

Teaching The Accounting Entity Concept Via The Modeling Concept “Scale Size”

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Abstract

The accounting entity concept has become increasingly more difficult to teach due to the proliferation of entities such as joint ventures, licensing arrangements, and special purpose entities. This paper proposes that this concept be taught using the modeling concept of “scale size.” After a short discussion of the basic issue, a learning module, consisting of 1.) a lecture, 2.) a discussion question, 3.) an active learning exercise, and 4.) a case, is presented.

Key words: Financial accounting, entity concept, modeling

Why The Entity Concept Is Important

The failure of various parties to adequately account for the special purpose entities (SPEs) associated with Enron Corporation illustrates how important the entity concept is in the capital markets. Students in financial accounting courses, the future accountants, future managers, financial professionals, and future investors clearly need to adequately understand this concept.

The entity assumption is also increasingly important in today’s business world because the concept of the firm is increasingly elusive. *“For example, it is harder now to define the outer edges of the firm. There are public companies with multiple public subsidiaries, each with joint ventures, licensing arrangements, and other affiliations.”*ⁱ It is obvious that if students do not understand the boundaries associated with accounting entities if they will not be able to account for them properly.

Part of the difficulty in understanding all the ramifications of the “economic entity” assumption in accounting occurs because textbook definitions are not particularly informative. For example, a leading financial accounting textbook states, *“The economic entity assumption means that economic activity can be identified with a particular unit of accountability”* as a definition.ⁱⁱ The meaning of this statement is not intuitively obvious.

Along with the definitional vagueness, the examples typically provided in textbooks do not offer much insight into the concept. For example, the same textbook previously cited provides an example that involves keeping the business affairs of General Motors and Ford separate. This seems like common sense to students so they do not really understand what the entity concept means.

This paper proposes that the entity concept be taught in a learning module by linking it to the modeling concept of “scale size.” This concept relates to the physical sciences and

can be easily understood and adapted to accounting. The following four activities would constitute this learning module:

- Lecture on Modeling and Scale Sizes
- Discussion Question
- Active Learning Exercise
- Case-African Safari

These activities comprise the remaining sections of this paper.

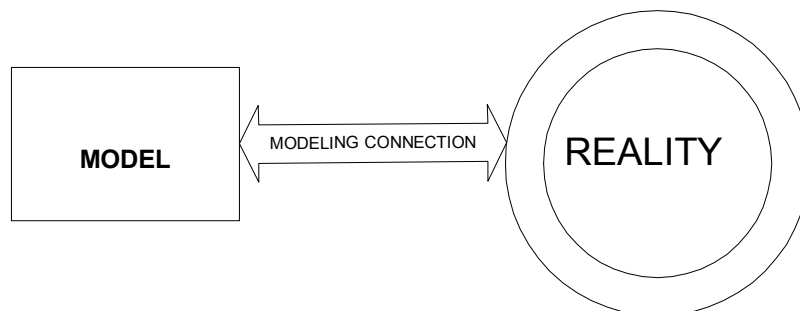
Lecture on Modeling and Scale Size

Modeling

The universe or reality we live in is too vast and too complex for the human mind to fully comprehend all at once. Accordingly, we simplify reality by constructing models which we can deal with.

A **model** is simply an abstraction or representation of some aspect of reality. This may be illustrated with the following figure:

Figure 1- Model Linkage To Reality



There are many different possible structures for models. Some of these are:

- Semantic [language] models
- Physical models
- Mathematical models

- Abstract models
 - Paintings
 - Music
 - Poetry
- Computer models [combination of mathematical and physical]
- Symbolic models

Models have both *behavior* and *structure*. Model “behavior” is what the model does. Model “structure” is the particular form of the model which makes it do whatever it does. We may use different model structures to achieve the same behavior.

