2006-12-07

An Analysis of the Accounting Methods Used by Builders Producing Twenty-Five or Fewer Homes per Year

David Andrus
Brigham Young University - Provo

AN ANALYSIS OF THE ACCOUNTING METHODS USED BY SMALL-VOLUME HOME BUILDERS

by

David Ray Andrus

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Science

School of Technology

Brigham Young University

December 2006

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

David Ray Andrus

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

_____	_____
Date	Jay P. Christofferson, Chair
_____	_____
Date	D. Mark Hutchings, Member
_____	_____
Date	Scott L. Summers, Member

BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the thesis of David Ray Andrus in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

Date

Jay P. Christofferson
Chair, Graduate Committee

Accepted for the School

Val D. Hawks
Director, School of Technology

Accepted for the College

Alan R. Parkinson
Dean, Ira A. Fulton College of Engineering and Technology

ABSTRACT

AN ANALYSIS OF THE ACCOUNTING METHODS USED

BY SMALL-VOLUME HOME BUILDERS

David Ray Andrus

School of Technology

Master of Science

Accounting plays a crucial role in the success of any business, but it is particularly vital in the construction industry, a complex field that typically requires the coordination of multiple subcontractors and multiple jobs in any given year. Although small-volume home builders make up 70 percent of the membership of the National Association of Home Builders (NAHB), a trade association of the home building industry, little is known about the accounting practices of these builders.

This thesis undertook to study the accounting practices of small-volume home builders. Small-volume home builders were defined as those producing 25 homes or fewer in a given year. A 20-question questionnaire was sent to 750 small-volume home builders, 141 of which responded for a 20-percent response rate. The names were taken from a sampling of an NAHB membership list.

Respondents were asked about their accounting practices, including what type of accounting method they used, whether they employed an outside certified public accountant, and what types of accounting software they used. Respondents were asked to give specifics about their accounting system, such as how their chart of accounts was developed and how they viewed different accounting tools.

Collected data was run through the data-analysis program SPSS for Windows. The results gave a picture of the accounting practices of these small-volume home builders. There was a fairly even split between cash and accrual methods of accounting. Most owners or managers did their own day-to-day accounting, and most employed an outside CPA. Most used Quickbooks computer software for every accounting function, and most reviewed financial statements monthly.

Most respondents were satisfied with their accounting system. Reasons for this satisfaction included ease of use, simplicity, accuracy, and the ability to job cost. On the other hand, dissatisfaction with an accounting system was often tied to expense of software, complexity, and the need for frequent updating of software programs. These responses give an important first look at what kinds of accounting methods small-volume homebuilders are using.

ACKNOWLEDGMENTS

I would like to express heartfelt gratitude for the patience and guidance that my thesis chair, Dr. Jay P. Christofferson, and my committee members, Dr. D. Mark Hutchings and Dr. Scott L. Summers, have shown me. I am thankful to the respondents for so willingly sharing the information that made this thesis possible, and to my dad, BYU emeritus professor Dr. Roman Raphael Andrus, for his numerous insights into scholarly research and publication. Finally, I would like to thank my wife, Elyssa, whose beauty is rivaled only by her intelligence … and patience.

TABLE OF CONTENTS

LIST OF FIGURES

Chapter One: Introduction

"There is probably no type of firm that needs sound accounting practices more than the construction firm," says certified public accountant and author James J. Adrian, in his book *Construction Accounting* (1986). "The success of the construction firm is closely aligned to its ability to forecast and control costs. Both of these functions have accounting at their base," he says.

The construction industry is an important sector of the U.S. economy. It represents some 9 percent of the country's gross domestic product, according to the U.S. Census Bureau's 2002 Economic Census. The industry is made up of nearly 700,000 large and small companies. These companies employ some 7,000,000 individuals and generate total revenue of $1.2 trillion (Paz, 2006).

Of the some 700,000 construction companies in the United States, more than 171,000 are residential homebuilding companies. These companies employ some 878,000 people for a total payroll of $29 billion. The value of business done by residential home builders is $264 billion (U.S. Census Bureau, 2005). Small-volume homebuilders make up the bulk of the residential construction sector. According to the National Association of Home Builders, 70 percent of its membership produces 25 homes or fewer per year (NAHB, 2006b).

Small residential construction companies face many unique challenges. In many cases, the owner must function as president, marketing director, human resource director, accountant, and everything in between. These companies must compete with larger

production home builders who can use their bulk buying power to negotiate lower prices for labor and material. Also, small-volume home builders may not have the financial reserves and resources to ride the cyclical tide of feast or famine common in the construction industry (Kale & Arditi, 1998).

Although the construction industry has experienced monumental growth in recent years, the increasing global demands for materials and the rebuilding efforts needed to repair the damage caused by the 2005 Gulf States hurricanes in the United States means that prices for materials are expected to increase. This scarcity of materials may make it even harder for small home builders to compete in a crowded market (Davidson, 2006).

The construction industry has the second highest failure rate of all industries, second only to business services (Paz, 2006). While the reasons for failure are myriad, poor accounting methods can certainly contribute to a company's demise. More than any other industry, construction requires solid accounting practices for success (Adrian, 1986). Yet, disappointingly, "The construction industry has a history of neglecting to perform the accounting function properly" (ibid).

In the *Journal of Construction Accounting and Taxation*, authors Robert A. Davidson and Martin G. Maguire identified poor accounting systems as one of the 10 most common causes of construction contractor failures (2003). Financial industry consultant Steve Maltzman notes that many builders use a seat-of-the pants approach to accounting throughout the year, with little or no idea of their financial status until it is far too late to change paths and correct their financial mistakes (O'Toole, 2002).

Construction accounting relies on coordination of not only materials, but also of multiple subcontractors. Changing tax codes, and also changing technology such as electronic funds transfers, only serve to complicate accounting matters for small

construction firms (Davidson, 2006). Yet small builders are notoriously neglectful of accounting (Adrian, 1986).

Part of the problem is the numerous methods of accounting available to small-volume home builders. Some companies prefer to use the cash method of accounting, a system that accounts for revenues, costs and expenses in the period which they are disbursed or received. Others prefer the accrual method, "an accounting system that recognizes revenues when they are earned and incurred, regardless of when the cash transaction takes place" (E. Shinn, 1993). Still others may use a hybrid of the two. Also, in some cases a contractor must choose a method for day-to-day accounting and one for long-term contracts that span more than one calendar year (Wallace, 2001).

If haphazard accounting can contribute to financial ruin, it is reasonable to assume that solid accounting practices can contribute to a small construction company's success. Successful companies need an effective internal accounting system. They may also need the help of outside advisors, such as a certified public accountant who specializes in the construction industry (Davidson, 2006).

Author, certified public accountant and frequent National Association of Home Builders contributor Emma Shinn notes that, "Through the accounting function, (contractors) can obtain timely financial information that will make the decision-making process less of a guessing game. … Accounting should be viewed as a tool that managers are responsibly for using effectively" (1993).

It is a sentiment echoed by Robert Paz in the publication *Construction Accounting & Taxation*. He says that a key to a construction company's surviving and thriving long-term is strong financial management. This includes an accounting system that allows

contractors to “have adequate capital to support work-on-hand and to withstand bad luck” (Paz, 2006).

Problem Statement

Numerous accounting methods exist for small-volume home builders. Yet no research yet exists identifying accounting methods are the most effective, user-friendly and profitable for small-volume home builders. Before these topics can be addressed, however, it is necessary to study what accounting methods small-volume home builders are currently using.

Research Questions

1. What types of accounting methods are used by small-volume home builders producing 25 or fewer homes per year?
2. What software systems or programs are used in the accounting process by these home builders?
3. Do outside personnel assist in the accounting practices of builders producing 25 or fewer homes per year?

With no data on what accounting methods are being used, it is impossible to gauge which practices are the most effective, efficient and profitable. Therefore, the first step in the process is to actually identify which accounting methods small-volume home builders producing 25 or fewer homes per year are using.

Purpose and Significance of the Research

The purpose of this study is to collect data on the most commonly-used accounting methods and procedures used by small-volume home builders who produce 25 or fewer homes per year. By collecting this information, these builders can compare their practices with others within their industry. Compiling a data set of the accounting practices of construction firms is an important first step that could lead to further research into such areas of profitability, ease of operation, accuracy of information, and job-cost reporting. Before any of these studies can be performed, however, we must understand what practices are being used.

Assumptions

- Small residential construction companies have an identifiable method of accounting.
- Owners of construction companies are sufficiently knowledgeable about their company's accounting practices to provide survey information.

Delimitations

This research is limited to small-volume home builders that produce 25 or fewer homes per year. It addresses only the accounting methods used by residential home builders in the National Association of Home Builders that build single-family units. Furthermore, it only surveys the owners or chief executive officers of each company in the sample. It does not ask participants to rate the efficacy, profitability or productivity of the specific accounting method. Rather, it seeks to simply establish what accounting methods are being used.

Definitions

Absorption costing: A costing method that allows both direct and indirect costs to be inventoried.

Accounts payable: Money a business owes to others. Accounts payable are current liabilities incurred in the normal course of business as a firm purchases goods or services with the understanding that payment is due at a later date.

Accounts receivable: Money owed to a business by customers who have bought goods or services on credit. Accounts receivable are current assets that turn into cash as customers pay their bills.

Accrual method: An accounting system that recognizes revenues when they are earned and incurred, regardless of when the cash transaction takes place.

Acid test ratio: A ratio using only quick assets (cash or any other current asset that can be easily converted to cash), divided by current liabilities.

Audit: An examination by a certified public accountant of records or financial accounts to check their accuracy.

Balance sheet: A statement that represents the financial position of the business as of the date of the balance sheet.

Bookkeeper: Someone who records the transactions of a business.

Cash method: An accounting system that reports revenues, costs and expenses in the accounting period in which cash is received or disbursed, regardless of when the revenues are earned or the expenses are incurred.

Certified public accountant: A public accountant who has been certified by a state examining board as having met the state's legal requirements.

Completed-contract method: A method that does not recognize revenues and cost of sales until work is completed and the sales contract has been fully executed.

C-corporation: A standard business corporation that is a separately taxable entity. The profits and losses are taxed directly to the corporation. This can lead to double taxation on dividends that are paid out of corporate profits to the owners.

Direct costing: A costing method in which only direct costs are inventoried.

General ledger: A company's accounting records. This formal ledger contains all the financial accounts of a business.

General partnership: A business partnership featuring two or more partners in which each partner is liable for any debts taken on by the business. Because the partners do not enjoy limited liability, all the partners' assets can be involved in an insolvency case against the company.

Income statement: A document that summarizes the profit-making operations of a business by listing all sources and amounts of revenues and subtracting cost of sale and operating expenses to arrive at the net income for an indicated time period.

Job costing (job-cost accounting): An accounting method that involves calculating costs on a line-item basis.

Limited liability corporation: A corporation that limits the liability of the participants to the assets they commit to the enterprise.

Percentage-of-completion method: An accounting method that recognizes revenues and cost of sales as the job progresses. This method may only be used for homes that are being built under contract.

Purchase order: An agreement specifying items and conditions between the company and the vendor to purchase a certain list of materials.

Quantity take-offs: An estimate to determine the amount of material, for example, cubic yards of concrete.

S-corporation: A domestic corporation that is generally exempt from federal income tax other than tax on certain capital gains and passive income. On their tax returns, the S-corporation's shareholders include their share of the corporation's separately stated items of income, deduction, loss and credit, and their share of non-separately stated income or loss.

Sole proprietorship: A business owned and operated by one individual with all of the individuals' assets at risk.

Subcontractor/trade: An individual, partnership, corporation or an association that contracts with an organization (for example, the prime contractor) to design, develop, and manufacture one or more products.

Sweat equity: The contribution made to a project by people who contribute their time and effort without receiving immediate payment.

Unit pricing: In the construction industry, a way of costing that divides a contract into units for prices and payment.

(Sources: Definitions were compiled using Emma Shinn's *Accounting and Financial Management for Builders, Remodelers, and Developers* – see References – and Dictionary.com)

Chapter Two: Review of the Literature

"Above all, the right accountant can mean the difference between a business that merely functions and one that prospers." So says certified public accountant and author Emma Shinn in her book *Accounting and Financial Management for Builders, Remodelers, and Developers* (1993). A thorough review of the literature will show that not only can the right accountant make the difference between functionality and prosperity, but also the right *accounting method* can.

No comprehensive survey of the accounting methods used by small, single-family home builders has yet been published, but there is ample literature to provide insight into the construction industry, the current marketplace, and the importance of accepted accounting methods for construction companies. In addition, much has been written about the different types of accounting systems and software available to construction firms, Internal Revenue Service tax requirements, and the availability of outside professional accounting help. The following chapter will discuss the literature in detail.

Overview of the Construction Industry

The construction industry represents one of the biggest industries in the United States, accounting for some 9 percent of the nation's gross domestic product. According to an article by Robert Paz in the publication *Construction Accounting & Taxation*:

> The industry is highly fragmented, made up of nearly 700,000 large and small companies. … These companies range in size from one employee to several thousand and they work in disciplines as varied as home building to general construction of industrial and non-residential structures, heavy highway and civil engineering, and specialty trades such as heating/air conditioning, electricians and plumbing."

Paz cites information from the U.S. Census Bureau's 2002 Economic Census, indicating that the entire construction sector employs about 7,000,000 individuals for a total payroll of some $254 billion. The industry generates a total revenue of $1.2 trillion (Paz, 2006).

According to the 2002 Economic Census, there are more than 171,000 residential construction companies in the United States. These companies employ some 878,000 people for a total payroll of $29 billion. The value of business done by residential home builders is a staggering $264 billion, according to the report, which was published in 2005 (U.S. Census Bureau).

Smallness is a trend industry wide. According to the Bureau of Labor Statistics, two out of every three establishments in the construction industry employ five or fewer people (U.S. Bureau of Labor Statistics, 2006). In residential home building, individual proprietorships – or companies owned by one individual – make up a little less than a quarter of the companies in the United States. Of the more than 171,000 residential homebuilding companies in the United States, roughly 46,000 are individual proprietorships (U.S. Census Bureau, 2005). Also, small builders – those producing 25 homes or fewer – make up the bulk of U.S. firms (NAHB, 2006b).

In fact, small-volume home builders who produce 25 or fewer units a year make up 70 percent of the builder members of the National Association of Home Builders, the professional organization of the construction industry (NAHB, 2006b). There are approximately 27,000 members of the NAHB who produce 25 or fewer units a year. By

contrast, there are only 1,400 members of the NAHB who produce 500 or more units a year (NAHB, 2006a).

