

# Some Reflections on the Archetypes in Cost Accounting: An Exploratory Study

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## Abstract

*This study establishes and verifies two cost-accounting propositions. The first proposition is derived from the premise that accounting concepts with low degrees of efficacy for management decision-making are part of the current conceptual framework of accounting. This proposition is that certain causes of natural behavior exist to explain why people accept concepts that have been proven to be ineffective for management purposes. The second proposition is derived from the premise that processes of reflection can lead individuals to change their perceptions and behavior. This second proposition is that a graduate course in accounting, through a process of encouraging personal reflection, can be an effective instrument for changing the views of students. Following a review of Jungian psychology, this paper proceeds to present empirical research of an exploratory character involving students of such a graduate program. The results of the research confirm the validity of the propositions.*

## Keywords

**Archetypes, Behavior, Management Accounting, Cost Accounting**

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## Introduction

Authors from a range of academic and professional disciplines in research and business have been aware that there are significant problems, from a management perspective, with certain cost-accounting concepts (Johnson and Kaplan 1987; Piper and Walley 1990; Goldratt 1992).

Two premises are assumed in the present study—the first relating to the area of management accounting, and the second relating to the field of psychology.

With respect to the first premise, it is assumed in the present study that ‘full-cost’ costing methods, as exemplified by absorption costing, fail to provide useful information for adequate profitability analysis. For the purposes of this paper, profitability analysis is taken to be the process of determining the return and margins on products and on lines of products. In the company as a whole, specific managerial decisions are based on such information. Such managerial decisions include:

- the prioritization of products for selling;
- the determination of products that should be discarded;
- the establishment of the optimum ‘mix’ of production and sales (in the light of existing company circumstances);
- the valuation of product stocks for the calculation of overall company performance;
- price and sales planning of products;
- analysis of the relationships among costs, volume, and profit; and
- break-even point analysis.

The adequacy of the absorption-costing method for the purpose of profitability analysis has been questioned by many academics and researchers, and there now exists a broad consensus on this issue among several authors from the cost and management accounting area. In general, these authors have demonstrated that analyses and decisions on the profitability of products must be founded on information

derived from the variable-costing method—using the concept of contribution margin, and taking into account the existence of factors that constrain production. In this context, Noreen, Smith and Mackey (1995) have noted that the contribution margin per unit of the constrained resource is a key financial measure that is critical in two important decisions—prioritizing use of the constraint and deciding whether to elevate the constraint.

Many of these authors have expressed well-founded concerns about the use of the absorption-costing method for profitability decisions, and have clearly demonstrated that the use of information based on absorption costing leads to incorrect decision-making with respect to the allocation of fixed costs to product units. In his classic cost-accounting work, Martins (2000) classified, in separate chapters, the entire conceptual basis of cost accounting directed to decision-making—including the concepts of variable costing, product-contribution margin, contribution margin of lines and divisions, contribution margin per production limiting factor, identified fixed costs, and current replacement costs. Martins (2000) argued against the use of absorption costing and the allocation of fixed costs to the products, noting that the allocation of fixed costs is an accounting practice that can result in adverse decision-making. By its very nature, the value attributed to each unit depends on the production volume and, moreover, on the allocation criterion used. Because of this, decisions made on the basis of ‘profit’ might not be optimal. The contribution margin has the ability to make the potential of each product much more apparent—showing how each contributes, in the first instance, to amortized fixed spending, and, later, to the final profit.

Horngren (1972) presented a solid argument for the advantage of variable costing (together with the concept of contribution margin) compared with absorption costing—noting that the contribution approach, if used appropriately, has distinct advantages over

the absorption-costing approach in guiding pricing decisions.

Goldratt (1992) argued against absorption costing and activity-based costing methods. This author noted that the financial community is now aware that cost accounting is no longer applicable, and that something must be done. According to Goldratt (1992), managers do not go back to the basics—to the logic of financial statements—in their search for answers to these important business questions. Rather, the financial community is immersed in attempts to save an obsolete decision-making framework.

Guerreiro and Angelo (1999) presented a model for pricing and profitability decision-making in which they demonstrated that the entire process of price planning and profitability analysis can be efficaciously based on the concepts of variable costing and contribution margin.