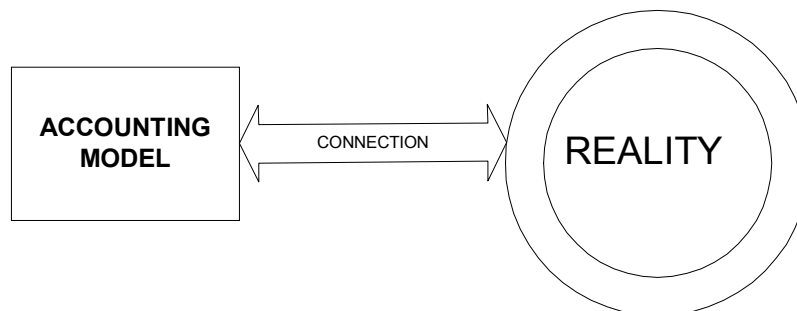
For an example using physical models, imagine that we might create a model airplane out of either balsa wood or paper and still have the plane fly the same. For another example using a computer model, imagine that we might create a computer model in either the Fortran computer language or the Visual Basic computer language and have both models produce the same outputs even though they are written in different languages and, therefore, have different structures.

Accounting and Modeling

“What do modeling and reality have to do with accounting?” **Accounting information is derived from models which attempt to portray selected aspects of reality.** This means that accounting information is a surrogate for aspects of reality. Therefore, we need to understand both modeling and the logical framework it is embedded in if we are to truly understand accounting.

The following figure shows the accounting model and reality relationship:

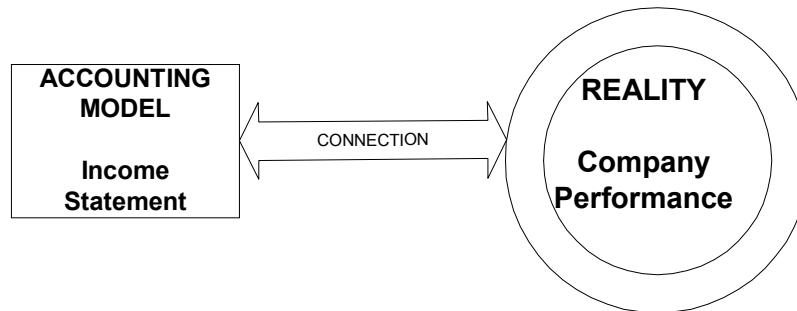
Figure 2-Accounting Model Linked To Reality



A specific example of this relationship could be a single financial accounting report such as the Income Statement. This report attempts to reflect economic performance over

some period of time such as a month or year. Thus, the accounting report, the income statement, reflects the aspect of reality defined as “company performance.”

Figure 3- Specific Accounting Model Linked To Reality



Mathematical Models

Effective problem solving may require mathematical decision models since these have the following advantages over both intuitive and verbal problem solving:

- More precise description of problem
- Structure of problem must be laid out
- Cause and effect relationships are revealed
- Facilitates dealing with entire problem including all interrelationships
- Reveals what additional information or data is needed
- Forms a bridge to use of computerized high-power mathematical techniques

Reality

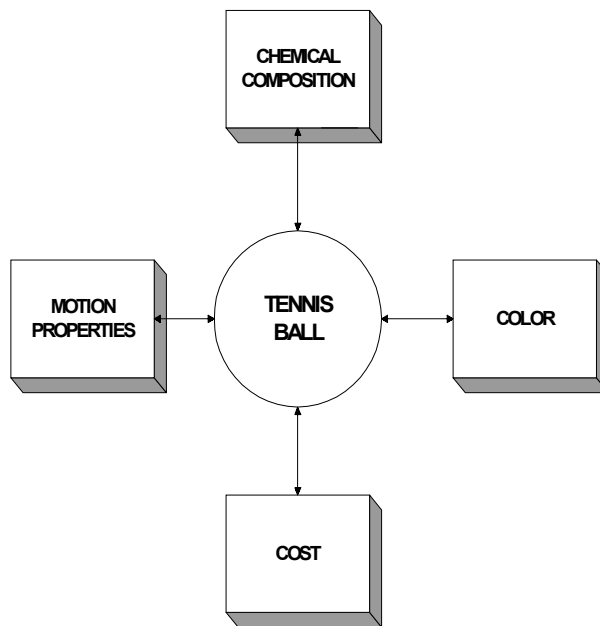
To go further with the previous concepts we need to address the age old question, “What is reality?” We will try to provide an acceptable answer in the following discussion.