The Nature of Today's Marketplace

In recent years, the construction industry has seen staggering growth. Low-interest rates have fueled a building frenzy in far-flung areas throughout the United States. According to a 2005, fourth-quarter report published by the U.S. Department of Housing and Urban Development, the number of new privately owned housing unit starts increased steadily each year between 2000 and 2005. The number swelled from 1,640,000 in 2000 to 2,068,000 in 2005. The housing boom has helped large production and small-volume home builders alike (U.S. Housing Market Conditions, 2005).

According to a study by the Joint Center for Housing Studies of Harvard University, data between 1999 and 2004 showed that large companies (those building 500 unites or more) had an inflation-adjusted revenue growth of 135 percent over the five-year period (2006). Gross margins on homes sold by these production home builders increased from 19.6 to 24 percent, and net income grew from 8 percent to 12.6 percent. In the Harvard study, entitled "The Evolving Home Building Industry – Implications for Consumers" and published in 2006, the majority of home builders said the single-biggest reason for their financial success was a strong housing market.

Small builders have benefited from the booming market as well. Although smaller builders' profits are more closely guarded and harder to track, it follows that more building opportunities would yield higher profits. But for all sizes of builders, a booming market can mask a number of accounting mistakes, and it can make the controls seem less necessary.

Anticipating the Slow-Down

The housing boom of the past several years has started to slow and may continue to flatten. In its March 2006 report "Housing Facts, Figures and Trends," the National Association of Home Builders predicts that interest rates will rise and that total home starts and existing home sales will slow. The report forecasts that total housing starts will dip from 2,068,000 in 2005 to 1,868,000 in 2007. Similarly, it predicts that existing home sales will drop from 6,157,000 to 5,607,000 for the same time period (NAHB, 2006b).

The predicted slow-down in building and home sales has an inverse correlation to the forecasted interest rate. As the fixed, adjustable and prime interest rates rise, housing starts and home sales lower. The NAHB predicts that the fixed-rate on a 30-year mortgage will rise from a 5.9 percent in 2005 to 6.6 percent in 2007. In the same time period, a 1-year adjustable rate will rise from 4.5 to 5.4 percent, and a prime rate will rise from 6.2 to 7.8 percent (NAHB, 2006b).

A cooling market will affect both small-volume home builders and production builders. In some ways, it may actually benefit small builders. At the International Builders' Show in Orlando, Fla., Charles Shinn, president of the Lee Evans Group, told small builders that an economic slowdown may make more land available for them:

> Large builders have to feed the beast and many can be found sitting on an inventory of 7-10 years. If the market slows, they will be forced to get rid of the land, which may present an opportunity for small builders. It's up to the small builders to utilize better inside information on their home markets, and establish relationships with land owners. (Nation's Building News, 2006).

But even with more land opportunities, a slow-down in building will mean belt tightening for all sizes and types of construction companies.

Other Complications

Not only do small builders have to contend with a slow-down in building, they also face a short supply of materials. The hurricanes the rocked the Gulf Coast of the United States in 2005 devastated thousands of existing homes and buildings. The repair work will certainly take years. Although the total cost of the hurricanes is hard to predict, industry experts say it will certainly top $200 billion and will likely approach the $300 billion spent so far by the United States to fund four years of fighting in Iraq, according to an Associated Press article published on MSNBC's Web site ("Katrina May Cost," 2005). Whatever the cost of the hurricane, the materials necessary for rebuilding structures on some 90,000 square miles of affected land will certainly put materials in short supply (ibid).

At the same time, some construction supplies are already scarce. According to a 2006 article in the journal *Construction Accounting & Taxation*:

> Even before the devastating hurricanes pounded the Gulf States, construction materials and suppliers were becoming scarce and prices were rising rapidly. Global demands (mainly in China) on supplies of cement, steel and petroleum products, lumber and heavy machinery had put many regions on quotas and driven prices abruptly higher. The hurricanes will only exacerbate the problem. Already, experts are estimating that the Gulf region reconstruction will require 30 percent to 40 percent of the U.S. lumber, steel and cement supplies, driving prices sky high" (Davidson, 2006).

When prices of supplies rise, small builders are at a distinct disadvantage to production home builders, who buy in large quantities and can negotiate bulk rates (Davidson, 2006). Higher building costs and reduced building opportunities could spell tighter times for small builders.

Also, small and newer companies, in general, face a higher rate of failure, according to authors Serdar Kale and David Arditi. They say that, "Smallness does not allow firms to buffer themselves from market contractions" (1998). And in a tight market, companies must perform well to remain bonded. "As the economy tightens and bonding companies are looking for ways to cut their losses, it is vital that companies don't offer a reason to be dropped as a client" (True, 2003). For all these reasons, it is essential that a construction company employ every competitive advantage available in the marketplace. One such advantage is an excellent accounting system.

The Importance of Accounting

Solid accounting practices are paramount for any business, no matter its size. Competent accounting is perhaps even more crucial in the construction industry than in others due to the sheer volume of items that must be tracked. "The success of the construction firm is closely aligned to its ability to forecast and control costs. Both of these functions have accounting at their base" (Adrian, 1986).

Not only are companies responsible for their own employees, supplies and materials, they also must typically contract with subcontractors, who perform a variety of tasks in the building of a home" (E. Shinn, 1993). Emma Shinn defines accounting as "the process of collecting, analyzing, classifying and accumulating historical financial data in categories and formats that will accurately reflect a company's operation and present its financial position" (1993).

Accounting gives builders "timely financial information that will make the decision process less of a guessing game. Accounting contains a wealth of historical information that you can use effectively to – analyze past performance; evaluate the

feasibility of future projects; estimate the cost of future jobs; set goals and objectives; prepare short- and long-term budgets. Accounting should be viewed as a tool that managers are responsible for using effectively" (E. Shinn, 1993).

Strong financial management and a useful accounting system is one of the key factors for success in the construction industry (Paz, 2006). And poor financial management is one of the 10 most common causes of construction contractor failures. "The accounting personnel of a smaller construction company are typically not equipped to handle the workload of a rapidly growing company. If the controls are not adequate, the company may experience problems with delayed/inaccurate billing, inaccurate and/or untimely financial information, poor project estimation, and cash flow problems" (Davidson & Maguire, 2003).

Certified public accountants Robert A. Davidson and Martin G. Maguire sum it up nicely: "Timely and accurate financial information is critical in the construction industry and without this information a company cannot make sound business decisions" (2003). Construction firms have to know whether they are actually making a profit and running a profitable business, and this is impossible without a solid accounting.

"Flying Blind"

Though it may seem intuitive that a strong accounting system would help foster a strong company, many small businesses have sloppy accounting systems. The reasons for this are myriad, but it is particularly true in the construction industry. "The construction industry has a history of neglecting to perform the accounting function properly," (Adrian, 1986). It's a sentiment echoed by construction industry financial consultant Steve Maltzman of Redlands, Calif. He says the reality is that "many builders fly blind

through most of the year, not knowing how well or poorly they're doing until closing, long after any opportunity to change course and the bottom line" (O'Toole, 2002). Some of the reasons for poor accounting include understaffing, the uniqueness of the industry's product, and the fact that firms tend to be owned and operated by one person (Adrian, 1986).

Small companies, in particular, tend to be owner-operated. In those cases, the owner may not understand or value accounting to the degree that they should. "In many instances, this is an individual who was employed as a craftsman who has found the way to ownership through marketing efforts. In the proprietor's earlier years as an employee, accounting skills were of little or no value. The result is a slow recognition of the need for an essential management function – accounting" (Adrian, 1986).

The Unique Characteristics of Construction Accounting

Several aspects of the construction industry necessitate that its accounting practices be different than those of other manufacturing industries. So what may be good accounting practices for, say, the steel manufacturing industry, are not necessarily good practices for home builders (Adrian, 1986).

The unique characteristics include the following:

- Projects are often completed away from the firm's main office. This makes it more difficult to gather, synthesize and use relevant data.
- Each project typically is one-of-a-kind, resulting in the need for job-cost accounting or accounting specific to each individual job.
- Construction projects often take more than a year to complete.

- A firm's accounting methods are typically affected by numerous outside parties. A firm must deal with everything from lending institutions, surety companies and material suppliers to public agencies and equipment manufacturers.
- Most construction firms have few owners, meaning that they may have specific ways of presenting their financial information and planning for taxes.

Each of these characteristics leads to unique considerations for any accounting method employed by a firm (Adrian, 1986).

The Diversity of Methods

One reason for the earlier-described "flying blind" may be the sheer number of accounting methods available to small, single-family home builders. The various taxation options afforded to these firms will be discussed below, but several methods for accounting income are available (IRS.gov, 2006).

Author Eric P. Wallace identifies at least 10 accounting methods available to contractors (2001). Of the different accounting methods, the two major categories are the cash method and the accrual method. The cash method of accounting considers revenues, costs and expenses in the period which they are disbursed or received. By contrast, the accrual method recognizes costs and revenues when they are earned or incurred, no matter when the actual cash transaction occurs (E. Shinn, 1993).

Some firms may use a hybrid of the two basic categories. Also, in some cases a contractor must choose both a method for day-to-day accounting – an accounting system – and must also choose a different method of accounting for long-term contracts that span

more than one calendar year (Wallace, 2001). It's common to use a hybridization of accounting methods:

> Frequently, the work of a construction company will include some cost-plus-fixed fee work, some lump sum and unit price work of a type that justified the use of percentage-of-completion accounting, and some other work of a type to which, because of risk and uncertainty, the completed-contract method is applicable. So long as the books and the financial statements clearly reflect the facts and the methods used, and so long as the methods are consistently followed, there can be no reasonable objection to such procedure (Palmer, Coombs & Smith, 1995).

The Cash Method of Accounting

There are some distinct advantages to a cash method of accounting. They include simplicity, ease of tax reporting, and the ability to pay income taxes after profits have been earned and collected (Wolkstein, 1967). It's also the easiest way to keep financial records because it requires only the record of cash exchanges (E. Shinn, 1993).

But for all its ease, cash accounting has some distinct drawbacks as well. According to Emma Shinn, "Because of the lag between recognition of revenues and actual receipt of cash, and the delay between commitment to cost or expenses and the actual cash disbursement, financial statements and management reports do not reflect the current financial conditions" (1993). Specifically, this system does not reflect the income that is earned in a specific fiscal period. It also does not reflect the operations for the fiscal period covered by the statement. Moreover, "Financial statements prepared in accordance with the cash basis method of accounting are totally inadequate for surety and credit purposes" (Wolkstein, 1967).

The Accrual Method of Accounting

The accrual method of accounting is notably more complex than the cash method of accounting. Within the accrual method of accounting, there exist two primary sub-methods of recognizing revenues and expenses. They are completed-contract and percentage-of-completion.

The completed-contract method does not recognize the cost of sales until the job is done and the sales contract has been executed. This method puts off the recognition of revenues and costs of sales until the sale has actually closed. It is likely the most common method used by home builders (especially builders building custom homes) remodelers and developers when they recognize income and cost of sales (E. Shinn, 1993).

One of the advantages of a completed-contract method of accounting is that tax liabilities are deferred until the date of completion. Also, the method is based on contract results instead of estimates; the balance sheet is more meaningful because receivables and payables are recorded as they are incurred; the method allows management to allocate taxable income between years by speeding up or slowing down the completion of a contract; and payment of federal income tax is more closely in line with the cash flow coming from accounts. The main disadvantage to the completed-contract system is that it can't adequately reflect the financial status and performance of a company when a contract spans more than one calendar year, as is so often the case in construction (Wolkstein, 1967).

In the percentage-of-completion method, a company recognizes revenues and costs as the job is in progress. A company may only use it for jobs that are under contract. This method is probably a best fit for custom home builders, remodelers, and light industrial general contractors (E. Shinn, 1993).

A strong advantage of the percentage of completion accounting method is that it most accurately reflects the annual income. Also, it requires management to concentrate on unfinished contracts because managers must estimate future costs necessary to complete such a contract. In this method, both receivables and payables are recorded when they are received or incurred. This method requires income tax to be paid in the fiscal year for which the gross profit is earned, helping management with its budgeting and tax planning. And, perhaps most important, this method is most useful for accurate financial forecasting because it provides consistent statistical data with which decisions can be made (Wolkstein, 1967).

Percentage-of-completion accounting is not without drawbacks, however. The nature of the method makes it dependent on the estimates of future costs, and long-term contracts are by nature uncertain. Also, the method does not allow companies to defer income taxes, something that may be available with both the cash accounting method and the completed-contract method (Wolkstein, 1967).

The Construction Industry and the IRS

In a post-Enron world, the Internal Revenue Service has tightened up accounting practices for contractors and construction companies (Davidson, 2006). At the same time, construction tax law is rapidly evolving and changing, according to authors William J. Palmer, William E. Coombs and Mark A. Smith:

> Taxation, at all levels, affects the construction industry in unusual and unexpected ways because in many respects the construction industry is unique. For example, in manufacturing the work flows through a factory and production tends to fall into a fixed routine. In construction, a new mobilization of work force, materials, equipment and facilities must be carried out for each new job. … The result is a set of tax rules that are applicable primarily to construction work and only

incidentally to other industries. As with all tax rules, those applicable to construction change regularly and sometimes rapidly (Palmer, et. al, 1995).

Small builders face a greater variety of accounting choices because they are allowed more accounting methods by the IRS. Tax law dictates that a company's choice of accounting method depends on 1) the type of contracts 2) the contracts' completion status at the end of the tax year and 3) average annual gross receipts (IRS.gov, 2006).

The IRS has a special section on its Web site to walk construction companies through the process, in part because of the complexity of its tax rules. "Construction is one of the most difficult industries to understand from a tax perspective," notes Eric P. Wallace. The reasons, he says, are the following: "1) The number of tax method choices available, each with revenue and cost-recognition issues; 2) the effort necessary to change or correct these method choices as a contractor's business changes; 3) the number and variety of sources for tax rules; and 4) the fact that the IRS, the courts, and Congress continually change their position on or interpretations of these class rules" (Wallace, 2001).

Accounting System Design

When a company designs or chooses an accounting system, it is crucial that the top management team have input into the choice (E. Shinn, 1993). Record keeping is required by law, and is paramount to running an effective company (Thomsett, 1979). One of the key items in any accounting method is the amount of information it will lend to its users. Michael C. Thomsett outlines several important facets of a successful accounting system. "A method that gives you too little information is not going to save you time. Sooner or later, you'll have to go back and fill in the gaps," he says. But, he

notes, expensive and unneeded features may also be time-consuming and expensive. "Whether you do the work or pay someone else, it's costing you. A good method doesn't have any fat" (Thomsett, 1979).

Certified Public Accountant David L. Barker compared construction accounting to putting together the pieces of a giant puzzle:

> In setting up the overall accounting system, the ultimate goal should be to create a system that will allow all of the pieces of the puzzle to fit together and give you a true picture of your operations. You want your system to be able to combine information from the bidding process with the actual costs incurred on a project. This will allow you to manage projects more effectively and provide valuable information when you are ready to bid the next project (Barker, 2006).