With respect to the *second* premise of the present paper, it is assumed that the behaviour of individuals is guided by their beliefs and values, and that these flow (in large part) from unconscious processes. Jung (1995) theorized that reflection is fundamental if individuals are to revalue consciously everything that they have accepted unconsciously—with a view to changing their behaviour as appropriate. Aguiar (1985) has noted that it is impossible to explain human behaviour in terms of only one cause. Human behaviour is the result of a variety of psychological and non-psychological factors—including biological, anthropological, sociological, political, and economic factors. These factors interact dynamically as they form, develop, and modify behaviour. In view of the multiplicity of factors involved, it is impossible to consider all the issues involved, and the present paper restricts its treatment of human behaviour to what might be described as a ‘Jungian view’ of human psychology.

## Objective

The main purpose of the present study was to examine why accounting concepts that have already been proven to be ineffective

for management decisions continue to be accepted. In pursuing this objective, this study used the fundamental concepts of Jungian psychology. It is an exploratory study in that it raises propositions and ideas for further in-depth research in future studies. Therefore, although it is not a conclusive work, this study does propose theoretical solutions to the questions it raises.

The following hypotheses are proposed:

*H<sub>1</sub> That certain causes of natural behaviour explain why people accept concepts that have been proven to be ineffective.*

*H<sub>2</sub> That a graduate course in accounting, through a process of encouraging personal reflection, can be an effective instrument for changing the views of students.*

The paper begins with an exploration of some aspects of Jungian psychology, followed by an exploration of how these Jungian concepts might have relevance to belief systems in the field of cost accounting. This is followed by an exploratory study of certain students enrolled in a Brazilian graduate course in accounting. The nature of the paper precludes definitive conclusions, but useful theoretical reflections on the study are presented in the conclusion.

### **Fundamental Concepts of Jungian Psychology**

Jungian psychology is based on the works of the Swiss psychologist Carl Jung (1857–1961), whose various works have been translated and reprinted many times.

#### **Conscious and unconscious**

In accordance with Jungian psychology, the total personality of an individual can be visualized as a sphere composed of various layers. The external layer is the field of consciousness, the layer immediately beneath this corresponds to personal unconscious, and the inner layer is referred to as the “collective unconscious”. Jung (1995) thus characterized the unconscious as consisting of two layers. He distinguished the personal from the

impersonal, and called the latter the “collective unconscious” because it is universal, and not limited to a single individual. In describing the personal unconscious, Jung (1995, p. 58) noted:

*The personal unconscious contains lost, suppressed (forgotten on purpose) memories, painful ideas, perceptions that, let us say, do not cross the limit of consciousness (subliminal), by which are meant sense-perceptions that were not strong enough to reach consciousness and contents that are not yet ripe for consciousness.*

According to Santos (1976), the personal unconscious is completely individual. It is formed as the individual is formed, and it consists of things that have simply been forgotten. It involves suppressed things—that is, things that have happened around the individual without that individual paying attention because he or she was concentrating on other things. It also includes repressed things—things that the individual has made an effort *not* to remember.

#### **Collective unconscious and archetypes**

Jung (1995) talked about primordial images as being the oldest universal forms of human imagination. These images, loaded with psychic energy, are responsible for much human motivation, and behave as though possessed of an independent life of their own. Jung (1995) emphasized that the unconscious is constantly active in rearranging and recombining its contents. It produces as many prospective subliminal combinations as the conscious, and these combinations far surpass the conscious combinations in fineness and reach. According to the Jungian approach, the unconscious closes inaccessible possibilities to consciousness—because it has at its disposal all of the subliminal contents that are on the edge of consciousness. The unconscious possesses everything that was forgotten and everything that happened unnoticed. In addition, it possesses the wisdom of the experience of the millennia deposited in its archetypal structures. In this psychological

interpretation, the collective unconscious functions as the common denominator that unites and explains numerous facts that are not explicable in terms of current scientific knowledge.

In Jungian psychological theory, the idea of the “archetype” is as important as the idea of the collective unconscious. In this context, Jung (1995, p. 86) noted that:

*The collective unconscious is a depiction of the world, representing, at the same time, the multimillennial sedimentation of experience. Over time, certain traits were defined in this configuration. These are the so-called archetypes or dominants—the dominators ... that is, configurations of dominant laws and of principles that repeat themselves regularly as one depiction succeeds the other, which is continuously relived by the soul*

Jung (1981) theorised that, apart from personal memories, the great “primordial” images are contained in every individual. This represents the hereditary aptitude of human imagination as it was in primordial times. According to Jungian psychology, this hereditary aptitude explains the surprising phenomenon that certain themes and motifs of legends are replicated in identical form in various parts of the world, and explains why mentally ill persons can reproduce exactly the same images and associations that are known from ancient texts. By attending to people with mental problems and reflecting on his observations of them, Jung (1995, p. 57) characterized the concept of “archetype” in these terms:

*... therefore, this more advanced stage of treatment, in which the fantasies no longer rest on personal reminiscences, is about the manifestation of the most profound layer of the unconscious, where the universal and primary human images lie sleeping. I called these images or motifs archetypes (or dominants).*

Archetypes are “nodes” of psychic energy. An archetype can be characterized as a kind of aptitude to reproduce the same mythical ideas constantly. Silveira (1994, p. 80)

noted that the archetype functions as a “node” of concentrated psychic energy, whatever the origin of the individual. When this potential energy becomes actual—that is, when it takes form—it has the archetypal image. Precisely how such archetypal images are configured on the basis of psychic energy is unknown. However, as Silveira (1994) observes, exactly how the energy of a waterfall is transformed into light is unknown, as is the precise mechanism of how light is turned into heat.

### **The Influence of the Unconscious on Human Behaviour**

In acting socially, an individual does not function in terms of his or her consciousness alone, but in terms of his or her totality or personality. The individual’s personality incorporates: (i) the conscious; (ii) the personal unconscious; (iii) the unconscious of the human group to which he or she belongs; and (iv) the collective unconscious. In this context, Von Franz (1999) has noted the enormous impact of archetypes in the individual in determining emotions and ethical perspectives, and in influencing relations with other persons. In this way, archetypes influence the entire destiny of a given individual.

Unconscious factors have a significant impact on the actions of human beings. When an individual does not act consciously, he or she acts unconsciously, and Jung (1981) theorized that the great decisions of human life, however well meant, are much more subject to instincts and to other mysterious unconscious factors than they are to conscious will and to good sense. This sort of unconscious behaviour can be recognized sometimes in the business activities of individuals who, when they asked why they behave in a certain way, respond by saying that “we have always done it this way”, without conscious knowledge of the effects of their action. In the social sphere, individuals can be observed ardently defending certain points of view without ever having reflected upon those points of view in any detail. In environments in which rationality and intellect predominate, individuals can be observed discussing technical issues using all of their rational forces of reflection—not

to arrive at the true conclusion, but to defend their beliefs and values, which are rooted in the form of ancient paradigms that are difficult to overcome.

The process of reflection is fundamental if individuals are to be able to re-evaluate, at a conscious level, everything that they have previously accepted, thus allowing them to change (or not to change) their behaviour appropriately. According to Von Franz (1999), Jung theorized that reflection is an extremely important instrument in the process of individualization—that is, for the amplification of the individual's consciousness.

### **The Unconscious Characteristic of a Determinate Human Group**

The idea of a collective unconscious incorporates universal traits within various races, ages, and religions. Referring to this Jungian idea, Santos (1976) has noted that just as races, tribes, and families can be differentiated in other ways, these human groupings can also be differentiated on the basis of a certain shared layer of the unconscious. Santos (1976, p. 125) called this part of the unconscious “the collective unconscious of a certain group”—thus adding the words “of a certain group” to avoid terminological confusion with the idea of the more general collective unconscious. This concept is fundamental to the approach of the present study in the sphere of cost accounting. The present study utilizes this concept of the “collective unconscious of a certain group” to understand the unconscious of people working in the accounting area. The study argues that, when attempting to understand the behavior of certain groups of people, their collective unconscious, and the particular factors related to this concept, must be taken into account.

### **Collective Unconscious and Archetypes in the Psychology of Cost Accounting**

The ideas of collective unconscious and archetypes in Jungian theory are characterized as universal images that are present in all human beings at all times, thus representing the sedimentation of experience over millennia. These concepts

refer to the extant universal aspects of shared unconscious repeated over the millennia from when humanity originated. These are not, therefore, the personal reminiscences of an individual, or even of any group. Rather, they are present in the unconscious of all humanity. Jung (1999) theorized that the unconscious possesses a certain “knowing” as a result of the experience of the millennia.

The function of the unconscious is present in the various dimensions of human activity—including sexual relationships, work, sports, and so on. Although it is not possible to characterize specific archetypes of collective unconscious applicable to the field of accounting, it is possible to draw a parallel with Santos' (1976) concept of self-unconscious and to apply this to a specific human group. In the present study, this group is composed of professionals in accounting—students, authors, professors, users of the information generated by accounting, and all those who research, teach, and utilize the ideas of accounting.