We can define reality as the universe [totality of everything] which we live in. This includes the factual or objective world which exists in space as well as our mental world which includes concepts, thoughts, or dreams. At one level, our mental world is an objective empirical reality which is part of the factual or objective world. As such it can be explored by psychologists or cognitive scientists just as a chemist may explore the composition of a substance. At another level, our mental world may be thought of as *supertemporal*-beyond the factual or objective world. This occurs because our mental world supplies the reasoning, logic, or mental models which we employ to comprehend

the factual or objective world. *Thus, fundamentally, the way we think about something not only influences our perception of it but may be considered as part of it!*

We can explore one aspect of the previous statement by considering a tennis ball. Let us suppose we want to consider four [this number is arbitrarily selected] different thoughts or perceptions of a tennis ball. We could think about the composition of the tennis ball in chemical terms and our thoughts of it could be chemical symbols and equations. On the other hand, we could think of the tennis ball in terms of color and have a preference for white, yellow, or orange, depending on our mood at the moment. Yet another way we might think about the tennis ball might be in terms of its physical properties when in motion. We might like a particular type of tennis ball because we can more easily put spin on it when hitting it. A fourth way to think about the tennis ball could be in economic terms, what the cost incurred to purchase it was. These four aspects of a tennis ball are portrayed in the following diagram:

Figure 4- Knowledge About A Tennis Ball



We could characterize the previous four items as *knowledge* of the tennis ball. **Knowledge being defined as” information about an object.”**

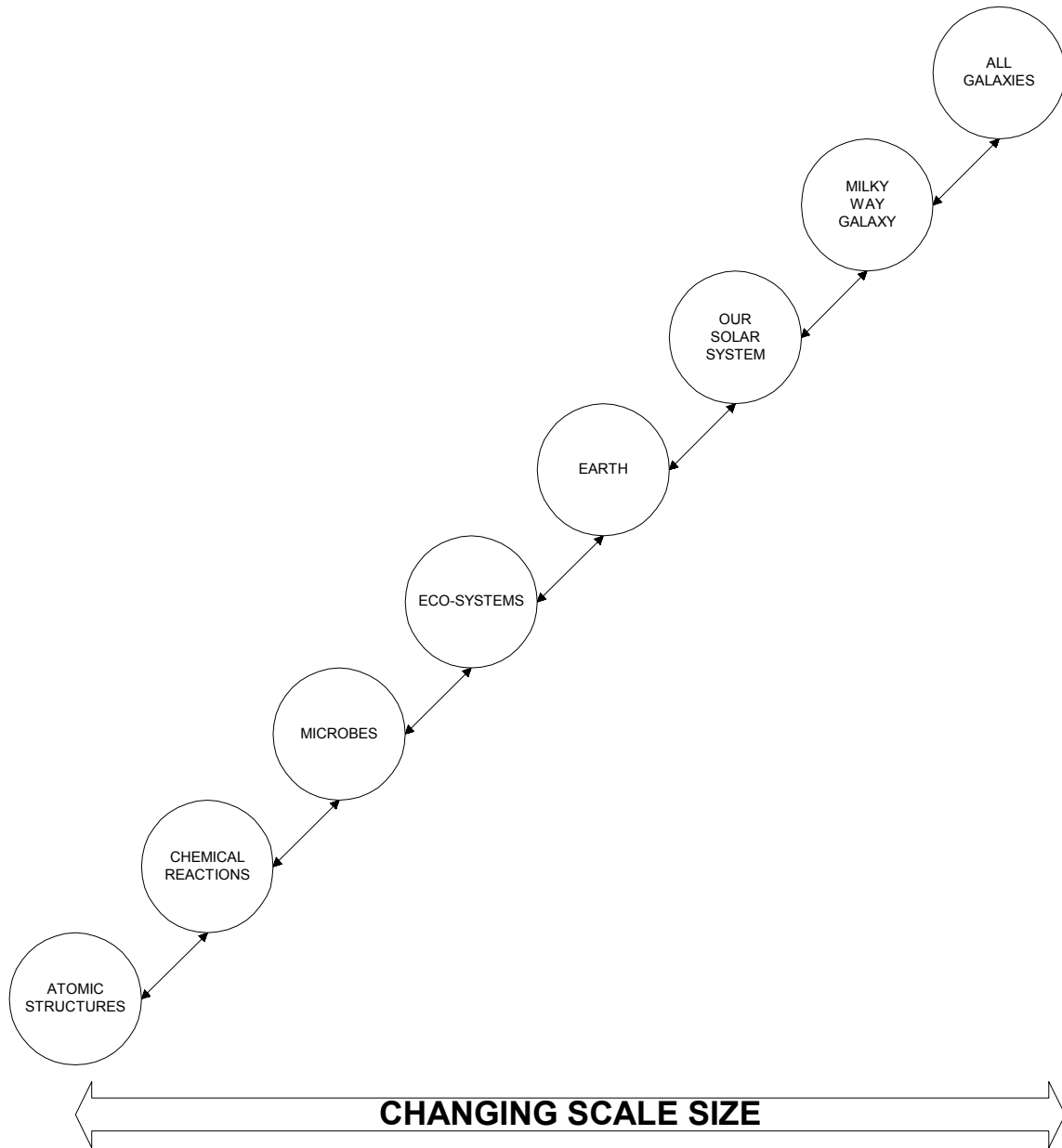
If you think about it, at one level, our knowledge of the tennis ball really defines what reality for a tennis ball actually is, at least as far as we are concerned.