An accounting system must have a user-friendly and accurate chart of accounts, method of job costing, and, typically, construction-industry specific computer software.

Chart of Accounts

A chart of accounts is "the foundation of a firm's accounting system." It is a listing of accounts that determines how much detail the accounting system can generate, as well as what type of information can be reported, and how much control an individual "can exercise through the financial information." Because the chart of accounts is the lifeblood of the accounting system, it is paramount that the owners and accountant take part in designing a system that "will meet specific reporting requirements of the company and provide the structure for the control system." The chart must include classifications for the following five categories: assets, liabilities, owners' equity, revenues and expenses, and it must also allow data to be classified in a way that will meet fiscal requirements and management needs (E. Shinn, 1993).

The National Association of Home Builders has a chart of accounts on its Web site that some small builders simply use or modify (NAHB, 2006). Some external organizations also provide charts of accounts for construction companies to use, but author Emma Shinn believes that the most effective such charts are ones designed with owner input (1993).

Job-Cost Accounting

A general accounting system will bring all construction costs together into a single account – the direct costs of *construction*. This method does not assign costs on a unit-by-unit or job-by-job basis (Shinn, 1993). An important subset of an accounting system is a job-cost accounting system. This system allows the bookkeeper to accumulate construction costs on a job-by-job basis (Shinn, 1993). The purpose of such a system is to help builders control their bottom line and also manage their business. This accounting system is an important way to reveal and weed out low-yield jobs (Thomsett, 1979).

An accurate job-cost accounting system is the key to solid project management. Yet job-cost accounting is an area where contractors typically have many problems (Barker, 2006). David Barker says, "The foundation for managing your projects starts with accurate and timely job-cost reports and reliable estimates of cost to complete. This is why it is so important that the accounting system be set up to accumulate costs by specific job, and that procedures and controls are in place to allocate all costs to the appropriate jobs." He also notes that:

> "Job-cost accounting is an area where contractors often have trouble: Most contractors do a good job of recording direct costs such as materials, direct labor and subcontractor costs, but many don't include overhead expense and fail to get a true measure of job profitability – or the lack thereof. Indirect costs such as small tools and general construction supplies, general liability insurance,

> equipment costs such as insurance, repairs and depreciation all need to be allocated to the various jobs (2006).

Emma Shinn gives companies a number of guidelines for devising their own job-cost accounting system. Companies can tailor the system to their needs by coordinating the system with estimating and purchasing in order to provide a more complete picture of the company's financial health (1993).

Accounting Software

As technology has evolved and computer use has become widespread, a number of software companies have developed products that can aid in construction accounting. A software program can be an integral part of any accounting system, and it is paramount that a construction company chooses a system that most closely fits its needs (Grundvig, 2005).

According to Tom Gebes, even though construction is a billion-dollar industry, "Home builders spend a notoriously small fraction of their revenue on software, IT infrastructure and training." Good software, he says, can "make the building process more transparent and easy to control," help businesses automate data collection, and help builders make key decisions in their financial planning (Gebes, 2006).

One valuable thing many software programs provide is the ability to compare actual cost with the estimated cost during a project, thus giving an accurate reflection of the status of an ongoing job (Mincks & Johnston, 2004). That way, companies can change direction mid-project if a job is floundering or failing. Accounting software programs can be costly, and it is important at the outset for a contractor to figure out what he or she hopes the software will do before making the initial investment (Zurier, 2003).

The National Association of Home Builders has a Technology Solutions Directory online where members can research different types of software systems and IT solutions available for any given aspect of construction management (NAHB, 2006). The organization also gives software a seal of approval after they have review and approved it for use. The results are published in trade magazines (E. Shinn, 1993).

A variety of software programs exists for construction accounting. A few of the popular programs are Peachtree, Quickbooks, Excel, Timberline and Masterbuilder. Some new construction-industry programs are comprehensive, meaning that they can perform an accounting function in addition to job costing, estimating, purchasing and front-end sales (Zurier, 2003). For example, a program by NewStar will do all of these functions and costs in excess of $100,000. While these big-ticket software programs may be affordable for large- to mid-sized builders, they are likely too expensive for small home builders. "Most small-sized builders can't afford the price tag for those systems," says Steve Zurier, *Builder Magazine's* senior editor for technology. "Even if they could, most don't have the interest or the staff to absorb an integrated solution all at once," (Zurier, 2003).

The Use of Certified Public Accountants

Much has been written about the different types of accounting personnel available to help construction firms. Emma Shinn discusses the role of a certified public accountant and also the role of an accountant or bookkeeper. Typically, a CPA is a member of an outside accounting firm "primarily concerned with the validity of financial information as it relates to third parties" (Shinn, 1993) Bookkeepers or company accountants handle

information at a technical level, collecting and synthesizing financial information within a framework designated by the company.

Although the accountant can have a make-or-break influence on a company, many times the individual is chosen haphazardly. “Often, the basis on which this decision (choosing a CPA) is made has little foundation and results in needless costs,” (Brugh & Maddox, 2005). The authors note that the right CPA is crucial because “Construction accounting and taxation require specialized industry knowledge not required of a general practitioner.”

While an outside CPA may have a strong and lasting impact on a company, not every small company can afford an outside CPA. In some cases, Emma Shinn suggests that it may not be even necessary to employ one, with the caveat that “Above all, the right accountant can mean the difference between a business that merely functions and one that prospers” (E. Shinn, 1993).

In Summary

A review of the literature has shown that an accounting system can sometimes make or break a construction company. Solid, accurate accounting methods can provide companies with the financial information they need to navigate the cyclical and sometimes brutal nature of the construction industry. Such information can help contractors to correct course if an individual job is floundering. It can help them stay on a successful path as well.

Despite the critical role accounting plays in a construction company’s success, the industry is notorious for neglecting this crucial business function. This is particularly true for small construction companies that have few employees. Yet, ironically, it is these

small companies desperately need every competitive advantage they can muster to face larger production builders.

A variety of accounting methods are available to construction companies, in particular to small companies. Not only are there different methods, there are also different individuals and different software that can aid in the accounting process. It remains unknown what accounting methods are most often employed and what methods are the most useful. By studying the types of accounting practices used by small, residential builders, the author hopes to determine which are most commonly used. This will then lay groundwork for further studies to determine which are the most effective and profitable.

Chapter Three: Methodology

This study focused on small-volume home builders in order to determine their accounting methods and practices. For the purpose of the research, small-volume home builders were defined as those building 25 or fewer homes per year. This population is a particularly important one with regard to accounting because the Internal Revenue Service affords these companies a number of accounting methods from which to choose (E. Shinn, 1993; Palmer, 1995). Further, small-volume home builders represent the vast majority of the construction industry's population. For example, seventy percent of the member builders of the National Association of Home Builders produce 25 or fewer homes per year (NAHB (b), 2006).

To locate the population of interest, a list of 3,000 names (the smallest unit available for purchase) of small-volume home builders reportedly producing 25 or fewer homes a year was rented from the National Association of Home Builders. The list came from the NAHB membership database and combined two key codes: The Builders Code (signifying what type of construction the member does), and the Units Code (signifying number of units constructed in a given year). For the Builders Code, the following categories were selected and combined: Single Family – Tract/Spec; Single Family – General Contractor; Single Family – Custom. For the Units Code, the following categories were combined: 1-10 and 11-25.

There are 19,696 names in the above NAHB population. The list was narrowed to 3,000 names by NAHB officials, who took every sixth name in the database (Thomas,

2006). The list was then narrowed to 750 names by the author by picking every fourth name, starting with the fourth. Nearly all of the contacts on the mailing list represented either chief executive officers or owners of the individual companies (Thomas, 2006). This questionnaire surveyed only members of the National Association of Home Builders and did not provide information on builders who do not belong to that trade organization. The cost of the list was $426. As part of its mailing-list rental service, the NAHB uses computer software to select the names it compiles. Therefore, no further randomization was needed for this survey.

Research Design

The research design for this study was to distribute a 20-question survey instrument (See Appendix A) to the population of interest via the United States Postal Service. The questionnaire was developed following a careful review of the literature and with the help of three faculty members at BYU. Dr. Jay Christofferson and Dr. Mark Hutchings are faculty members in the Construction Management program in the School of Technology. Dr. Scott Summers is a faculty member in the School of Accountancy.

To decide which questions to ask, a list of accounting topics frequently mentioned in industry literature was compiled (see Review of the Literature). From this list of topics, questions were formulated to obtain information about accounting practices used by builders producing 25 or fewer homes each year. The questionnaire was designed to yield enough information to accurately assess different facets of construction accounting – everything from the use of certified public accountants to methods of estimating job costs – while still being short enough to be completed in roughly 10 minutes.

Survey Development

After a thorough review of the literature, it became apparent that the survey must address several key areas. Among these were the types of accounting methods used, how frequently the accounting statements were reviewed, what types of software were used to assist in the accounting process, whether or not outside personnel were used to assist in the accounting process, and the satisfaction or dissatisfaction with the chosen accounting method.

A preliminary list of 50 questions was reduced to the 20 most important. Final questions were chosen based on their relevance to builders producing 25 or fewer homes per year. This was done with the help of BYU faculty advisors and the following industry experts: Curtis Hansen, chief financial officer of Provo-based Arrowstar Construction (Hansen, 2005); Arnold Grundvig, owner of the accounting software A-Systems (Grundvig, 2005); and Boyd Martin, division president of D.R. Horton, a national homebuilder (Martin, 2005).

Hansen provided an overview of construction accounting, focusing specifically on the role of estimating. Grundvig discussed the need for accounting software and what software is available to builders. Martin discussed the differences in accounting between small-volume and production home builders. After synthesizing the information provided by the industry experts and by the faculty committee at Brigham Young University, a final survey instrument was developed.

Survey Composition

The final questionnaire had 20 questions. The questions included a mix of yes-or-no and multiple-choice questions so that the method of response would most effectively

match the individual question. Because of the complexity and the diversity of accounting methods used in construction, many questions included a selection designated as "other," where an individual respondent could fill in the blank with his or her own answer. Also, two questions at the end were open-ended to allow respondents to discuss benefits and drawbacks to their accounting systems in detail. These open-ended questions yielded information and perspectives that couldn't be gained from yes-or-no questions. The survey instrument addressed, in order, the following topics:

Question 1 – Person responsible for day-to-day accounting

Question 2 – Use of an outside certified public accountant

Question 3 – Use of software programs

Question 4 – Perceptions of accounting categories (for example, did a participant view job costing as 1) a competitive advantage 2) a planning tool 3) a government requirement?)

Question 5 – Reason for using accounting system

Question 6 – Actual method of accounting (for example, cash, accrual, etc.)

Question 7 – Description of chart of accounts

Question 8 – Method of estimating job costs

Question 9 – Amount actual hard costs of construction vary from original job estimates

Question 10 – Frequency of reviewing financial reports

Question 11 – Regularly reviewed financial ratios

Question 12 – Degree to which accounting system lends a clear picture of company's overall financial situation

Question 13 – Degree to which accounting system gives clear picture of finances for individual jobs

Question 14 – Degree to which accounting system is easy to understand and operate

Question 15 – Type of new homes built

Question 16 – Type of business

Question 17 – Percentage of work done by subcontractors, employees, owners, buyers

Question 18 – Total number of new homes closed and amount of revenue from homes

Question 19 – Perceived benefits of company's accounting system (open-ended)

Question 20 – Concerns, questions and complaints with company's current accounting system (open-ended)

Along with the questions, the survey guaranteed participants' anonymity, as well as access to the findings of the study should participants request them. The survey also included the author's contact information and a method for contacting BYU's Institutional Review Board (see Survey Review in following paragraph).

Survey Review

The questionnaire was reviewed and approved by Brigham Young University's Institutional Review Board for Human Subjects to ensure that the survey would not harm the participants and would pose them minimal – if any – risk. Each survey included information for contacting the university's IRB, should participants wish to do so.

Survey Distribution

In hopes of making a response easy for those surveyed, the physical document mailed could be refolded so that the reply address and a stamp were facing forward and ready to mail. The survey sample consisted of names provided by the National Association of Home builders. The smallest number of names that can be purchased from the NAHB is 3,000. From that list, the sample size was reduced to 750 by selecting every fourth name on the list. The NAHB requires those who rent their lists to sign a contract stating that they will use the list for a one-time mailing, and that they will have no subsequent contact with the names on the rented list. Follow-up contact of any sort is prohibited, as is contacting NAHB list members by means other than the United States Postal Service.

Because the author had only one chance to make contact with potential survey participants, he chose to survey 750 people. The population of small-volume homebuilders producing single-family homes who are members of the NAHB is 19,696. In order to achieve a 95-percent confidence level and a margin of error of within 10 percent (+/-), it was necessary to obtain data from 100 respondents. Assuming a response rate of 15 percent, 750 surveys would produce enough responses for the desired margin of error. Similar studies using the NAHB mailing list produced response rates that varied between 2 and 40 percent (Hutchings & Christofferson, 2004).

Cost was the other consideration in choosing 750 names. In addition to renting the list ($426), the cost of paper, envelopes, printing and postage and return postage totaled some $1,500. A sample size that was much greater would have been cost-prohibitive without outside funding.

Response Rate

Seven hundred and fifty questionnaires were mailed via the U.S. Postal Service at the end of July. Most of the responses came in the first several weeks, but some continued to trickle in through the beginning of October. Of the 750 questionnaires that were mailed, 17 were returned to the author as undeliverable (in most cases, the addressee provided by the NAHB had moved without a forwarding address or was no longer in business). Of the 733 surveys that were actually delivered, 148 were completed and returned. This resulted in a response rate of 20 percent. Similar studies using the NAHB mailing list produced response rates that varied between 2 and 40 percent (Hutchings & Christofferson, 2004). According to the Oklahoma State University Bureau for Social Research, "Even an attractive, well-designed mailed survey is likely to be returned by no more than 30 percent of a sample unless extra steps are taken to improve the response rate," (OSU BSR, 2006). Because the NAHB prohibits follow-up contact with companies on their membership list, a response rate of more than 30 percent was not expected.

Seven respondents noted that they had closed more than 25 homes during that time frame, disqualifying them from the sample population. It is unclear why the NAHB provided some names of companies that produced more than 25 single-family homes. The most likely explanation is that these respondents registered with the NAHB as producing 25 or fewer homes, then saw a subsequent increase in their business. Ultimately, of the 733 surveys that were delivered, the author used responses from 141 respondents. This resulted in a valid response rate of 19 percent. Assuming a 95 percent confidence level, this produced a margin of error of 8 percent (+/-). This formula was arrived at by the following formula: Error $= \sqrt{z^2 p(1-p)/n}$. (z = confidence level, p =

population proportion for variable, and n = sample size). The sample was then corrected for a finite population using the formula: Error · √N-n⁄N-1. (N = population size, n = sample size).