It is possible to conceive of accounting as an ancient activity that possesses a common psychic basis with certain similarities to the concept of group self-unconscious. This constitutes a type of collective unconscious of thought forms among accountants and people subject to their influence. These thought forms are constituted by the various concepts, beliefs, and experiences of many people in the field of accounting over a long period of time. They are not true archetypes in the Jungian sense, but they work in a similar manner and they possess a similarly strong psychic energy. The extant thought forms in this ‘unconscious of accounting’ are very strong because they incorporate customs, traditions, habits, and thought systems that have been accepted by many individuals in the field for centuries.

### **Formation of the Unconscious in Cost Accounting**

Practically everything used today in modern life was invented in the past hundred years, including radios, televisions, telephones, computers, satellites, airplanes, transistors, silicon chips, and so on. At the beginning of the twentieth century, when this process of

discoveries and of technological inventions began to intensify, society was quite different from that of today. Society today is predominantly a society of *consumption*. The customer is treated as 'king', and companies strive to develop a huge range of differentiated products to satisfy the various demands of modern society. The right product must be available at the right moment in the right quantity and quality to satisfy the needs of the consumer. Society at the beginning of the twentieth century was quite different. At that time it was typically a society of *offers*. As something was discovered or invented it was offered to society. Moreover, decisions on costs and prices were determined on an entirely different basis from that of the twenty-first century. Today prices are determined in global markets, but at the beginning of the twentieth century no structured markets existed, and in many segments there was no competition. How was the sale price of the first car determined in such a scenario? The probable approach would be to calculate the total cost and add the desired profit. Such a methodology was practical and logical in the context of the prevailing society, and such a procedure for the calculation of costs and prices already belonged to the group unconscious of cost accounting.

Hendriksen and Van Breda (1999) have observed that the origins of modern accounting are uncertain. However, double-entry bookkeeping systems began to appear in the thirteenth and fourteenth centuries in several trade centres in northern Italy. In the German school of cost accounting, the conceptual revision and historical work of Schoenfeld (1974) stands out, in which he stated that the initial German system of Schmalenbach in 1920, itself based on ideas developed in the sixteenth century, was adopted on a compulsory basis in 1937. An analysis of Ricardino Filho's (1999) work reveals that analytic calculations of product costs were already used in the manor houses of England in the twelfth century. It can be inferred that such procedures came about as a result of the collective unconscious of a group of people in accounting who were caught up in a process of repetition for more than eight hundred

years. In this context Jung (1995) has noted that archetypes are not merely impregnations of typical experiences, repeated continuously. Rather they also behave empirically as forces or tendencies within the repetition of experiences.

In this way, the procedures of 'full-cost' accounting, and the establishment of price by the criterion of cost plus margin, as adopted at the beginning of the twentieth century, were influenced by unconscious forces similar to archetypical forces. Practically all of the cost-relevant factors (that is, raw materials and labor) were direct and variable. Indirect costs had little part to play in the totality of costs. The allocation of the small volume of indirect costs to different products did not cause any significant distortion in the total cost of each product. In contrast, the calculation of the sale price in terms of total cost was an absolutely natural procedure.

In 1929, the New York stock market crashed. This had a very significant influence on accounting and its 'archetypes'. It was verified at that time that the financial statements of companies did not reflect their financial reality. Established formal procedures did not exist, and companies had adopted procedures that favoured them in one way or another. Many railroads, for instance, failed to account for the depreciation of assets, resulting in quite unreal statements of profits and assets.

If the stock market was to perform in an adequate manner, it was realized that sound auditing of financial statements was required, and that it was therefore necessary to establish standards of accounting procedures. From the 1930s onwards, accounting rules were formulated with a view to attending to the information needs of the public. This phenomenon of accounting formalization occurred simultaneously in the United States and in continental Europe.

With respect to the calculation of the cost of a product and the process of inventory valuation, the method was adopted on the basis of the concept of 'full cost'

(absorption costing). This came about as a result of the influence of the unconscious factors noted above, and as a result of such procedures already being common in that era. With the formal adoption of the absorption-costing method at that time, such a procedure became more firmly entrenched in the group unconscious of persons involved in accounting.

According to Swalley (1974), Jonathan N. Harris, a controller of an American company, was questioned in 1936 about why the profits of his company had decreased in the same period as sales had increased. It is a fact that using the absorption-costing method in accounting presents bigger results when the company produces more than it sells. In periods of large sales volumes (greater than production volumes), the reported results are smaller, and are frequently negative. An awareness of this phenomenon produced a break from the habits of the past, and launched what is known today as the method of direct (or variable) costing. The ideas of Harris (1936) prospered and today they are consolidated in the method of direct costing using a contribution margin. This has been consolidated in a school of managerial accounting that represents an alternative to the absorption-costing method.