One property about which we had knowledge was the tennis ball's cost. This property is economic information which is derived from accounting. Thus, we see that accounting information comprises one of our sources of knowledge about some items in the real world.

Model Scales

Since reality is too boundless for most humans to totally consider or deal with, models are frequently constructed on some scale which limits the area of reality that is being considered. This simply means that they use a "lens" to focus on one aspect of reality. If we change the scale or lens, we change the area of reality that is being modeled. The following figure illustrates different size scales that might need to be considered:

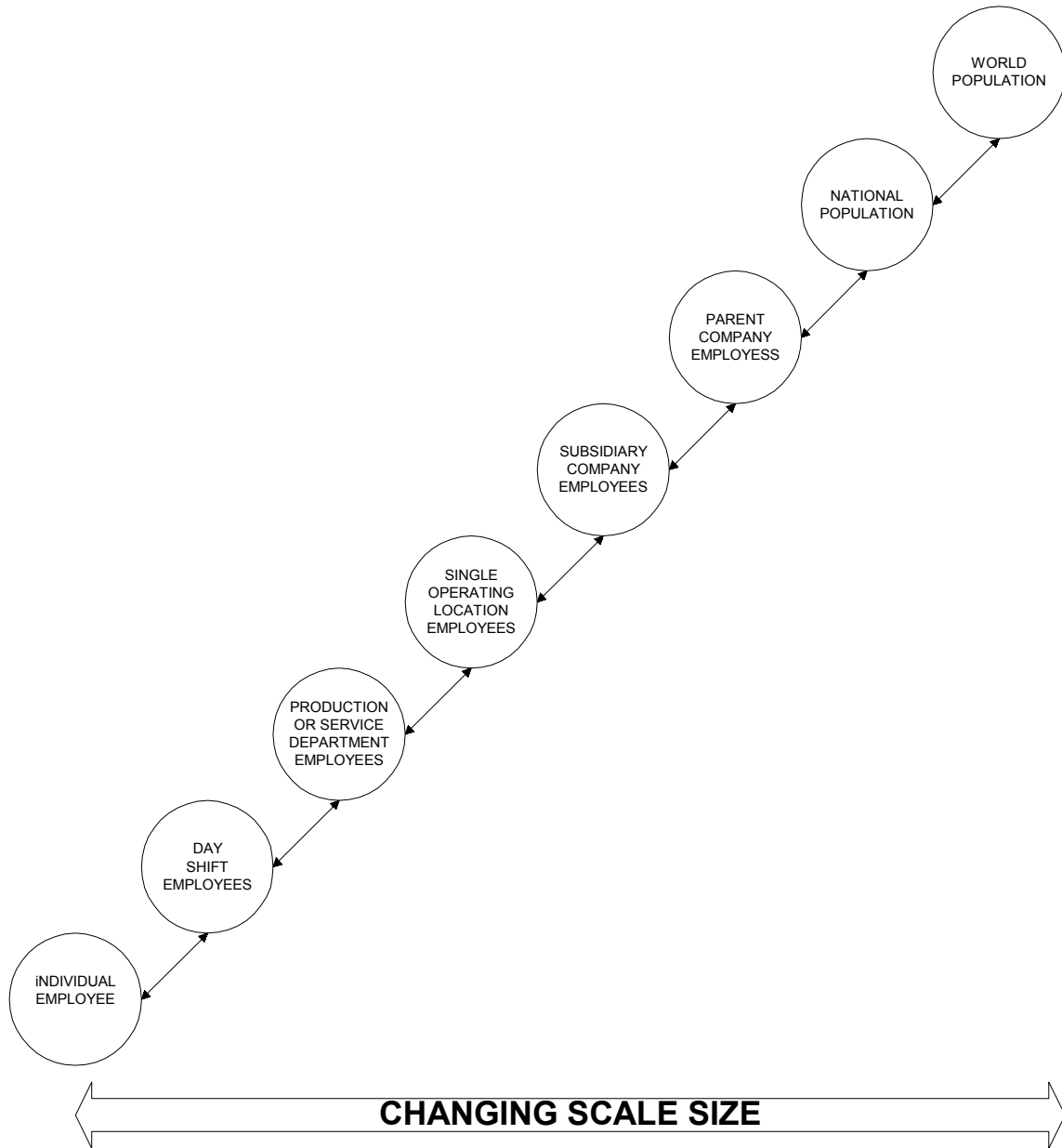
Figure 6-Different Possible Scale Sizes