Data Analysis

As the responses were returned, they were manually entered into the data analysis software program SPSS for Windows. The program has a number of general reporting and statistical analysis categories. One of the tools used most often in analyzing the data for this survey was the simple descriptive statistic "frequency," which showed how often the respondents chose a particular answer in the survey. For frequency, the program allows users to find the median, mode and average of the responses. For this survey, the author used the mode for analysis in order to see which response to a question was most often chosen.

In addition to this analysis tool, SPSS provided means for cross-tabulating responses. This allowed the author to look at the relationship between two or more categorical variables (for example, one could see how often builders building custom homes used an outside CPA, and so forth). The findings of the data analysis are discussed in detail in the next chapter.

Chapter Four: Data Analysis and Findings

The following is an analysis of the answers 141 respondents gave to a 20-question questionnaire asking about their accounting methods. A complete breakdown of the answers to each question is included in the Appendix. (See Appendix B.)

Profile of the Respondents

Survey respondents closed an average of 6 homes during the most recent fiscal year and generated an average total revenue of $2.6 million dollars. However, the deviations from these averages vary greatly. The standard deviation of homes closed was 5.6, and of revenue was $4.5 million. The lowest number of homes closed by respondents was 1, and the highest was 25. Revenue varied from a low of $52,000 to a high of $40 million.

The majority of respondents closed only a handful of homes during the previous year. (See figure 4.1) Fifty-three percent of respondents closed between one and four homes; 21 percent closed between five and nine homes; 20 percent closed between 10 and 19 homes; and 7 percent closed 20 or more homes. Despite the anonymity guaranteed in the survey, some respondents were reluctant to provide financial information. Seventeen (12 percent) respondents left blank the question asking how many homes they closed in the last year, and 32 (22 percent) did not say how much their total revenue for the previous year was. Still, it was surprising that nearly 80 percent of respondents were willing to list how much revenue they had in the previous year. In a few instances, it

seemed as though the respondent misread the question asking for total revenue and instead listed their net profit for the year. For example, one respondent wrote that he closed three homes for a total revenue of $187,000. It's unlikely that each home sold for about $60,000. More likely is that the respondent's profit for the year was $187,000, not his total revenue.

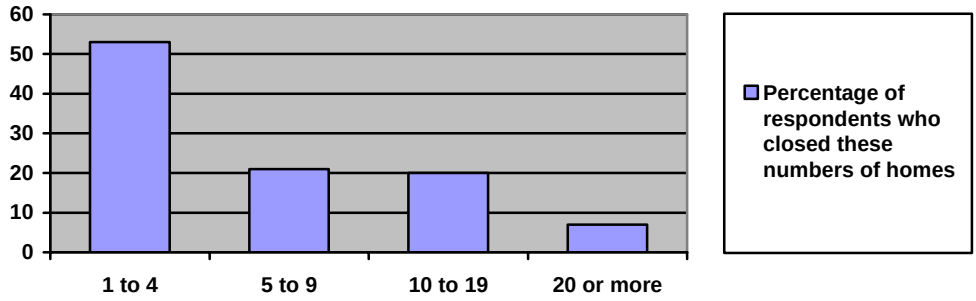

Figure 4.1: Number of homes closed in previous year.

Sixty-four percent of the respondents had up as an S-corporation or a C-corporation. Nineteen percent said their company was a limited liability corporation, while 14 percent said that their company was a sole proprietorship. One percent of respondents said that their company was a general partnership, and another 1 percent designated the company's status as "other." The majority of respondents (62 percent) built custom homes, followed by move-up (24 percent), then entry level and "other" (7 percent each). (See Figure 4.2.) Subcontractors did the most work on homes built by respondents at 84 percent. After that, 15 percent said that the company's own employees did the most work, and just less than one percent (0.8) said that company owners did the most work on the homes they built. (See Figure 4.3).

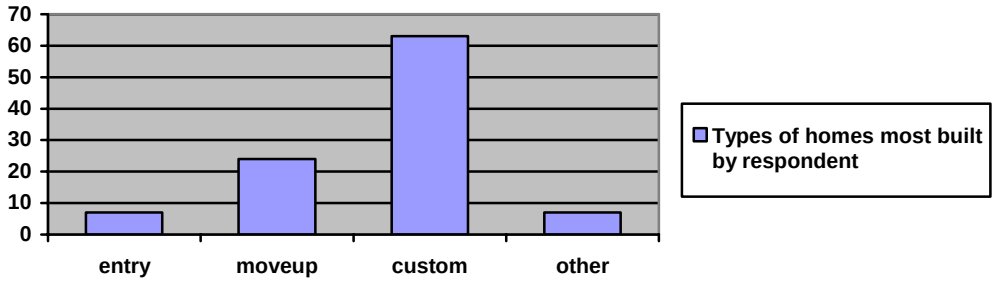

Figure 4.2: Category of homes most frequently built.

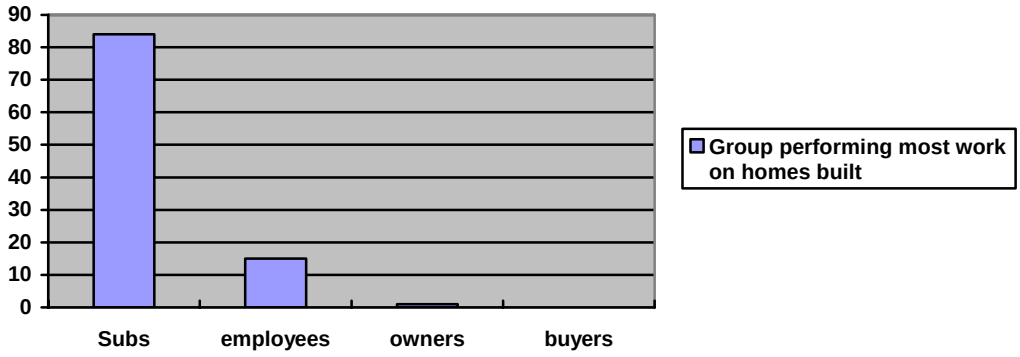

Figure 4.3: Group performing most work on homes built.

Company owners may not be physically building the homes they produce, but the majority (53 percent) of owners and managers are doing their own day-to-day accounting. Twenty-two percent of small volume home-builders used an office manager to handle the accounting, 14 percent used a bookkeeper. Only 6 percent used a CPA to handle all their day-to-day accounting responsibilities.

Overall, 94 percent said they do employ an outside CPA for some tasks. The clear majority of those who use a CPA only used them for income tax purposes at 61 percent. Nineteen percent employed an outside CPA to do both tax preparation and audits and verification Eleven percent of respondents said that they used a CPA for all their

accounting, and 2 percent employed CPAs for tax preparation and "other" purposes. One percent used their outside CPA solely for "other" purposes. Of those who did use a CPA, 90 percent were satisfied with the work that the CPA did for them.

Software

Quickbooks was by far the most popular accounting software used in all the accounting categories. Fifty three percent of respondents used it for job costing (Excel followed as the next most popular program, with 17 percent use); 71 percent used it for accounts payable (followed by "other" at 10 percent); 70 percent used it for accounts receivable (followed by "other" at 10 percent); 58 percent used it for purchase orders (followed by "other" at 13 percent); 72 percent used it for general ledger (followed by "other" at 9 percent). The program Masterbuilder ranked consistently as the least used program across all categories. (See Figure 4.4).

Three respondents commented on how pleased they were with their accounting software in open-ended questions (Questions 19 and 20) asking about the benefits and concerns, complaints or problems with their accounting system. One respondent wrote, "I've never used anything else, and I'm satisfied with Quickbooks." Another said, "I highly recommend Masterbuilder," while one respondent noted that he had "used Peachtree for over a decade."

Figure 4.4: Use of software for each accounting function.

On the other hand, one respondent said Quickbooks was anything but easy to use. "Quickbooks was so hard and long for us to learn, we're hesitant to try another even though it may claim to be better," the respondent said. Also, handful of people noted that they were concerned that their software or accounting system had become outdated or needed frequent upgrades. A respondent who marked that he used Buildsoft software for most of his accounting functions said: "System was bought in 1994. Outdated."

The frequent need to update a system was a complaint by users of many different types of software. A Quickbooks user complained that it "changes software (upgrades) too often," while another noted that it "constantly needs upgrading." A Timberline user noted that it "required constant training and upgrading." One Peachtree user complained three times that the accounting system "needs updates," while another user said people were "constantly sending mail to upgrade." Frustration at the need to upgrade was a frequent theme throughout the questionnaire responses.

Planning Tool, Competitive Advantage, or Government Requirement?

The majority of respondents viewed job costing, accounts payable, accounts receivable, purchase orders and general ledgers as planning tools rather than competitive advantages or government requirements. Fifty-six percent of respondents said that job costing was a planning tool (followed by 43 percent calling it a competitive advantage); 64 percent said accounts payable was a planning tool (followed by 26 percent calling it a competitive advantage); 66 percent said accounts receivable was a planning tool (followed by 25 percent calling it a competitive advantage); 73 percent said purchase orders were a planning tool (followed by 24 percent calling them a competitive advantage). Fifty-four percent of respondents said that general ledgers were a planning tool. However, in this category alone, it is interesting to observe that the second most popular response (27 percent) was that they were a government requirement. (See Figure 4.5.)

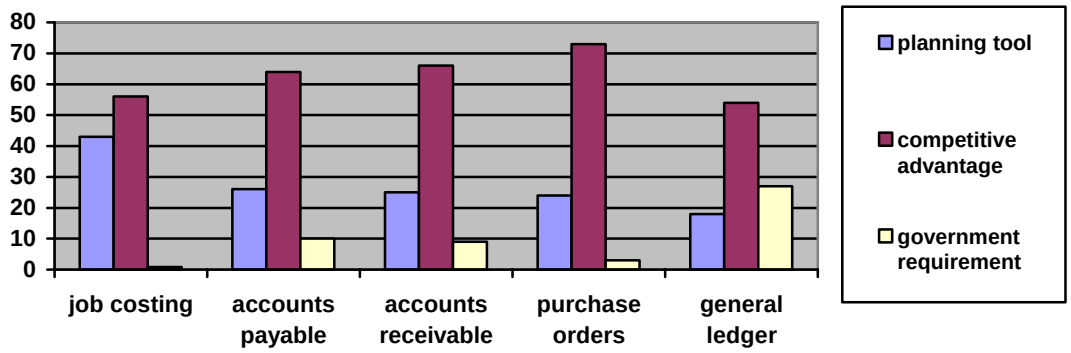

Figure 4.5: How accounting categories are perceived.

Types of Accounting Systems

An accountant-recommended system was the most popular type of accounting system, as was the cash accounting method. (See Figure 4.6.) Forty-three percent of respondents said their accounting system was recommended by an accountant. The percentages of respondents who had someone besides an accountant choose their system were nearly the same. Twelve percent of respondents said their accounting system was recommended by a professional organization; 11 percent said the system was recommended by a friend or an associate; 12 percent had used the accounting system previously at another company; 9 percent purchased the accounting system because of advertising; and 12 percent designated "other."

Forty-three percent of the respondents said they used a cash-accounting method, while 20 percent said they used a percentage-of-completion method and 27 percent used a completed-contract method (both accrual methods). Eight percent designated "other" as the accounting method they used, and 2 percent did not know what method the company used. And although most respondents used an accountant-recommended accounting system, most chose experience over professional advice when creating a chart of accounts. Sixty-five percent of respondents said they used a chart of accounts that they created through their own experiences. Seventeen percent relied on a template, 9 percent used a chart of accounts customized by an outside source, and 9 percent designated "other/none of the above."

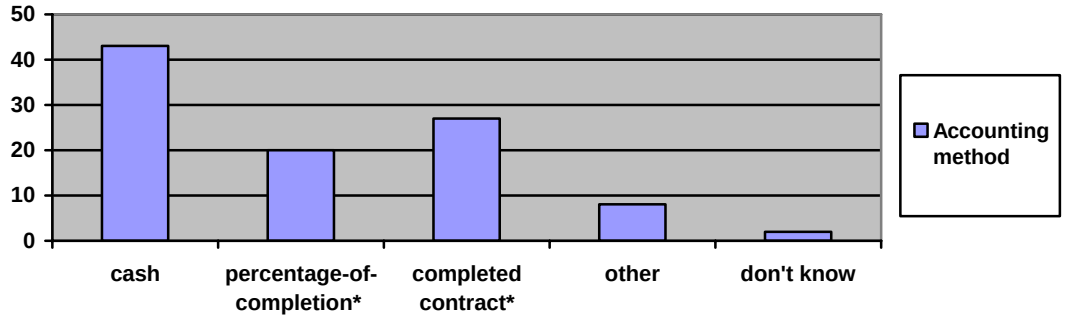

Figure 4.6: Type of accounting method used by respondents. (*Accrual methods.)

Job Costing

Of the different methods of estimating job costs, in-house detailed quantity takeoffs and subcontractor/supplier bids were used most frequently. Forty-six percent relied on bids by subcontractors and suppliers to help them estimate how much a job would cost. The amount of people who used in-house detailed quantity takeoffs most often was just slightly less – 42 percent. Only eight percent used best-guess figures most often to estimate a job, only 4 percent used unit pricing, and only 1 percent used a method marked "other." It is interesting to compare methods of estimating versus their accuracy. By cross-tabulating the most frequently used method for estimating with the percentage actual hard costs of construction vary versus estimates, one can see that unit pricing is perhaps the most accurate way to estimate. Seventy-five percent of those who used unit pricing had a difference of less than three percent between hard costs and estimates, while 43 percent of those who relied on subcontractor and supplier bids had the same difference. Thirty-five percent of those who used in-house detailed quantity takeoffs had hard costs that varied by less than 3 percent of their estimates, while 25 percent of those who used best-guess figures were off by less than three percent. It's

important to note, however, that so few respondents used unit pricing (4 out of 141) and best-guess figures (8 out of 141) that this may not paint an entirely accurate picture. More telling may be that most respondents relied on subcontractor bids or takeoffs as their primary method of estimating. (See Figure 4.7.)