Managerial accounting developed until the 1950s, closely accompanying the strong technological evolution occurring in the United States, Europe, and Japan. Some authors in the 1980s arrived at the conclusion that all of the technology of cost and managerial accounting had been developed by the 1950s, and that nothing new had been created since then.

The 1960s and 1970s produced many interesting reflections and daring propositions in the field of accounting, as can be observed in various publications. Many of these ideas were simply ignored or, in Jungian terms, were repressed by the beliefs and values of the group self-unconscious of people involved in accounting.

The 1980s was a decade of criticism of cost accounting throughout the world, especially in the United States. Many influential authors, especially Johnson and Kaplan (1987), applied all their energy to criticism of cost accounting in companies. This movement was fundamentally motivated by the economic problems being faced by America at that time in the face of Asian competition, specifically from the Japanese.

In response to the criticisms of cost accounting during the 1980s, new ideas were presented in the 1990s—with the activity-based costing (ABC) method being one of the best examples. Despite its diffusion and acceptance among academics, this system has had a low level of practical implementation in business. Fetchner (1999) observed that empirical implementation of ABC systems has been a moderate success when compared with traditional approaches to managerial accounting. According to this author, the rate of implementation of ABC systems is approximately 6–12% in the United States, Canada, Australia, Japan, and some European countries. According to Horngren, Foster and Datar (2000), research among Canadian firms indicates that only 14% of the researched firms had implemented ABC systems, and research among British firms indicates that fewer than 20% of firms of the sample had adopted this system.

The present study posits that unconscious factors drive accounting professionals to remain aligned with old accounting systems and to resist the new ideas. It is apparent that it is extremely difficult to change the established values of a group unconscious—given that such values have prevailed for more than 800 years.

## **Exploratory Study**

### **Method**

The empirical research presented in the present paper results from an exploratory study conducted with students enrolled in a Brazilian graduate course in accounting. The research involved two groups of twenty students each. Group A was composed of

students recently admitted into the program in a specific year. Group B consisted of students who had already concluded all credits, some having completed their master's degrees. The students who had already concluded the course were chosen randomly—irrespective of gender, age, language, and other demographic characteristics. In general, apart from the fact that one group had already undertaken the course and the other had not, there was no difference between the groups with respect to previous experience, academic grades, academic focus, and application procedures. It can be inferred that there was no difference in intellectual capacity between the two groups—because the students of both groups had passed the requisite admission tests and had been accepted into the course. In both groups, the data were collected by an interviewer who was unknown to the students.

Taking into account the premises and propositions discussed above—that established accounting concepts have a low degree of efficacy for management purposes—the study investigated the degree of acceptance of these accounting concepts among the two groups of students. The study specifically evaluated whether students who had passed through the course had different attitudes from those just entering—that is, the study looked at those who supposedly had been subject to a process of reflection and exposure to new concepts, ideas, and thought systems, and compared their attitudes with students who had not passed through such a program.

The research document presented ten statements to the interviewees, who were then asked to express their opinions by marking one of three alternatives:

- I agree completely;
- I disagree completely; or
- I neither agree nor disagree.

**Results and Evaluation**

The 10 statements provided to both groups are presented below, as is analysis of the results. It must be noted that the analysis is

based on the author's views on the accuracy of the statements. There could be arguments to such perceptions.

**Item 1**

**Statement**

*The method of absorption costing, applied in accordance with the fundamental principles of accounting, is an inadequate method for the inventory valuation of product stocks in process and of finished products, and is also inadequate for the verification of the accounting-managerial result of an industrial company.*

**Results**

	Group A	Group B
I agree completely	40%	65%
I disagree completely	35%	15%
I neither agree nor disagree	25%	20%

**Analysis**

The statement is largely correct. The inventory valuation of products in process and of finished products using the absorption-costing method distorts the accounting-managerial result of an industrial company. Among students who had already concluded the course, 65% understood this to be the case, whereas only 40% of students just admitted into the program believed the statement to be correct.

