive these statements in a statistically significant different manner. However, an explanation for this sectoral responsiveness can be the fact that certain sectors, for example those that include the financial institutions and business services, may be more aware of the need for financial literacy to mitigate against certain financial risks. In the same sense, certain sectors may, because of their specific work content and skills requirements, be more sensitive to the fact that there is a need for financial literacy skills and that it will be to the benefit of their organisation if decision-makers at all levels are financially literate.

Table 4 further suggests that the remaining financial literacy concepts are not sectorally responsive. According to Table 4, these financial literacy aspects show relatively high significant levels, ranging between 0.050 in the case of the statement, *financial literacy is dependent on the understanding of the use of numbers,* to 1.000 in the case of the statement, *the financial literacy concept requires an awareness of the available information in a decision-making situation*. From these insignificant levels, one can infer that the different economic sectors perceive financial literacy in more or less the same manner, which is contrary to common belief that participants within the tertiary sector, for example, would perceive it differently from, say, the

Table 4: Lambda coefficients indicating the relationship between financial literacy variables, economic sectors and decision-making levels

Directional measures: symmetric				
Financial literacy variables	**Economic sector Lambda value**	**Economic sector Approx. sig.**	**Decision-making level Lambda value**	**Decision-making level Approx. sig.**
Financial literacy entails more than the mere understanding of the terms 'financial' and 'literacy'.	.006	.914	.006	.316
Financial literacy is dependent on the understanding of the use of numbers.	.032	.050	.010	.670
Financial literacy is not a language proficiency issue.	.050	.105	.020	.368
There are different financial literacy levels for different purposes.	.011	.155	.006	.924
The financial literacy concept requires an awareness of the available information in a decision-making situation.	.000	1.000	.017	.255
Financial literacy is about perceiving value.	.043	.268	.041	.138
Financial literacy involves contemplating future scenarios.	.039	.376	.005	.918
Financial literacy mitigates against the risks involved in decision-making.	.036	.044	.038	.115
Financial literacy requires a scale of measurement to compare options.	.024	.604	.021	.713
Financial literacy is a process to be followed rather than an achieved result.	.058	.018	.026	.496
The outcome of financial literacy is the optimal allocation of resources.	.034	.370	.036	.181
Financial literacy is an important step on the road to sustainability.	.016	.753	.028	.093
Financial literacy lays the foundation for decision-making under uncertainty.	.029	.178	.026	.632
Decision-makers at executive level should know that they are both individually and collectively responsible for the organisation's financial activities.	.006	.563	.012	.316
Decision-makers at all levels should understand the financial and accounting terminology generally used in the organisation.	.011	.316	.012	.316
It will be to the overall benefit of your organisation if decision-makers at all levels are financially literate.	.044	.004	.006	.316
White-collar crime will generally be better addressed if more people are financially literate enough to ask the right questions.	.050	.231	.015	.365
Decision-makers perceive financial literacy as 'knowing about money'.	.022	.536	.047	.094
Senior managers have to understand the meaning of financial ratios in order to evaluate their organisation's performance.	.026	.563	.049	.019
Generally, organisations with a financially literate workforce have a competitive advantage over those that do not.	.015	.739	.005	.705
Financial literacy courses need to be industry specific (fit-for-purpose).	.035	.388	.041	.093
Knowledge of good corporate governance is an essential ingredient in becoming a financially literate decision-maker.	.030	.536	.027	.057
Employees in your organisation do not need financial training to understand the basics of how business success is measured.	.066	.003	.038	.376
Employers should evaluate the financial literacy levels of prospective employees' before appointing them, or of existing employees before promoting them.	.026	.472	.043	.150
Managers seldom admit that they do not know how to read their organisation's financial statements.	.041	.291	.077	.003
Employers generally have an obligation to provide financial training to their employees.	.032	.413	.026	.178
In general, there is a shortage of financially literate people in decision-making positions.	.031	.176	.052	.010

Note: The shaded blocks indicate significant relationships.

primary sector. This strengthens the fact that the different sectors, ranging from the primary, secondary and tertiary sector to the government, parastatal and academic sector, perceive financial literacy as a complex construct and that decision-makers in the different economic sectors do not fully realise what it encompasses.

The fact that the understanding of the financial literacy concept is not sectorally responsive suggests that respondents in all the sectors perceive it as being dependent on the understanding of numbers rather than a language proficiency issue. This underlines the need for numeracy skills in all the various sectors of the economy. The lack of sectoral responsiveness is also indicative that all the sectors, from the primary sector to the academic sector, realise to the same extent the need for a financially literate workforce to ensure that their sector is competitive. It includes, among others, the fact that white-collar crime will be better addressed if more people are financially literate enough to ask the right questions and that managers should understand the meaning of financial ratios in order to know how to evaluate the organisation's performance.