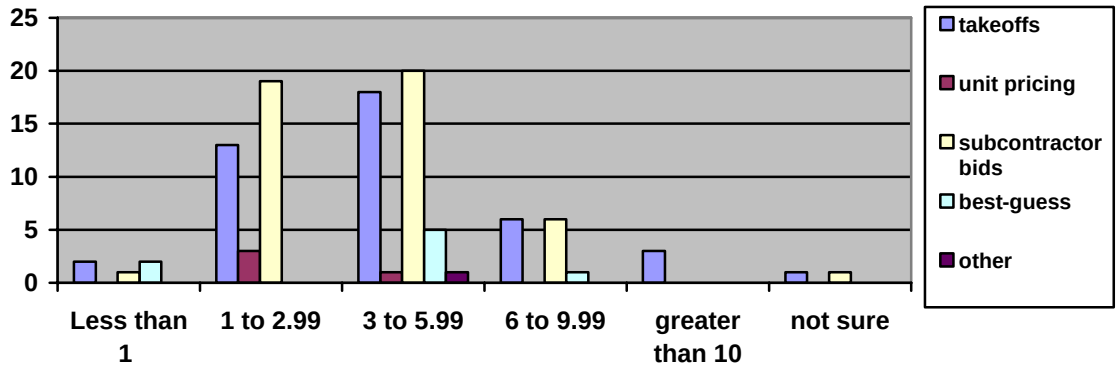

Figure 4.7: Percentage by which hard costs varied from construction estimates as compared with each method of estimating.

Hard Costs and Accuracy

The majority of respondents (42 percent) were off by 3 to 5.99 percent when estimating how much a job would cost. While 6 percent had hard costs that varied less than 1 percent from their original estimate, 5 percent were also off by more than 10 percent. Thirty-four percent had estimates that varied from hard costs 1 to 2.99 percent. Interestingly, 3 percent said they were not sure how much their hard costs varied from their original job estimates. (See Figure 4.8.)

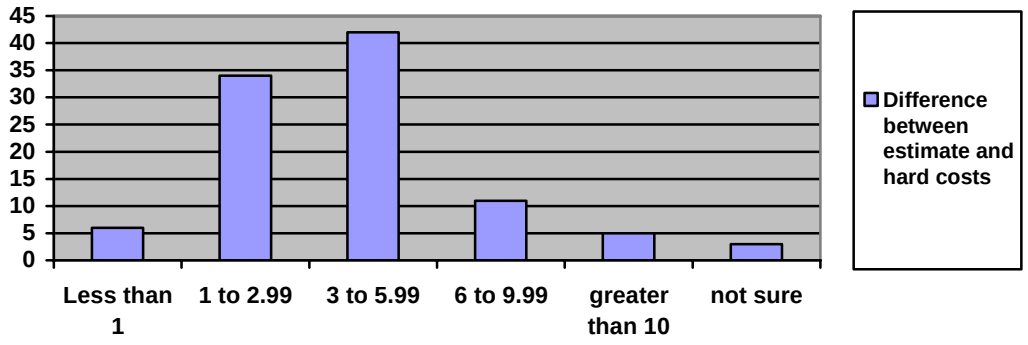

Figure 4.8: Percentage of respondents whose hard construction costs varied from original estimates by various percentages.

It is interesting to compare the amount hard costs vary from estimates with the type of accounting method a respondent used. Sixty-three percent of respondents who used the cash method had estimates that were off by 3 or more percent from their actual hard costs. By contrast, 50 percent of those using the percentage-of completion method had estimates that were off by 3 or more percent, and 57 of those using the completed-contract method were off by 3 or more percent. However, the percentage-of-completion method seemed to have the most respondents whose estimates were very inaccurate (off by greater than 10 percent from actual hard costs). Eighteen percent of percentage-of-completion users had hard costs that were off by greater than 10 percents of estimates, compared with 5 percent of cash-method users and 0 percent of completed-contract method users. (See Figure 4.9.)

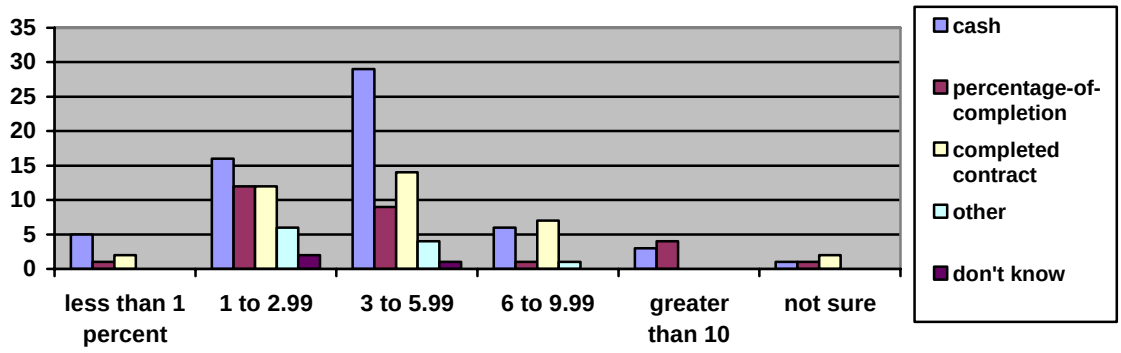

Figure 4.9: Percentages hard costs varied from construction estimates as compared to each type of accounting method used.

Reviewing Reports

A small minority of respondents never viewed financial statements, with a majority viewing the statements monthly. Forty-three percent of respondents viewed the income statement monthly 32 percent quarterly, 23 percent yearly with the rest never viewing their income statement. The same pattern was true for balance sheets and statements of cash flows with 43 percent viewing balance sheets monthly, 31 percent quarterly, and 24 percent yearly. The statement of cash flows had the most respondents who said they never reviewed the report with 19 percent answering as such, 41 percent viewing monthly, 21 percent quarterly, and 13 percent yearly. (See Figure 4.10.)

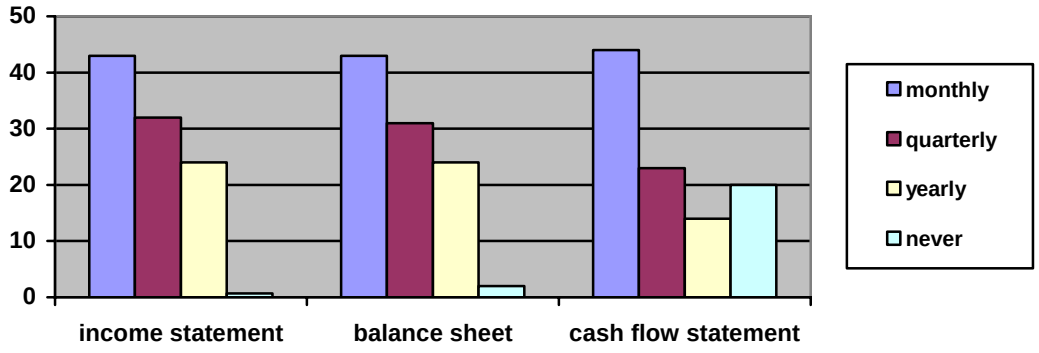

Figure 4.10: Percentage of respondents who reviewed listed financial forms at signified period.

The less a respondent looked at financial statements such as income statements, balance sheets and cash flow statements, the more likely they were to have costs that varied more than 6 percent from their estimates. By cross-tabulating the results of accuracy of estimates versus how often a person looked financial statements, a trend emerges. Fifteen percent of respondents who looked at income statements monthly had hard costs that varied from their estimates by 6 percent or greater. This compares to the 16 percent of those who looked at their income statements quarterly, and the 18 percent of those who looked at their income statements yearly. The same pattern follows with the frequency a respondent looked at a balance sheet. Thirteen percent of those who reviewed balance sheets monthly had hard costs that varied from estimates more than 6 percent. By comparison, 16 percent of those who looked at their balance sheets quarterly were off by six percent, and 21 percent of those who looked at their balance sheets yearly were. Same goes for a statement of cash flows. Ten percent of those who looked at their cash flow statement monthly had hard costs that varied from estimates more than 6 percent, compared with 13 percent of those who looked at these statements quarterly, and 22

percent who looked at them yearly. Some respondents marked that they never looked at income statements, balance sheets or statement of cash flows, but it was such a small number as to not be significant for the purpose of this cross-tabulation.

While some considered cash flow statements unimportant to review, some also considered ratios an unnecessary financial tool. Sixteen percent of respondents said they did not use any financial ratios. Of the ratios the questionnaire asked participants if they used, only a few were frequently selected. Forty-one percent of respondents said they used the gross-profit ratio. The use of ratios, in descending order, was current ratio (28 percent), cost-of-sales ratio (25 percent), return-on-asset ratio (16 percent), total-liability to owners'-equity ratio (15 percent), total-owners-equity to total-assets ratio (9 percent), quick ratio (9 percent) and asset-turnover ratio (4 percent). This suggests that the majority of company owners only regularly review a few ratios, if any.

Satisfaction

Most respondents seemed satisfied with their current accounting system. Eighty-six percent "agreed" or "strongly agreed" that their accounting system gave a clear picture of the company's financial situation at any time. Eighty-eight percent "agreed" or "strongly agreed" that their accounting system gave a clear picture of the financial situation of individual jobs at any time. Eighty-nine percent "agreed" or "strongly agreed" that their accounting system was easy to understand and operate. (See Figure 4.11.)

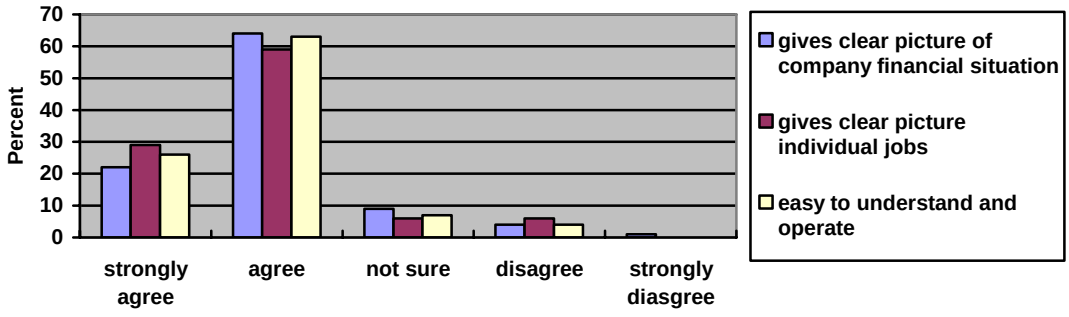

Figure 4.11: Degree to which respondents agree with statements about accounting system.

Also, as noted earlier, of those who used a CPA, 90 percent were satisfied with that individuals' work. Some open-ended responses people gave for satisfaction with their CPA dealt with that individuals' knowledge: "They are current in tax work and laws, honesty, help me maximize my profits (sic)." Several respondents said they were satisfied with the CPA because of the help that person provides with taxes. A "CPA stamp ensures greater validity to the IRS," said one respondent. Flexibility, professionalism and accuracy were also noted as reasons for satisfaction with a CPA. Those who were dissatisfied with their CPA complained about a "slow response time," and lack of specific knowledge to the construction industry.

Satisfaction or dissatisfaction with the respondent's accounting system was echoed in the open-ended responses to Question 20, "What are the three biggest concerns, complaints or problems you have with your current accounting system (in order of priority)?" Thirty-four respondents wrote "none," "nothing," "no complaints," or a similarly worded answer. In every case, the respondent was able to identify at least one benefit to his or her accounting system. (Thirty respondents chose not to respond at all to

Questions 19 and 20, both of which were open-ended. This may be because of the extra time required to write a response as opposed to checking a box.)

Interestingly enough, there doesn't seem to be a direct relationship between how accurate an accounting system was (as measured by Question 9, "On average, actual hard costs of construction – not including change orders – typically vary from your original job cost estimates: less than 1 percent, 1-2.99 percent, 3-5.99 percent, 6-9.99 percent, greater than 10 percent, and not sure") and how satisfied a respondent was with that system. In cross-tabulating the results of Question 9 with Questions 12, 13 and 14 (how much a respondent agrees that the accounting system gives a clear picture of the financial situation of the company at any time, how much a respondent agrees that the accounting system gives a clear picture of the financial situation of individual jobs at any time, and how much a respondent agrees that the accounting system is easy to understand and operate, respectively), one can see that satisfaction does not increase as accuracy of job estimating does. (See Figure 4.12, 4.13, and 4.14.)

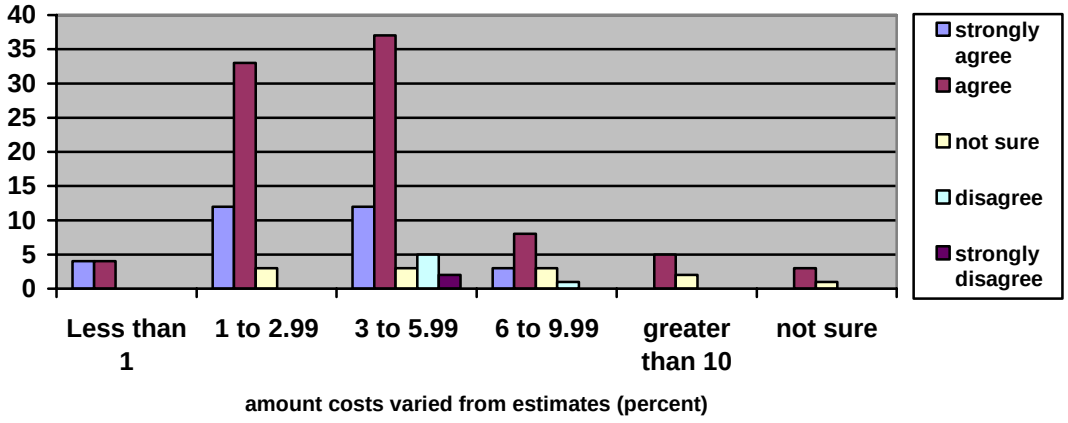

Figure 4.12: Amount hard costs varied from estimates compared with the degree to which respondents agreed with the statement, "Our accounting system gives me a clear picture of the financial situation of our company at any time."

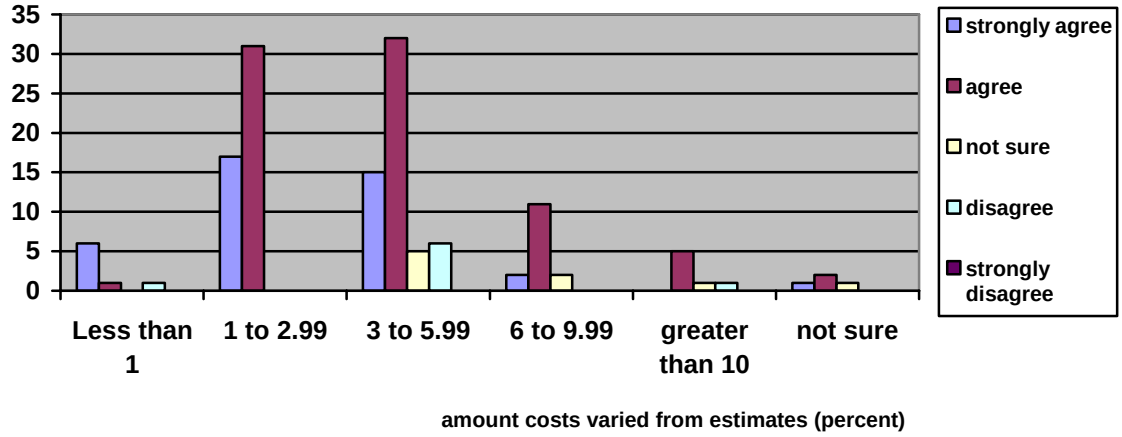

Figure 4.13: Amount hard costs varied from estimates compared with the degree to which respondents agreed with the statement, "Our accounting system gives me a clear picture of the financial situation of individual jobs at any time."