**Item 2**

**Statement**

*The balance sheet and the income statement, prepared in accordance with the generally accepted principles of accounting, generate important information for the managers of companies.*

**Results**

	Group A	Group B
I agree completely	70%	5%
I disagree completely	5%	70%
I neither agree nor disagree	25%	25%

**Analysis**

The statement is false for future oriented decision making (eg. pricing). The general accounting standards adopt absorption costing and therefore do not generate



relevant information for the managers of companies. Among students who had already passed through the course, 70% were aware of this. In contrast, students recently admitted demonstrated the reverse.

**Item 3**

**Statement**

*The unit product cost verified in agreement with the absorption-costing method is an important element in the process of calculation of the sale price and analysis of profitability of products.*

**Results**

	Group A	Group B
I agree completely	35%	0%
I disagree completely	55%	85%
I neither agree nor disagree	10%	15%

**Analysis**

The statement is false. The unit cost of products using the absorption-costing method is distorted by the influence of the subjective pro rata of fixed costs, and does not constitute an important element in the calculation of the sale price and the analysis of profitability of products. Among students who had already concluded the course, 85% understood this, whereas among students recently admitted, 55% perceived this.

**Item 4**

**Statement**

*The Activity Based Costing system (ABC) through the cost drivers and activity centers does not constitute an effective tool for the strategic administration of the indirect costs of a company.*

**Results**

	Group A	Group B
I agree completely	10%	45%
I disagree completely	55%	35%
I neither agree nor disagree	35%	20%

**Analysis**

The statement is false according to the proponents of ABC. They argue that through the ABC method, the indirect costs of a company are allocated among the activity centers and the products. The allocation is made through the concept of

cost drivers—in contrast to traditional cost accounting, which applies a ‘volume-based’ approach (for example, the volume of production or the volume of direct labor costs). The ABC system facilitates the management of the costs of activities and products. For these reasons, the ABC system constitutes an effective tool for the management of indirect costs. Among students who had already concluded the course, there were polarised views, with 45% agreeing and 35% disagreeing, whereas, among students recently admitted, 55% appeared to accept ABC as an acceptable method of indirect cost allocation. It can be inferred that the students who had already concluded the course have a different perspective on the usefulness of the ABC system for profitability analysis—more in line with the ideas of Piper and Walley (1990) and Goldratt (1992).

**Item 5**

**Statement**

*The budget is actually a system of accounting information within the area of the controller, and is not an instrument within the financial management of the company.*

**Results**

	Group A	Group B
I agree completely	10%	50%
I disagree completely	60%	30%
I neither agree nor disagree	30%	20%

**Analysis**

The statement is essentially true. The budget is a system of accounting information that contemplates planned events, and is therefore an instrument of the controller of a company. However, one of its generated reports—projected cash flow—contains information that is very relevant to financial management. Among students who had already concluded the course, 50% accepted the statement, whereas only 10% of students recently admitted understood this in these terms.

**Item 6**

**Statement**

*The standard cost of a product corresponds to the correct cost. The actual cost is merely a cost that has occurred.*

**Results**

	Group A	Group B
I agree completely	20%	70%
I disagree completely	65%	5%
I neither agree nor disagree	15%	25%

**Analysis**

The authors believe this statement is true. The standard cost is a scientifically established cost that is useful for the evaluation of performance and an analysis of the results of products; in this sense, it is a ‘correct cost’. Among students who had already concluded the course, 70% perceived this, whereas only 20% of recently admitted students had this point of view. However it could be argued that the allocation of indirect ‘standard’ costs could be based on traditional volume allocations or activity based allocations. There will be those who argue that the former method will not provide a “correct” standard cost.

**Item 7**

**Statement**

*When a country has low inflation, it is not worthwhile to have procedures in place in the accounting system to manage inflationary effects.*

**Results**

	Group A	Group B
I agree completely	0%	0%
I disagree completely	85%	90%
I neither agree nor disagree	15%	10%

**Analysis**

The statement is false. It has been proven that the results of companies are distorted by even low rates of inflation in the economy. Of students who had already concluded the course, 90% knew the

statement to be false, as did 85% of students recently admitted.

**Item 8**

**Statement**

*The general accounting principles constitute valid guidelines in issuing useful information for making managerial decisions.*

**Results**

	Group A	Group B
I agree completely	55%	10%
I disagree completely	10%	80%
I neither agree nor disagree	35%	10%

**Analysis**

The statement is false. The general accounting principles adopt absorption costing and, in this sense, cannot be considered to be a valid guide in generating relevant information for decision-making. Among students who had concluded the course, 80% thought in this way, whereas among students recently admitted, only 10% thought in the same way.