Scale size applies to accounting where it is called the *entity concept*. In accounting the *entity concept* simply means that we can define the scale as being any area we are interested in for a particular decision, whether it be all employees in the entire company or an individual employee. We then prepare the appropriate accounting data for the entity [scale size] being sure to exclude all data relating to other entities. The following

figure illustrates possible accounting entities [scale sizes] flowing from a human persons perspective:

Figure 7-Accounting Scale Sizes For People



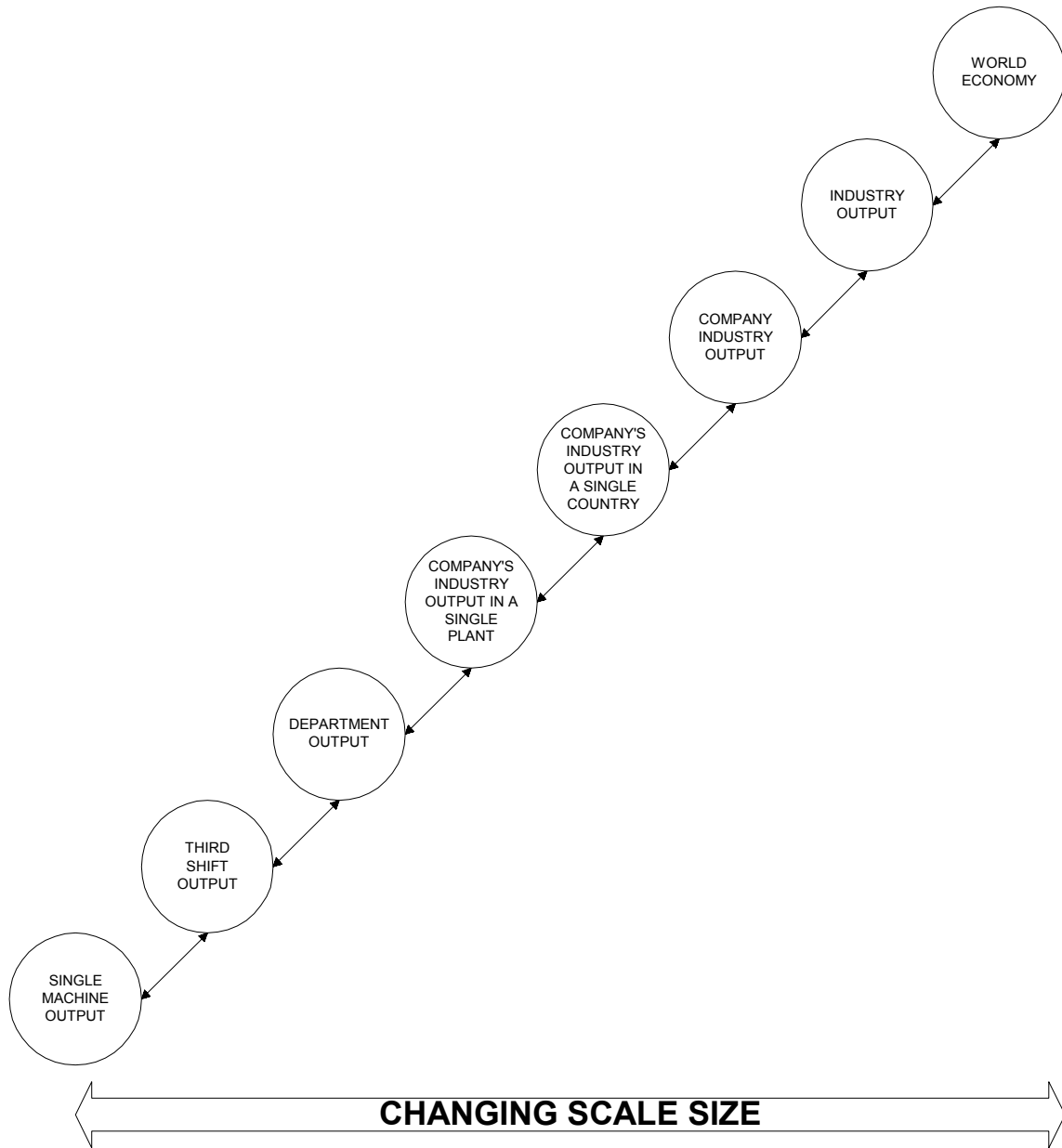
If we were interested in the performance of all employees in a parent company, the entity [scale size] we would be focusing on would be the parent company and we would use an Income Statement for the parent company to help make our performance decision. For example, we might compute the sales revenue per employee, a commonly used measure in the retail industry. This can be easily computed by dividing the Sales Revenue per the