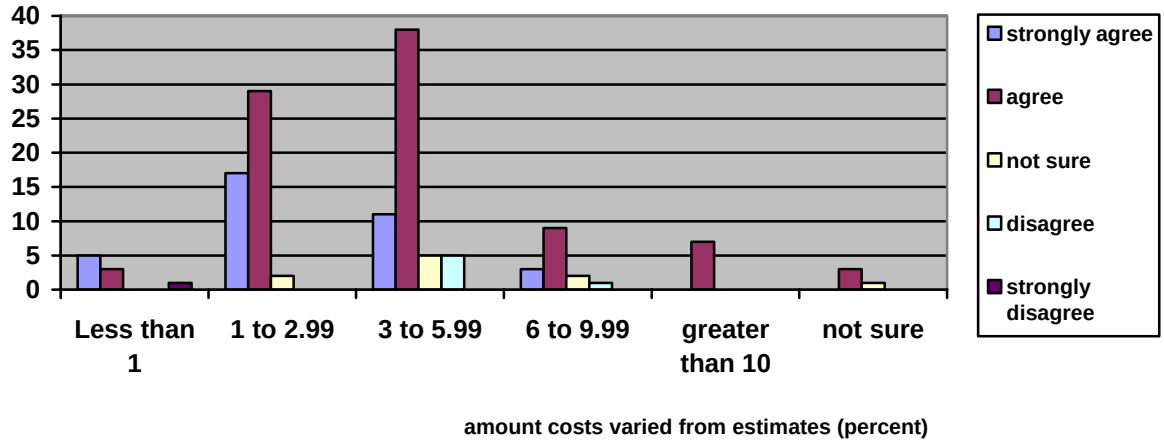

Figure 4.14: Amount hard costs varied from estimates compared with the degree to which respondents agreed with the statement, "Our accounting system is easy to understand and operate."

Benefits of an Accounting System

Simplicity/ease of use and accuracy were identified frequently as benefits of an accounting system in the fill-in-the-blank responses to Question 19. The question states:

What are the three most important benefits from your accounting system (in order of priority)? One respondent simply stated, "I understand it," while another noted that it was "one less item for (him) to worry about." (On the other hand, difficulty of use was also an often-repeated complaint with accounting system, suggesting that user-friendliness can make or break an accounting system.) Many survey respondents also identified job costing as a benefit to their accounting systems. Also noted was the ability of the system to give a clear picture of the company's financial health. "I know where we are each day," wrote one respondent. "I know if the jobs are positive or negative. I know what my bills are."

Many declined to answer the fill-in-the blank questions asking what the benefits and drawbacks were to their accounting system. One simply put it this way: "Ask my accountant." It's interesting to note that this same respondent could not identify how much, on average, his actual hard cost of construction typically varied from his original job cost estimates. He selected the answer "not sure," and included the comment: "In nine years, I have not built exactly what was spec-ed (sic) and estimated."

As noted above, 34 respondents had no complaints at all with their accounting system (and an additional 30 declined to answer the question at all.) Those who respond to Question 20 had a variety of concerns, complaints or problems with their accounting system. Among them were the high cost, inflexibility and the inability to tailor the system to their business, difficulty of use, and the need for frequent updates to the software.

Some complaints seemed to be more software-related than problems with the system as a whole. Among the comments were: "Does not interface well with MS Office," "It does not integrate with Excel," "Will not import from my estimating program" and "Importing/exporting of files." Others felt that their accounting system was

lacking a key function. It did not handle payroll well, or it did not adequately prepare them for tax time. Some put that their system wasn't good at job costing or estimating, or it simply did not provide a clear enough financial picture of the company as a whole.

Then there were the respondents said they simply did not understand their system. I "need to know how to use it better," wrote one, while another remarked the system was "fairly complex" and "requires constant training and upgrading." Another said his accounting system was "hard to understand in all aspects." This frustration shows that there is obvious room for further research into simplifying construction accounting systems and making them more user-friendly.

Chapter Five: Conclusions, Suggestions for Further Research

The purpose of this study was to determine what accounting methods were used by small-volume home builders that produce 25 or fewer homes per year. From the answers provided by respondents, new information about the accounting practices of small-volume home builders emerged. Several conclusions can be drawn from this study:

- Small-volume home builders are handling the majority of their own accounting.
- They are satisfied with their accounting system and feel they have a clear understanding of their company's financial situation.
- Simplicity is one of the most important features of an accounting system for small-volume home builders.
- Small-volume home builders are not using all the tools that an accounting system has to offer.
- Although small-volume home builders may be familiar with day-to-day accounting and job costing, they lack familiarity with technical accounting terminology, methods and reporting.

Small-volume home builders are doing most of the company's accounting themselves. Most serve as their own day-to-day accountants. Most relied on their own experience or knowledge to create a chart of accounts. Although the majority of respondents use an outside CPA, that individual is primarily employed to do the company's income tax preparation. Given that most of these companies are closing an

average of four homes, it makes sense that overhead must be kept to a minimum. Most of these companies likely can't afford to employ a full-time accountant or don't want to spend the money on one.

Company owners or managers are satisfied with their accounting system. One reason for this satisfaction is likely because they are doing the accounting themselves and have designed it from their own experience. Most feel the system provides a clear picture of the company's financial situation at any given time, as well as the financial situation of individual jobs. Owners or managers know their accounting system better than anyone because they designed it and they manage it. The majority of builders were aware of how much their hard costs varied from their estimates. That is one sign of an effective accounting system.

Because owners and managers are doing most of the accounting work, simplicity in an accounting system is crucial. The software program most frequently used was Quickbooks, a software program that is touted on its Web site as easy to learn and use. Most used one software program for all of their accounting functions, instead of choosing task-specific software. Respondents used few – if any – financial ratios to analyze the financial performance of their company. They repeatedly touted simplicity as a benefit to their accounting system.

Although respondents were satisfied with their accounting system and felt it gave them the information they needed, most were not using all the accounting tools available to them. As stated above, few used financial ratios, which can show areas where a company can better allocate its resources. Respondents were using their accounting system to measure past performance, but not to help them succeed long term.

Respondents felt that their accounting system gave them a clear picture of their company and individual jobs, and given their ability to track variances from estimates to hard costs they have shown an understanding of day-to-day accounting and job-costing. However, a deeper analysis of the respondents' answers reveals a lack of understanding of technical accounting terminology and methodology.

A majority of the respondents said they used the cash method of accounting; however, a majority of respondents also mentioned the use of an accounts payable. The existence of an accounts payable indicates that an accrual method is being used. Most likely, these respondents are using a completed-contract accrual method or a hybrid of methods. Also, most respondents are not using technical accounting tools such as ratios, suggesting that few have a full understanding of accounting methods and terminology. It is likely that most are not using all the accounting resources available to them.

Recommendations for the Industry

Because a company's owner or manager was most frequently doing the business' day-to-day accounting, it is crucial that this person have training in basic financial and accounting principles. Trade organizations should increase the accounting resources they offer builders. Schools should consider making accounting a required course for construction management students. Also, both schools and trade organizations should offer ongoing classes in accounting principles for seasoned professionals.

Nearly all of the people who used an outside CPA were satisfied with that person's work. This suggests that he money spent on CPAs is money well spent. However, CPAs are primarily being used for tax purposes. Small-volume home builders should consider using CPAs for more resources, including long-term financial planning.

The majority of respondents relied on Quickbooks software for nearly every accounting category, but many noted dissatisfaction with their software program. Several respondents said they did not understand fully how to operate the software, suggesting the need for additional training and technical assistance for builders. Also, there may be room for more industry-specific software that can be tailored to small businesses. A few of the respondents noted that they would like to be able to customize their accounting system to better fit their needs.

Accuracy, ease of use and simplicity were frequently mentioned as important benefits to an accounting system. Professionals starting out and choosing an accounting should look for one that is user-friendly and uncomplicated. Because job costing was so frequently mentioned as an important benefit to an accounting system, it is crucial that builders select a system or method that performs this function well. They should avoid anything that is overly complicated or hard to understand, and they should be prepared that a system may require numerous upgrades and may be expensive.

Recommendations for Further Research

This study did not seek to address profitability. Rather, it sought to simply find out which accounting methods were being used. An important next step in research would be to see which accounting practices are most profitable. For example, is there a connection between profitability and the type of accounting software a company uses? Do owners of companies that make a lot of money do their own day-to-day accounting, or do they assign that job to someone else? Is there a link between the accounting method (cash, percentage of completion, or completed contract) and how profitable a company is? Do company owners who regularly review financial reports and use ratios make more

money than ones who don't, or do those things not affect the bottom line? Does the use of an outside CPA correspond to profitability? All of these questions and more could be addressed in further research.

One software program was the most used program above others. Further research could be performed on why people choose a particular software system. It would be interesting to see why Quickbooks dominates the market, and why programs such as Peachtree, Timberline, Excel, Masterbuilder are used so infrequently. It would also be interesting to study how specific programs can track the accuracy of estimating and accounting. Because many respondents wrote that they felt their software was complicated or not industry specific, it would also be interesting to research what small builders are looking for in accounting software. What would they like their software to do, and what features would be crucial for their software to have?

There is ample opportunity to study the role of a certified public accountant in construction accounting. Because the great majority of respondents said they employed a CPA, it would be interesting to see how and why they selected that individual. Further research could be done into the usefulness of a CPA and into what role the outside CPA plays in the company. This survey did not address on any substantive level the myriad tax implications for construction accounting, but that is also an area that could be studied in the future.

Also, more research could be done into what factors influence a builder's satisfaction or dissatisfaction with his or her accounting system. What makes an accounting system simple and easy to use? What makes it accurate? What factors lead the builder to choose the system in the first place, and would he choose it again if given the chance to do so?

In Summary

This survey was an important first step in studying the accounting methods of small-volume home builders producing 25 or fewer homes per year. The survey identified many of the most commonly used accounting methods of small-volume home builders. Among its findings were how many respondents used an outside CPA, what the most common type of accounting software was, what the most common accounting method was, and how much accounting reports and ratios were used by small-volume home builders. Additionally, the survey provided demographic information about the small-volume home builders who responded to the questionnaire.

The survey also showed that while small-volume home builders may be knowledgle about their own accounting system for day-to-day operations, there is still room for improvement to help the builders succeed long-term. Many are not fully using the accounting reporting and planning tools available to them. While opening the door to further research, the survey gave small-volume home builders a benchmark of accounting methods, something they can compare with their own practices to try to improve.

REFERENCES

Adrian, J. J. (1986).*Construction Accounting.* Englewood Cliffs, NJ: Prentice-Hall.

Adrian, J.J. (1995). *Construction Productivity: Measurement and Improvement.* Champaign, IL: Stipes Publishing.

Barker, D.L. (2006). Powerful Management Tools. Published on the National Association of Home Builder's Web site. Retrieved July 8, 2006, from http://www.nahb.org/generic.aspx?genericContentID=52990.

Brugh, M. and Maddox, C. (2005, March/April). Choosing a CPA for Your Construction Company. *Construction Accounting & Taxation*, 21-25.

Davidson, R. and Martin, M. (2003, January/February). Ten Most Common Causes of Construction Contractor Failures. *Journal of Construction Accounting and Taxation*, 35-37.

Davidson, R. (2006, January/February). "Hot Button" Issues in Construction Accounting and Financial Management. *Construction Accounting & Taxation*, 40-43.

Gebes, T. (2006, April 10). Don't be Hard Headed About Investing in the Software You Need. *Nation's Building News,* online newspaper of the NAHB.

Grundvig, A. (2005). [In-person interview March 10, 2005, with owner of the accounting software A-Systems] Salt Lake City, UT.

Hansen, C. (2005). [In-person interview March 16, 2005, with Curtis Hansen, chief financial officer of Provo-based Arrowstar Construction.] Provo, UT.

Housing Facts, Figures and Trends. (2006). National Association of Home Builder's Public Affairs and Economics report. Available online at www.nahb.org.

Hutchings, M. and Christofferson, J. (2004) Management Practices of Residential Construction Companies Producing 25 or Fewer Units Annually. *International Journal of Construction Education and Research.* Retrieved Oct. 28, 2006, from http://www.ascjournal.ascweb.org/journal/2004/no2/34-44.pdf

Internal Revenue Service's Accounting for Construction Contracts – Construction Tax Tips (2006). As available on the Internal Revenue Service's Web site, http://irs.gov.

Kale, S. and Arditi, D. (November/December 1998). Business Failures: Liabilities of Newness, Adolescence and Smallness. *Journal of Construction Engineering and Management*, 485-464.

Katrina May Cost as Much as Four Years of War (2005, Sept. 10) Associated Press article published on MSNBC's Web Site. Retrieved Aug. 8, 2006, at http://www.msnbc.msn.com/id/9281409/

Martin, B. (2005). [In-person interview June 15, 2005, with Boyd Martin, division president of D.R. Horton.] Draper, UT.

Mincks, W.R. and Johnston, H. (2004). Construction Jobsite Management. Clifton Park, NY: Delmar Learning.

National Association of Home Builder's Mailing List Service Data Card (2006a). Retrieved June 25, 2006, from http//www.nahb.org/mls.

National Association of Home Builder's Web site (2006b). Retrieved June 25, 2006, from http://www.nahb.org.

Nation's Building News (2006, Jan. 30). Small Builders Can Compete Against the Giants. Retrieved online August 8, 2005, from http://www.nahb.org/news details.aspx?newsID=1903&print=true.

Oklahoma State Bureau for Social Research's Web site (2006). Retrieved Oct. 28, 2006, from http://ches.okstate.edu/bsr/mailed.html.

O'Toole, P (2002, December). Better Accounting for Small-Volume Builders. *Professional Builder magazine*. Reprint retrieved June 25, 2006, from http://www.housingzone.com/probuilder/article/CA4642662.html.

Palmer, W.J., Coombs, W.E. and Smith, M.A. (1995). *Construction Accounting & Financial Management.* New York, NY: McGraw-Hill.

Paz, R. (2006, May/June). Management Issues. *Construction Accounting & Taxation*, Vol. 16., Issue 3, 40-42.

The Evolving Home Building Industry & Implications for Consumers. (2006). Joint Center for Housing Studies of Harvard University. Retrieved online July 8, 2006, from http://www.jchs.harvard.edu/publications/industrystudies/w06-2_evolving_homebuilding_industry.pdf.

Shinn, E. (1993). *Accounting and Financial Management for Builders, Remodelers, and Developers.* Washington, D.C.: Home Builder Press.