**Item 9**

**Statement**

*The system of accounting should take account of physical quantities in addition to monetary values.*

**Results**

	Group A	Group B
I agree completely	45%	75%
I disagree completely	30%	0%
I neither agree nor disagree	25%	25%

**Analysis**

The statement is true. Although information of a monetary nature is extremely important for evaluation of the economic performance of a company, information of a quantitative nature is also very important for the operational management of its activities. Accounting with a database focus can give appropriate answers in this area. Among students who had already concluded the course, 75% thought in this way, whereas 45% of students recently admitted thought this.

**Item 10**

**Statement**

*The use of market prices in accounting, rather than historic prices, operates against the goal of objectivity, placing at risk the process of generating reliable accounting information.*

**Results**

	Group A	Group B
I agree completely	10%	10%
I disagree completely	50%	75%
I neither agree nor disagree	40%	15%

**Analysis**

The statement is false in complex, fast moving environments. The use of market prices is extremely important in generating adequate managerial information, and reliable procedures and instruments exist

for generating data on such market prices. Among students who had concluded the course, 75% thought in this way, whereas 50% of students recently admitted thought in the same way.

**Global Evaluation**

The average of the results of the individual items of the study is presented in Table 1. This assumes that all of the items possess equivalent importance and, therefore, the same weight. In what follows:

$\xi$ -pos is the average ( $\bar{x}$ ) of the answers considered appropriate in the light of the established premises of this work;  $\xi$ -neg is the average of the inappropriate answers; and  $\xi$ -ind is the average of the answers of the type that neither agreed nor disagreed.

**Table 1 Classification of results**

	Group A			Group B		
	$\xi$ -pos	$\xi$ -neg	$\xi$ -ind	$\xi$ -pos	$\xi$ -neg	$\xi$ -ind
Item 1	40%	35%	25%	65%	15%	20%
Item 2	5%	70%	25%	70%	5%	25%
Item 3	55%	35%	10%	85%	0%	15%
Item 4	55%	10%	35%	35%	45%	20%
Item 5	10%	60%	30%	50%	30%	20%
Item 6	20%	65%	15%	70%	5%	25%
Item 7	85%	0%	15%	90%	0%	10%
Item 8	10%	55%	35%	80%	10%	10%
Item 9	45%	30%	25%	75%	0%	25%
Item 10	50%	10%	40%	75%	10%	15%

The global average of results is defined as  $\xi = (\sum \xi)/n$ . The average of the answers of each item ( $\xi$ ) was classified separately, according to its meaning as appropriate ( $\xi$ -pos), inappropriate ( $\xi$ -neg), or indifferent

( $\xi$ -ind) within each group. The results are presented in Table 2:

**Table 2 Group averages**

	Group A average	Group B average
$\xi$ -pos	37.5%	69%
$\xi$ -neg	37%	12%
$\xi$ -ind	25.5%	19%

The results show that the group of students who had already passed through the graduate course had an appropriate conceptual understanding of the statements contained in the questionnaire, with an  $\xi$ -pos of 69% compared with an  $\xi$ -pos of 37.5% for the group of students recently admitted. In contrast, the group of students recently admitted presented one  $\xi$ -neg of 37% (quite high), compared with the  $\xi$ -neg of 12% of the students of the experienced group.

## Conclusions

The theoretical arguments presented in this study indicate that the fundamental causes of the principal conceptual debates extant in cost accounting are probably situated in the dimension of human behaviour than in the fields of techniques and knowledge. A review of the principal concepts of Jungian psychology shows the importance of the unconscious in the acceptance of ideas, the formation of thought systems, and the adoption of beliefs and values.

The exploratory study demonstrates that a group of students recently admitted to a graduate course in accounting had a high index of acceptance ( $\xi$ -neg of 37%) of what were characterized in this work as accounting concepts with a low degree of efficacy for managerial purposes. Despite being composed of students of high intellectual capacity who had succeeded in gaining admission to a graduate accounting course of high standard, this group readily accepted accounting concepts that can be considered 'weak' from a managerial perspective. The global average index of appropriate answers ( $\xi$ -pos of 37.5%) was very low, and was not in accordance with the intellectual level of this group of students. For example, the answers to Statement 2 resulted in very high index of inappropriate answers ( $\xi$ -neg of 70%) and a very low index of appropriate answers ( $\xi$ -pos of 5%).