From Table 4, it is also evident that respondents in all the economic sectors realise that there is a need for financial literacy training. However, the fact that the sectors also agree to the same extent that this training should be industry specific, or fit-for-purpose, implies that the different sectors do have specific needs with regard to financial literacy training. This training will most probably include financial and accounting terminology generally used in the specific organisation to enable decision-makers to understand and interpret the organisation's financial statements and management reports.

Table 4 also shows the strength of the relationship between decision-making levels and the different financial literacy variables (see shaded rows under decision-making columns). Significant relationships were found between the different decision-making levels and the following three financial literacy aspects:

- Senior managers have to understand the meaning of financial ratios in order to evaluate their organisation's performance (sig: 0.019).
- Managers seldom admit that they do not know how to read their organisation's financial statements (sig: 0.003).
- In general, there is a shortage of financially literate people in decision-making positions (sig: 0.010).

Although these relationships fall within the 5% level of significance, the Lambda values based on the decision rules previously discussed are also very weak. This indicates that participants in the various decision-making levels do not perceive these statements in a statistically significant different manner. However, this responsiveness may be due to the fact that certain decision-making levels, for example senior managers, may be more aware that they have to understand the meaning of financial ratios in order to evaluate their organisation's performance, than, say, junior management or those employees who are not part of management. In the same sense, certain decision-makers, especially those in senior positions, may be more apprehensive to acknowledge that managers seldom admit that they do not know how to read their organisation's financial statements and that there is a general shortage of financially literate people in decision-making positions. Berman and Knight (2006: 229) concur that: "For too long, a relative handful of people in each company were the only ones who understood what the financial data was telling them. We think more people should understand it – starting with managers but ultimately extending out into the entire workforce."

From Table 4 it can be further deduced that the remaining financial literacy concepts are not responsive with regard to the different decision-making levels. This suggests that respondents in the different decision-making levels, from the executive level to ordinary employees, perceive financial literacy as being a complex construct, dependent on the understanding of the use of numbers, and also that there are different financial literacy levels for different purposes. They also regard financial literacy as an important step on the road to sustainability and believe that decision-makers at all levels should understand the financial and accounting terminology generally used in the organisation. All levels of decision-makers also acknowledge, in more or less the same manner, that there is a need for financial literacy training and that it should be industry specific.

Conclusions

With reference to the research problem and on the basis of the results of the literature study and empirical survey, financial literacy can be regarded as one of the basic requirements needed to facilitate sound financial decision-making in organisations. There is also general agreement that there is a dire need for financially literate individuals who can participate fully in the various management levels of an organisation.

Financial literacy in an organisation can be described as the ability of everyone in the organisation to take informed financial decisions required for their specific responsibility level. It lays the foundation for decision-making under uncertainty. Decision-makers therefore need to be equipped to operate amid an ever-present uncertain and complex economic environment. However, the dilemma in many organisations is that only a few key players, especially those in the financial department, understand intricate financial reports.

An overwhelming percentage of the respondents perceive financial literacy as an important step on the road to sustainability and that it would be to the overall benefit of an organisation if decision-makers at all levels were financially literate. It could further be argued that organisations with a financially literate workforce have a competitive advantage over those that do not.

Employees in organisations require financial training to understand the basics of how business success is measured. Although respondents indicated that employees need financial training, they indicated that financial literacy courses need to be industry specific – in other words, fit-for-purpose. With regard to a more contentious issue, most of the respondents who agreed that employers should evaluate prospective employees' financial literacy levels before appointing or promoting them were from the tertiary sector, which includes decision-makers from financial and business institutions.

Recommendations

Recommendations on further research that could be conducted are listed as follows:

- The major challenges confronting the decision-making dilemma in organisations should be viewed holistically, taking into account the environment in which the organisation operates. These challenges include the intricacies of economic activities in the global arena, the complexity and overabundance of financial information and the lack of financial literacy among many of the organisation's role-players pertaining to their decision-making responsibility.
- A common learning goal and financial language need to be established for financial literacy education across persons, subject matter and levels. This could be done for primary, secondary and tertiary levels of education or basic adult education. Within organisations, this could also be done for different decision-making levels – strategic, tactical or operational.
- The wide ranges of outcomes for financial literacy education need to be linked to other subjects and disciplines such as economics, mathematics, accounting and language.
- A basis for determining a national financial literacy curriculum for decision-makers in organisations should be envisioned.
- Industry-specific financial literacy courses should be developed.

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