Thomas, S. (2006). [Telephone interview July 7, 2006, with Stephanie Thomas, business development department staff member in charge of mailing lists at the NAHB.] Washington, D.C.

Thomsett, M.C. (1979) *Builder's Guide to Accounting*. Carlsbad, CA: Craftsman Book Company.

True, L. (2003, May/June). Do You Really Know Your Construction Costs? Journal of Construction Accounting and Taxation, 5-10.

U.S. Census Bureau's 2002 Economic Census – Construction. (Oct. 2005). Retrieved July 8, 2006, from http://www.census.gov/prod/ec02/ec0223sg1.pdf.

U.S. Housing Market Conditions. (Fourth Quarter, 2005). Issued by the U.S. Department of Housing and Urban Development. Retrieved online July 6, 2006, from http://www.huduser.org/periodicals/ushmc/winter05/USHMC_05Q4.pdf .

U.S. Department of Labor Bureau of Labor Statistics. Career Guide to Industries – Construction. Retrieved July 8, 2006 from http://www.bls.gov/oco/cg/cgs003.htm.

Wallace, E. (2001, May/June). The 10 (or More!) Accounting Method Choices Faced by Contractors. Retrieved June 12, 2006 from the Construction Financial Management Association's Web site at http://www.cfma.org/news/docs/Wallace_MJ01.pdf.

Wolkstein, H.W. (1967). *Accounting Methods and Controls for the Construction Industry.* Englewood Cliffs, N.J.: Prentice-Hall.

Zurier, S. (2003, January). Sensible Accounting. *Builder Magazine*. Retrieved July 8, 2006, from magazine's online archives at http://www.builderonline.com/industry-news.asp?sectionID=718&articleID=11006.

APPENDICES

APPENDIX A: THESIS QUESTIONNAIRE

Survey of New Home Builders' Accounting Practices

Thank you for completing this questionnaire. It consists of 20 questions and will take approximately 5 minutes to complete. The research is for a master's thesis at Brigham Young University. Your involvement is voluntary; you may choose to not participate without any penalty. A benefit to you for your participation may include a summary of the findings if you so request. The risks to you are minimal. The information will be compiled with other respondents' and will be used only for research purposes.

This survey is anonymous and there will be no reference to your identity at any point in the research.

1. Who handles your day-to-day accounting? (mark all that apply)
   - □ A CPA
   - □ A bookkeeper
   - □ An office employee
   - □ Owner or manager
   - □ Other _____

2. Do you use an outside CPA? (mark all that apply)
   - □ No
   - □ Yes, What are their duties?
     - □ Income and other tax preparation
     - □ Audits and verification purposes
     - □ All accounting
     - □ Other _____

   Are you satisfied with their work? □ Yes, □ No,
   Why?_____

3. For each of the following accounting categories, please indicate which software program you use.

Accounting category:	**Software Programs:**
Job Costing	*1. Peachtree*
____Accounts Payable	*2. Quickbooks*
____Accounts Receivable	*3. Timberline*
____Purchase Orders	*4. Excel*
____General Ledger	*5. Masterbuilder*
□ We don't use accounting software	*6. Other*_____

4. For each of the following accounting categories, please select the phrase that best describes how you view the category.

Accounting category	**Best described as:**
____ Job Costing	1. *A competitive advantage*
____Accounts Payable	2.*A planning tool*
____Accounts Receivable	*3.A government requirement*
____Purchase Orders	
____General Ledger	

5. Which of the following best describes your choice of an accounting system (mark only one.)

□ Recommended by a professional organization
□ Recommended by accountant
□ Recommended by a friend or associate
□ Used previously at a different company
□ Purchased because of advertising
□ Other _____

6. What accounting method does your company use?

□ Cash method
□ Percentage of completion method
□ Completed contract method
□ Other _____
□ Don't know

7. Which of the following best describes your chart of accounts?

□ Template chart of accounts
□ Created by us through experience
□ Customized by an outside source for our company
□ Other _____
□ None of the above

8. For estimating job costs, what percentage of each method does your company use?

In-house detailed quantity take-offs……_____%
Unit pricing…….._____%
Subcontractor/supplier bids…….._____%
Best-guess figures……......_____%
Other……_____%
Total should equal……..100%

9. On the average, actual hard costs of construction (not including change orders) typically vary from your original job cost estimates:
   - □ Less than 1%
   - □ 1 - 2.99%
   - □ 3 - 5.99%
   - □ 6 - 9.99%
   - □ Greater than 10%
   - □ Not sure. Comment _____
   _____

10. Which of the following best describes how often the following financial reports are prepared and reviewed? (Please mark the best answer for each report.)

	Monthly	Quarterly	Yearly	Never
Income statement (P & L) ……	□	□	□	□
Balance Sheet……	□	□	□	□
Statement of cash flows ……	□	□	□	□

11. Which of the following financial ratios do you regularly review? (mark all that apply)
   - □ Current ratio (current assets/current liabilities)
   - □ Quick ratio or Acid Test (quick assets/current liabilities)
   - □ Cost of sales ratio (cost of sales/sales)
   - □ Gross profit ratio (gross profit/sales)
   - □ Asset turnover ratio (sales/total assets)
   - □ Owners' equity to total assets ratio (owner's equity/total assets)
   - □ Total liability to owners' equity ratio (total liabilities/owner's equity)
   - □ Return on assets ratio (net profit/total assets)
   - □ Other_____
   - □ None of the above. We don't use ratios.

How strongly do you agree or disagree with the following statements. (Please check the best answer)

12. Our accounting system gives me a clear picture of the financial situation of our company at any time.

□ *Strongly agree* □ *Agree* □ *Not sure* □ *Disagree* □*Strongly disagree*

13. Our accounting system gives me a clear picture of the financial situation of individual jobs at any time.

□ *Strongly agree* □ *Agree* □ *Not sure* □ *Disagree* □*Strongly disagree*

14. Our accounting system is easy to understand and operate.

□ *Strongly agree* □ *Agree* □ *Not sure* □ *Disagree* □*Strongly disagree*

15. What type of new homes do you build?

Entry level……_____%
Move-up……_____%
High-end custom……_____%
Other……_____%
Total should equal……100%

16. What type of business organization is your company?
    - □ sole proprietorship,
    - □ general partnership,
    - □ s-corp or c-corp,
    - □ limited liability corp.
    - □ other_____

17. What percentage of the actual production work performed on new homes you build is done by……

    *By subcontractors/trades….*_____%
    *By our own employees…….*_____%
    *By company owners……..*_____%
    *By buyers (sweat equity)….*_____%
    Total should equal 100%

18. Our company did the following amount of business during 2004 (or the most recent fiscal year.) *(Please remember that this financial information will be compiled with other respondents' and will be used only for research purposes.)*

    a) Total number of new homes closed during year_____
    b) Total revenues from new homes closed _____

19. What are the three most important benefits from your accounting system? (in order of priority)

1._____
2._____
3._____

20. What are the three biggest concerns, complaints, or problems you have with your current accounting system? (in order of priority)

1._____
2._____
3._____

Thank you for your participation. Please refold so that my address is on the outside, and drop this survey into the mail. The postage has already been paid. By returning this survey you are giving your consent for the results to be reviewed.

If you have questions regarding this study you may contact David Andrus at (801) 830-2117, email, daverandrus@hotmail.com. If you have questions regarding your rights as a participant in research projects, you may contact Dr. Renea Beckstrand, Chair of the Institutional Review Board for Human Subjects, 422 SWKT, Brigham Young University, Provo, UT 84602, (801) 422-3873, email, renea_beckstrand@byu.edu.

Hello,

I am a graduate student working on a master's degree in construction management at Brigham Young University.

I wonder if you could help me finish my thesis by completing this quick **5-minute questionnaire.** This survey is the last thing I need to do in order to graduate, and I'm hoping to have a high enough response rate for the department to approve my research.

My address is already included in this document (simply refold so that my name is facing front) and the **return postage is paid**. It will only take a few minutes of your time, but it would mean a world of difference for me.

APPENDIX B: ANSWER TO QUESTIONNAIRE QUESTIONS

Who handles day-to-day accounting?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CPA	8	5.7	5.8	5.8
	Bookkeeper	19	13.5	13.8	19.6
	Office Manager	31	22.0	22.5	42.0
	Owner or Manager	73	51.8	52.9	94.9
	Other	7	5.0	5.1	100.0
	Total	138	97.9	100.0	
Missing	System	3	2.1		
Total		141	100.0		

Do you use an outside CPA?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	8	5.7	5.7	5.7
	Yes, for income and other tax preparation	86	61.0	61.4	67.1
	Yes, all accounting	15	10.6	10.7	77.9
	Yes, other	2	1.4	1.4	79.3
	Yes, for income/taxes and audits/verification	26	18.4	18.6	97.9
	Yes, for income/taxes and other	3	2.1	2.1	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Are you satisfied with CPA's work?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	103	73.0	89.6	89.6
	No	12	8.5	10.4	100
	Total	115	81.6	100.0	
Missing	System	26	18.4		
Total		141	100.0		

Software used for job costing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peachtree	6	4.3	5.4	5.4
	Quickbooks	59	41.8	52.7	58.0
	Timberline	7	5.0	6.3	64.3
	Excel	19	13.5	17.0	81.3
	Masterbuilder	6	4.3	5.4	86.6
	other	15	10.6	13.4	100.0
	Total	112	79.4	100.0	
Missing	System	29	20.6		
Total		141	100.0		

Software used for accounts payable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peachtree	8	5.7	6.3	6.3
	Quickbooks	89	63.1	70.6	77.0
	Timberline	7	5.0	5.6	82.5
	Excel	5	3.5	4.0	86.5
	Masterbuilder	5	3.5	4.0	90.5
	other	12	8.5	9.5	100.0
	Total	126	89.4	100.0	
Missing	System	15	10.6		
Total		141	100.0		

Software used for accounts receivable

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peachtree	9	6.4	8.0	8.0
	Quickbooks	79	56.0	69.9	77.9
	Timberline	6	4.3	5.3	83.2
	Excel	4	2.8	3.5	86.7
	Masterbuilder	4	2.8	3.5	90.3
	Other	11	7.8	9.7	100.0
	Total	113	80.1	100.0	
Missing	System	28	19.9		
Total		141	100.0		

Software used for purchase orders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peachtree	4	2.8	6.6	6.6
	Quickbooks	35	24.8	57.4	63.9
	Timberline	5	3.5	8.2	72.1
	Excel	6	4.3	9.8	82.0
	Masterbuilder	3	2.1	4.9	86.9
	Other	8	5.7	13.1	100.0
	Total	61	43.3	100.0	
Missing	System	80	56.7		
Total		141	100.0		

Software used for general ledger

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peachtree	8	5.7	6.6	6.6
	Quickbooks	87	61.7	71.9	78.5
	Timberline	6	4.3	5.0	83.5
	Excel	5	3.5	4.1	87.6
	Masterbuilder	4	2.8	3.3	90.9
	Other	11	7.8	9.1	100.0
	Total	121	85.8	100.0	
Missing	System	20	14.2		
Total		141	100.0		

How job costing is viewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	competitve advantage	56	39.7	43.1	43.1
	planning tool	73	51.8	56.2	99.2
	government requirement	1	.7	.8	100.0
	Total	130	92.2	100.0	
Missing	System	11	7.8		
Total		141	100.0		

How accounts payable is viewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	competitive advantage	32	22.7	26.0	26.0
	planning tool	79	56.0	64.2	90.2
	government requirement	12	8.5	9.8	100.0
	Total	123	87.2	100.0	
Missing	System	18	12.8		
Total		141	100.0		

How accounts receivable is viewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	competitive advantage	27	19.1	24.5	24.5
	planning tool	73	51.8	66.4	90.9
	government requirement	10	7.1	9.1	100.0
	Total	110	78.0	100.0	
Missing	System	31	22.0		
Total		141	100.0		

How purchase orders are viewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	competitive advantage	18	12.8	24.3	24.3
	planning tool	54	38.3	73.0	97.3
	government requirement	2	1.4	2.7	100.0
	Total	74	52.5	100.0	
Missing	System	67	47.5		
Total		141	100.0		

How general ledgers are viewed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	competitive advantage	23	16.3	18.4	18.4
	planning tool	68	48.2	54.4	72.8
	government requirement	34	24.1	27.2	100.0
	Total	125	88.7	100.0	
Missing	System	16	11.3		
Total		141	100.0		

Why you chose your accounting system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recommended by a professional organization	17	12.1	12.2	12.2
	Recommended by an accountant	60	42.6	43.2	55.4
	Recommended by a friend or associate	16	11.3	11.5	66.9
	Used previously at a different company	17	12.1	12.2	79.1
	Purchased because of advertising	13	9.2	9.4	88.5
	Other	16	11.3	11.5	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		

What accounting method does your company use?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cash method	60	42.6	43.2	43.2
	percentage of completion method	28	19.9	20.1	63.3
	completed contract method	37	26.2	26.6	89.9
	Other	11	7.8	7.9	97.8
	don't know	3	2.1	2.2	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		

Which bests describes your chart of accounts?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	template of chart of accounts	24	17.0	17.3	17.3
	created by us through experience	90	63.8	64.7	82.0
	customized by an outside source for our company	13	9.2	9.4	91.4
	Other	5	3.5	3.6	95.0
	none of the above	7	5.0	5.0	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		

Percent of estimates using in house detailed quantity takeoffs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	.7	.9	.9
	10	10	7.1	9.3	10.2
	15	3	2.1	2.8	13.0
	20	10	7.1	9.3	22.2
	25	9	6.4	8.3	30.6
	30	10	7.1	9.3	39.8
	40	4	2.8	3.7	43.5
	50	29	20.6	26.9	70.4
	60	7	5.0	6.5	76.9
	70	4	2.8	3.7	80.6
	75	4	2.8	3.7	84.3
	80	6	4.3	5.6	89.8
	85	1	.7	.9	90.7
	90	3	2.1	2.8	93.5
	99	1	.7	.9	94.4
	100	6	4.3	5.6	100.0
	Total	108	76.6	100.0	
Missing	System	33	23.4		
Total		141	100.0		

Percent of estimates using unit pricing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.7	1.9	1.9
	5	4	2.8	7.4	9.3
	10	18	12.8	33.3	42.6
	15	3	2.1	5.6	48.1
	20	6	4.3	11.1	59.3
	25	10	7.1	18.5	77.8
	30	3	2.1	5.6	83.3
	40	1	.7	1.9	85.2
	50	4	2.8	7.4	92.6
	60	1	.7	1.9	94.4
	70	1	.7	1.9	96.3
	80	1	.7	1.9	98.1
	90	1	.7	1.9	100.0
	Total	54	38.3	100.0	
Missing	System	87	61.7		
Total		141	100.0		