Income Statement by the number of employees in the company. If the company we were analyzing was generating \$700,000 of sales revenue per employee when the industry average was \$300,000, we might conclude that was outstanding performance since it was more than double the industry average!

On the other hand, if we were interested in the performance of a single employee, the entity [scale size] we would be focusing on would be that single employee and we would use an Income Statement for that single employee to help make our performance decision. For example, suppose we wanted to evaluate the cost effectiveness an individual salesperson. We could prepare an Income Statement for that person which would show all sales revenue generated by that persons' sales efforts. If we assume the Income Statement showed that the salesperson was responsible for generating \$10,000,000 in sales revenue during the last calendar year when we were only paying them a \$50,000 salary, we might conclude that their performance was outstanding!

Of course we could also adopt perspectives other than the organizational unit for defining the accounting entity. For example, we might take a product perspective such as the following:

Figure 8-Accounting Scale Sizes For Product Perspective



Consider All Scales

In order to fully understand something, we should consider all scales pertinent to the phenomena we are interested in. If we only consider something on one scale, we limit our understanding. Every scale is both part of a higher scale and is composed of smaller scaled items below it. Effective modeling always considers multiple possible scales including scales which are higher and lower than the scale we are modeling in.

Discussion Question

Question: Why would accounting use different scale sizes?

Answer:

Accounting provides information for many different decisions. Some of these decisions involve individuals, departments, plants, companies, etc. accordingly we alter the scale size [entity] to fit the decision situation. For example, if we are concerned about the performance of a single employee we only want data which measures the performance of that employee. If we want information about performance of an entire production department we would alter the scale size and gather and report information for all employees in the department.

Active Learning Exercise

Assume you have been hired as a consultant to find ways of improving the operations and efficiency of a local fast food outlet which is locally owned but franchised by a national chain. Which of the following scales sizes would be best for your analysis? Why?

- Individual employees
- The entire fast food outlet
- All outlets franchised by the national chain

The purpose of this exercise is to have students think about the accounting entity concept. The best place to start would be to analyze the entire fast food outlet. If it is exceptionally profitable and meets national chain standards then you may not have to do any further analysis. If it is not profitable, you may want to do something like time and motion studies of individual employees to figure out how they can do their jobs better. In any event, for both types of analyses you will want to have access to standards and data for all outlets franchised by the national chain for comparative or benchmarking purposes.

Case - African Safari

Tom Howie was the 60% owner of a real estate development company named Howie Properties, Inc. This company had 12 employees and was located in a large metropolitan area. Howie Properties, Inc. was highly profitable and paid Tom a salary of over \$500,000 per year.

Howie Properties, Inc. located what they regarded as desirable undeveloped land and then paid to obtain an option to purchase the land. This land was frequently located in areas which were under future development such as industrial parks, new interstate highway interchanges, etc. After getting an option, company employees would make sales calls to wealthy individuals such as medical doctors, lawyers, and bankers to see if they would like to purchase \$100,000 limited partnership interests in the property.