The results of the exploratory study appear to confirm Proposition 1—that certain causes of natural behaviour exist to explain why people accept concepts that have been proven to be ineffective for managerial purposes. This proposition is based on Jungian psychology, according to which the accounting students belonged to a specific group of people (those working in the accounting area) with a specific type of collective unconscious. This 'unconscious of accounting' is very strong because it incorporates customs, traditions, and thought systems that have been accepted for centuries. However, the type of study carried out here does not permit conclusive assessments of the validity of Proposition 1—mainly because of the unconscious

nature of the factors involved. Apart from the possibility that Proposition 1 might be true—that the low index of acceptance of inappropriate answers is due to unconscious factors—it is possible to raise other hypothetical explanations. These include

- that the students did not come only from accounting courses, but from various courses with a less-solid basis in accounting;
- that the teaching methods applied in undergraduate courses are based more on lectures and less on student-centred teaching methods (such as case studies, discussions, seminars, and so on)—with the result that students did not clearly discriminate between the financial and managerial aspects of accounting; or
- that the courses previously undertaken by students emphasized the financial aspects of accounting, rather than the managerial aspects.

The results of the exploratory study demonstrate that the group of students who had already concluded the course presented a high index of acceptance ( $\xi$ -pos of 69%) of what were characterized in this work as adequate concepts for managerial purposes, together with a low Index of inappropriate answers ( $\xi$ -neg of 12%).

Comparing the two groups from the perspective of the appropriate answers, it is observed that the group of students who had already concluded the course presented, on average, a high index ( $\xi$ -pos of 69%), compared with a low index ( $\xi$ -pos of 37.5%) among the group of students recently admitted to the course. The study indicates the validity of Proposition 2—that the graduate course in accounting studied here, through a process of encouraging personal reflection, is an effective instrument for changing the views of students. This proposition is based on the Jungian idea that reflection is an extremely important instrument in the process of individualization—that is, for the amplification of the individual's consciousness.

However, the type of study carried out here does not permit conclusive assessments of the validity of Proposition 2. There are other possible explanations for the high index of appropriate responses from the students who had completed the course. These include:

- that the undergraduate courses did not cover all necessary topics for a proper understanding of the issues, whereas the graduate course did so;
- that the professors of graduate courses might be better teachers than the professors of undergraduate courses; or
- that the graduate courses emphasize managerial approaches to accounting.

A significant proportion of students who had already concluded the program—many of whom are now engaged in research in the field of managerial accounting—have been shown to have incorporated new concepts and visions that will be useful for the purposes of managerial administration. However, it should also be noted that, among students who had already passed through the course, some were not able to free themselves of old thought systems, despite their experiences in the course. Further Proposition 2 needs to be tested not amongst researchers of managerial accounting, but instead amongst practitioners. This may highlight why many accountants even with masters degrees in accounting do not appear to be implementing the concepts learnt in the classroom in practice.

### Future Research

The main ideas presented in this study are: (i) cost-accounting concepts that have a low degree of efficacy for management purposes are present in the current conceptual framework of accounting; (ii) people accept such concepts because they are driven by behavior factors, many of which are derived from unconscious processes; and (iii) processes of reflection are effective in changing people's behavior. The exploratory nature of this study does not provide conclusive answers to the questions raised in it, although it does indicate support for the propositions.

Because the present study is inconclusive, alternative approaches should be considered in addressing the questions associated with the underlying premises of the study.

The first alternative approach is to adopt the view of those who assert, despite academic criticism, that traditional accounting provides the information required for managerial decision-making. Although these accountants and managers are aware of the limits of traditional cost-accounting concepts, they consciously believe that such concepts are adequate for effective business management. According to this view, there is a gap between the new ideas of academics and what most practitioners do in the 'real world'. It would be useful to understand why new accounting concepts—such as the ABC method, the theory of constraints, balanced scorecard, and economic value-added—have such a low rate of practical implementation.

The second alternative approach is to recognize that, although people are aware of the inadequacy of some traditional accounting concepts for management purposes, these concepts continue to enjoy a high status as information tools for other important functions—including the auditing process, performance evaluation, taxation assessment, and so on. Because of this, financial people prefer not to deal with a different set of managerial-measurement concepts in assessing income, assets and other financial indicators. In adopting this view, it might be necessary to set up a parallel management-information system to attend to the specific information needs of management. However, this might be resisted because accounting for managerial purposes is generally considered to be less important than financial accounting.

In exploring this question of why there is continuing professional support for accounting concepts that are inadequate from a managerial perspective, both of the above alternative approaches are worthy of scientific exploration.

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