Percent of estimates using subcontractor/supplier bids

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	.8	.8
	10	5	3.5	4.2	5.0
	15	5	3.5	4.2	9.2
	20	7	5.0	5.9	15.1
	25	12	8.5	10.1	25.2
	30	16	11.3	13.4	38.7
	35	1	.7	.8	39.5
	40	8	5.7	6.7	46.2
	45	1	.7	.8	47.1
	50	30	21.3	25.2	72.3
	60	7	5.0	5.9	78.2
	70	6	4.3	5.0	83.2
	75	4	2.8	3.4	86.6
	80	4	2.8	3.4	89.9
	85	3	2.1	2.5	92.4
	90	3	2.1	2.5	95.0
	100	6	4.3	5.0	100.0
	Total	119	84.4	100.0	
Missing	System	22	15.6		
Total		141	100.0		

Percent of estimates using best-guess figures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	2	1.4	3.1	3.1
	5	6	4.3	9.2	12.3
	10	24	17.0	36.9	49.2
	15	2	1.4	3.1	52.3
	20	6	4.3	9.2	61.5
	25	9	6.4	13.8	75.4
	30	4	2.8	6.2	81.5
	40	1	.7	1.5	83.1
	50	3	2.1	4.6	87.7
	60	1	.7	1.5	89.2
	70	1	.7	1.5	90.8
	75	1	.7	1.5	92.3
	80	1	.7	1.5	93.8
	100	4	2.8	6.2	100.0
	Total	65	46.1	100.0	
Missing	System	76	53.9		
Total		141	100.0		

Percent of estimates using other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	.7	11.1	11.1
	5	1	.7	11.1	22.2
	10	4	2.8	44.4	66.7
	20	1	.7	11.1	77.8
	25	1	.7	11.1	88.9
	100	1	.7	11.1	100.0
	Total	9	6.4	100.0	
Missing	System	132	93.6		
Total		141	100.0		

Most used method for estimating job costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	in-house detailed quantity takeoffs	43	30.5	41.7	41.7
	unit pricing	4	2.8	3.9	45.6
	subcontractor/supplier bids	47	33.3	45.6	91.3
	best-guess figures	8	5.7	7.8	99.0
	Other	1	.7	1.0	100.0
	Total	103	73.0	100.0	
Missing	System	38	27.0		
Total		141	100.0		

On average, amount hard construction costs vary from original job cost estimates

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 percent	8	5.7	5.7	5.7
	1 to 2.99 percent	48	34.0	34.0	39.7
	3 to 5.99 percent	59	41.8	41.8	81.6
	6 to 9.99 percent	15	10.6	10.6	92.2
	greater than 10 percent	7	5.0	5.0	97.2
	not sure	4	2.8	2.8	100.0
	Total	141	100.0	100.0	

Which best describes how often income statements (P & L) are reviewed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	monthly	60	42.6	43.2	43.2
	quarterly	45	31.9	32.4	75.5
	yearly	33	23.4	23.7	99.3
	never	1	.7	.7	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		

Which best describes how often balance sheets are reviewed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	monthly	61	43.3	43.3	43.3
	quarterly	43	30.5	30.5	73.8
	yearly	34	24.1	24.1	97.9
	never	3	2.1	2.1	100.0
	Total	141	100.0	100.0	

Which best describes how often statements of cash flows are reviewed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	monthly	58	41.1	43.6	43.6
	quarterly	30	21.3	22.6	66.2
	yearly	18	12.8	13.5	79.7
	never	27	19.1	20.3	100.0
	Total	133	94.3	100.0	
Missing	System	8	5.7		
Total		141	100.0		

Regularly review current ratio (current assets/current liabilities)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	40	28.4	100.0	100.0
Missing	System	101	71.6		
Total		141	100.0		

Regularly review quick ratio or acid test (quick assets/current liabilities)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	13	9.2	100.0	100.0
Missing	System	128	90.8		
Total		141	100.0		

Regularly review cost of sales ratio (cost of sales/sales)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	35	24.8	100.0	100.0
Missing	System	106	75.2		
Total		141	100.0		

Regularly review profit ratio (gross profit/sales)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	58	41.1	100.0	100.0
Missing	System	83	58.9		
Total		141	100.0		

Regularly review asset turnover ratio (sales/total assets)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	5	3.5	100.0	100.0
Missing	System	136	96.5		
Total		141	100.0		

Regularly review owner's equity to total assets ratio (net profit/total assets)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	13	9.2	100.0	100.0
Missing	System	128	90.8		
Total		141	100.0		

Regularly review total liability to owners' equity ratio (total libailities/owner equity)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	21	14.9	100.0	100.0
Missing	System	120	85.1		
Total		141	100.0		

Regularly review return on assets ratio (net profit/total assets)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	22	15.6	100.0	100.0
Missing	System	119	84.4		
Total		141	100.0		

Regularly review other ratios

		Frequency	Percent
Missing	System	141	100.0

We don't use ratios

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	23	16.3	100.0	100.0
Missing	System	118	83.7		
Total		141	100.0		

Our accounting system gives me a clear picture of the financial situation of our company at any time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	31	22.0	22.0	22.0
	agree	90	63.8	63.8	85.8
	not sure	12	8.5	8.5	94.3
	disagree	6	4.3	4.3	98.6
	strongly disagree	2	1.4	1.4	100.0
	Total	141	100.0	100.0	

Our accounting system gives a clear picture of the financial situation of individual jobs at any time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	41	29.1	29.3	29.3
	agree	82	58.2	58.6	87.9
	not sure	9	6.4	6.4	94.3
	disagree	8	5.7	5.7	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		

Our accounting system is easy to understand and operate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly agree	36	25.5	25.5	25.5
	agree	89	63.1	63.1	88.7
	not sure	10	7.1	7.1	95.7
	disagree	6	4.3	4.3	100.0
	Total	141	100.0	100.0	

Percentage of entry-level homes built

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	2	1.4	5.6	5.6
	10	5	3.5	13.9	19.4
	20	10	7.1	27.8	47.2
	25	4	2.8	11.1	58.3
	30	2	1.4	5.6	63.9
	33	1	.7	2.8	66.7
	50	5	3.5	13.9	80.6
	70	2	1.4	5.6	86.1
	80	2	1.4	5.6	91.7
	90	1	.7	2.8	94.4
	100	2	1.4	5.6	100.0
	Total	36	25.5	100.0	
Missing	System	105	74.5		
Total		141	100.0		

Percentage of move-up homes built

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	.7	1.3	1.3
	9	1	.7	1.3	2.5
	10	9	6.4	11.3	13.8
	15	2	1.4	2.5	16.3
	20	7	5.0	8.8	25.0
	25	5	3.5	6.3	31.3
	30	5	3.5	6.3	37.5
	33	1	.7	1.3	38.8
	40	7	5.0	8.8	47.5
	50	18	12.8	22.5	70.0
	60	8	5.7	10.0	80.0
	75	4	2.8	5.0	85.0
	80	4	2.8	5.0	90.0
	90	4	2.8	5.0	95.0
	100	4	2.8	5.0	100.0
	Total	80	56.7	100.0	
Missing	System	61	43.3		
Total		141	100.0		

Percentage of high-end custom homes built

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.4	1.7	1.7
	5	1	.7	.9	2.6
	10	7	5.0	6.0	8.6
	15	1	.7	.9	9.5
	20	4	2.8	3.4	12.9
	25	4	2.8	3.4	16.4
	30	2	1.4	1.7	18.1
	33	1	.7	.9	19.0
	35	1	.7	.9	19.8
	40	6	4.3	5.2	25.0
	50	15	10.6	12.9	37.9
	60	6	4.3	5.2	43.1
	70	3	2.1	2.6	45.7
	75	4	2.8	3.4	49.1
	80	8	5.7	6.9	56.0
	85	1	.7	.9	56.9
	90	7	5.0	6.0	62.9
	95	1	.7	.9	63.8
	100	42	29.8	36.2	100.0
	Total	116	82.3	100.0	
Missing	System	25	17.7		
Total		141	100.0		

Percentage of other types of homes built

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	.7	4.3	4.3
	10	5	3.5	21.7	26.1
	20	2	1.4	8.7	34.8
	25	1	.7	4.3	39.1
	30	2	1.4	8.7	47.8
	40	1	.7	4.3	52.2
	50	4	2.8	17.4	69.6
	75	1	.7	4.3	73.9
	90	1	.7	4.3	78.3
	99	1	.7	4.3	82.6
	100	4	2.8	17.4	100.0
	Total	23	16.3	100.0	
Missing	System	118	83.7		
Total		141	100.0		

Type of new homes most built

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	entry level	8	5.7	6.6	6.6
	moveup	29	20.6	24.0	30.6
	high-end custom	76	53.9	62.8	93.4
	Other	8	5.7	6.6	100.0
	Total	121	85.8	100.0	
Missing	System	20	14.2		
Total		141	100.0		

What type of organization is your company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sole proprietorship	20	14.2	14.2	14.2
	general partnership	2	1.4	1.4	15.6
	s-corp or c-corp	90	63.8	63.8	79.4
	limited liability corp.	27	19.1	19.1	98.6
	other	2	1.4	1.4	100.0
	Total	141	100.0	100.0	

Percentage of production work performed on new homes you build by subcontractors/trades

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	1	.7	.7	.7
	9	1	.7	.7	1.5
	10	4	2.8	2.9	4.4
	15	1	.7	.7	5.1
	19	1	.7	.7	5.8
	20	5	3.5	3.6	9.5
	25	2	1.4	1.5	10.9
	30	3	2.1	2.2	13.1
	35	1	.7	.7	13.9
	40	3	2.1	2.2	16.1
	43	1	.7	.7	16.8
	50	12	8.5	8.8	25.5
	55	2	1.4	1.5	27.0
	60	8	5.7	5.8	32.8
	65	2	1.4	1.5	34.3
	70	4	2.8	2.9	37.2
	75	6	4.3	4.4	41.6
	80	9	6.4	6.6	48.2
	85	5	3.5	3.6	51.8
	90	20	14.2	14.6	66.4
	95	10	7.1	7.3	73.7
	97	1	.7	.7	74.5
	98	3	2.1	2.2	76.6
	99	2	1.4	1.5	78.1
	100	30	21.3	21.9	100.0
	Total	137	97.2	100.0	
Missing	System	4	2.8		

Percentage of production work performed on new homes you build by own employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	1.1	1.1
	3	1	.7	1.1	2.3
	5	7	5.0	8.0	10.2
	7	1	.7	1.1	11.4
	8	1	.7	1.1	12.5
	9	1	.7	1.1	13.6
	10	17	12.1	19.3	33.0
	15	4	2.8	4.5	37.5
	20	4	2.8	4.5	42.0
	25	4	2.8	4.5	46.6
	30	5	3.5	5.7	52.3
	35	1	.7	1.1	53.4
	40	10	7.1	11.4	64.8
	50	14	9.9	15.9	80.7
	60	3	2.1	3.4	84.1
	70	3	2.1	3.4	87.5
	75	3	2.1	3.4	90.9
	80	5	3.5	5.7	96.6
	85	1	.7	1.1	97.7
	95	1	.7	1.1	98.9
	100	1	.7	1.1	100.0
	Total	88	62.4	100.0	
Missing	System	53	37.6		
Total		141	100.0		

Percentage of production work performed on new homes you build by company owners

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.1	5.9	5.9
	2	4	2.8	7.8	13.7
	5	12	8.5	23.5	37.3
	7	2	1.4	3.9	41.2
	10	16	11.3	31.4	72.5
	15	3	2.1	5.9	78.4
	20	2	1.4	3.9	82.4
	25	3	2.1	5.9	88.2
	30	4	2.8	7.8	96.1
	40	1	.7	2.0	98.0
	90	1	.7	2.0	100.0
	Total	51	36.2	100.0	
Missing	System	90	63.8		
Total		141	100.0		

Percentage of production work performed on new homes you build by buyers (sweat equity)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.7	8.3	8.3
	2	1	.7	8.3	16.7
	3	1	.7	8.3	25.0
	5	9	6.4	75.0	100.0
	Total	12	8.5	100.0	
Missing	System	129	91.5		
Total		141	100.0		

Group performing most actual production work on new homes you build

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	subcontractors/trades	105	74.5	84.0	84.0
	own employees	19	13.5	15.2	99.2
	company owners	1	.7	.8	100.0
	Total	125	88.7	100.0	
Missing	System	16	11.3		
Total		141	100.0		

Total number of new homes closed during 2004 (or most recent fiscal year)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	6.4	7.3	7.3
	2	24	17.0	19.4	26.6
	3	19	13.5	15.3	41.9
	4	16	11.3	12.9	54.8
	5	6	4.3	4.8	59.7
	6	8	5.7	6.5	66.1
	7	5	3.5	4.0	70.2
	8	2	1.4	1.6	71.8
	9	5	3.5	4.0	75.8
	10	11	7.8	8.9	84.7
	11	2	1.4	1.6	86.3
	12	6	4.3	4.8	91.1
	15	1	.7	.8	91.9
	17	1	.7	.8	92.7
	20	4	2.8	3.2	96.0
	22	1	.7	.8	96.8
	23	1	.7	.8	97.6
	24	1	.7	.8	98.4
	25	2	1.4	1.6	100.0
	Total	124	87.9	100.0	
Missing	System	17	12.1		
Total		141	100.0		

Total homes by category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	one to four	51	36.2	52.6	52.6
	five to nine	20	14.2	20.6	73.2
	10 to 19	19	13.5	19.6	92.8
	20 or more	7	5.0	7.2	100.0
	Total	97	68.8	100.0	
Missing	System	44	31.2		
Total		141	100.0		

Mean of total new homes and total new revenues

		Total number of new homes closed during 2004 (or most recent fiscal year)	Total revenues from new homes closed during 2004 (or most recent fiscal year) in thousands $
N	Valid	124	109
	Missing	17	32
Mean		6.35	$2,625.39

Total number of new homes closed during 2004 (or most recent fiscal year)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	6.4	7.3	7.3
	2	24	17.0	19.4	26.6
	3	19	13.5	15.3	41.9
	4	16	11.3	12.9	54.8
	5	6	4.3	4.8	59.7
	6	8	5.7	6.5	66.1
	7	5	3.5	4.0	70.2
	8	2	1.4	1.6	71.8
	9	5	3.5	4.0	75.8
	10	11	7.8	8.9	84.7
	11	2	1.4	1.6	86.3
	12	6	4.3	4.8	91.1
	15	1	.7	.8	91.9
	17	1	.7	.8	92.7
	20	4	2.8	3.2	96.0
	22	1	.7	.8	96.8
	23	1	.7	.8	97.6
	24	1	.7	.8	98.4
	25	2	1.4	1.6	100.0
	Total	124	87.9	100.0	
Missing	System	17	12.1		
Total		141	100.0		