When Howie Properties, Inc. had sold enough limited partnership interests to fund the purchase of the land and cover the company's fee, it would create a new limited partnership for which Howie Properties, Inc. would act as the general partner. The limited partnership would then collect the money from the investors for the limited partnership interests and use this money to exercise the option to purchase the property. The partnership would then hold the land for several years and hope to sell it for a significant profit. Howie Properties, Inc. typically took 10-20% of the deal as a fee for locating the property and putting the investors together. Over the last decade, Howie Properties Inc. had syndicated more than 100 different limited partnerships in this manner. The limited partnerships Howie Properties, Inc. formed had a very good track record of buying property, holding it for 3-5 years, and selling it at a significant profit.

One day Tom Howie decided he needed a break and was going to fulfill a lifelong dream. He subsequently took a six week safari to Africa where he hunted in several different countries and shot a wide variety of game which he had mounted and brought home for his den. He used \$80,000 of Howie Properties, Inc. funds to pay for this trip.

When Tom returned from the safari, he told the company accountant to charge the \$80,000 to Business Development Expense for Howie Properties, Inc.. He stated that while on the safari he had looked at several pieces of potential development property and had talked to a number of wealth individuals about potentially investing in such property. He did admit that despite his efforts there were no options or active business deals forthcoming from the trip.

The company accountant was a little troubled by the request to charge the \$80,000 to Business Development Expense. He has requested your assistance in resolving the situation.

1. Which economic entity incurred the \$80,000 in expenses?
2. Which economic entity or entities benefited from the expenditure of \$80,000?
3. What different parties may be affected by where the \$80,000 is reported?
4. How might the situation be appropriately resolved?

Discussion Leader Guide To Case Solution- African Safari

Case Objectives:

- Stimulate thought and discussion about entity concept
- Provide opportunity for students to think about different business stakeholders
- Allow students to think about “satisficing” as opposed to “optimizing” as appropriate solution

Suggested Method For Covering Case:

This case may either be used as a homework assignment or as an in-class exercise.

When used as an in-class exercise, it is suggested that you place students in groups of 3-5 individuals, then give each group 15 –20 minutes to discuss the case and develop a case solution.

Case Solution:

This case provides an obvious situation for considering the “entity” concept. The two possible entities which might incur the \$80,000 expense are:

- Tom Howie, personally
- Howie Properties, Inc.

Question 1: Tom Howie, the person incurred the \$80,000 expense.

Question 2: It appears that two parties may have benefited from the \$80,000 expense:

- Tom Howie in that he had a six week African safari
- Howie Properties, Inc. to the extent that Tom Howie may have developed contacts with potential investors or may have located possible future pieces of property to invest in.

Question 3: The following stakeholders might be affected by where the \$80,000 is charged:

- Tom Howie- If he is charged the full \$80,000 to his personal account he may have a non-deductible personal expense
- Howie Properties, Inc. other shareholders- If the full \$80,000 is charged to the company then the 40% minority shareholders will bear part of the cost of what could be construed to be a personal expense
- Banks financing Howie Properties, Inc.- If the full \$80,000 is charged to the company then the company will be minus \$80,000 in assets and this could increase the risk profile to lending institutions.

- U.S. Government- If the \$80,000 is a personal, non-business related, expense of Tom Howie then it may not be deductible on his personal tax return. If the \$80,000 is an expense of Howie Properties, Inc. then it would normally be tax deductible and the U.S. Government would, in effect, bear part of the cost depending on the company's marginal tax rate.

Question 4- Business versus personal for potential expenses is actually a fairly common problem in many incorporated small businesses. Since there are serious tax implications it would be wise to consult the tax law to see what those requirements might be for the deductibility of a foreign business trip.

From an economic perspective, the fairest thing to do would be to try to estimate what proportion of the trip was business related and what proportion of the trip was purely personal. If the split was 50%-50%, business-personal, then it might be reasonable to split the \$80,000 expense. Tom Howie could reimburse Howie Properties, Inc. for \$40,000 and let Howie Properties, Inc. record a \$40,000 expense. Tom Howie would then have a \$40,000 cash payment that may or may not be partially or fully deductible on his personal tax return.

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ⁱⁱ D.E. Kieso, J.J. Weygandt, and T. D. Warfield, *Intermediate Accounting*, tenth edition [New York: John Wiley and Sons, Inc.] 2001, p. 42.