Towards using organizational measurements to assess corporate performance

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Abstract

Purpose – The purpose of this paper is to address the need for alternative measures of financial performance that can provide a real time indication of what is actually happening in organizations.

Design/methodology/approach – The paper describes the framework, the empirical research that has been conducted to assess its validity, and the measurement tools that have been developed.

Findings – The proposed model identifies the “key drivers” of organizational and financial success. However, if there is a lack of a sufficient fit between the level of “strategic development of an enterprise” and its) then there is disequilibrium. There are identifiable symptoms of this equilibrium or disequilibrium called “growing pains,” which can be measured by an instrument developed called “The Survey of Growing Pains.”

Practical implications – The proposed measures assess operational risk, which can be used under “Sarbanes-Oxley.” The framework and measurement tools have been used by differing companies in strategic planning and performance management. It provides an alternative concept of a “balanced scorecard.”

Originality/value – The paper’s contribution is in applying research from the field of organizational development to help develop a new set of measures for monitoring performance in real time.

Keywords Organizational development, Measurement, Accounting information, Organizational effectiveness

Paper type Research paper

The meta problem

At the most fundamental level this paper is part of a stream of research and theorizing about accounting and measurement that began to emerge in the last quarter of the last century of the previous millennium. This stream of research can be characterized by the broad label “behavioral accounting.” In that context, Human Resource Accounting was a form of “behavioral accounting,” and our late colleague Grojer was an important contributor to this field (Grojer and Johanson, 1991; Grojer, 1997).

The “meta message” of this field was that accounting had lost, at least in part, some of its relevance to the changing economic circumstances in which it now operated (Johnson and Kaplan, 1987). Grojer (1997) raised this question directly when he asked: “Does today’s accounting make sense?”[1].

This paper is dedicated to the author’s colleague and friend Grojer. Grojer was a true scholar and a warm and caring person. He has fond memories both of the intellectual and personal exchanges. He is honored to make this contribution to Grojer’s memory. As an intellectual pioneer, Grojer appreciated the exploratory efforts of others. He is sure Grojer would have made thoughtful constructive suggestions to improve this paper and it is his sincere hope that Grojer would have found it interesting and intellectually stimulating.
The final quarter of the last century saw the rise of several different attempts to recreate relevance in accounting. Inevitably, these “research and theoretical experiments” of which Human Resource Costing and Accounting was a very significant part, led accounting to the boundaries of questions and fields that were far from traditional accounting’s historical domain as a measurement discipline. Specifically, it led to investigations of questions of “organizational improvement” (Grojer, 1997) and “human resource management” (Grojer and Johanson, 1991) as well as the role of accounting in society (Hopwood, 1985), and not just measurement per se. These investigations were not intended as journeys into these fields for their own sake; rather, they were intended to provide the context for a “new accounting methodology” that would provide relevance and sense making in management and decision making.

This paper, written in honor of Grojer, continues this stream of research and experimentation. It is addressed to the failure of traditional accounting information to provide information that allows stewards and managers of organizations to be able to assess overall organizational performance in “real time.”

The immediate problem
It is well recognized that one of the critical problems facing organizations is to be able to assess overall organizational performance in “real time” so that decisions can be made and actions taken to correct emerging problems. This issue is critical both to management and boards of directors of publicly traded companies as well as to management and owners of privately held companies.

Unfortunately, traditional accounting information is not suitable for this purpose because of its historical (rear view mirror) nature. The solution has remained elusive. What is needed instead is a set of measures that can be collected periodically and used to identify emerging problems so that actions can be taken before these problems are reflected in financial statements.

In order to accomplish this objective, we need two things:

1. An organizational effectiveness model of a business that identifies the key drivers of financial results.
2. A set of measure that can be use to assess performance ex ante (before the fact) rather than ex post (after the fact).

During the past 20 plus years, I have been engaged in a program of research to develop both the theoretical foundation which explains corporate financial performance (identifies the drivers) and the set of measurement required to monitor and assess performance ex ante. This program has resulted in:

- an organizational effectiveness model that identifies the six key drivers of organizational success and financial performance;
- a series of empirical research studies that support the validity of this model; and
- a set of measurement tools which can be used by management and boards of directors as virtual “real time” tools to assess the direction of future performance.

In addition, this framework and tool set has also been applied in a significant number of companies of varying sizes, and in different industries.
**Purpose of paper**

This paper is addressed to the need for alternative measures of financial performance that can provide a real time indication of what is actually happening in organizations. The paper describes the framework, the empirical research that has been conducted to assess its validity, and the measurement tools that have been developed. Each of these three things will be described in turn.

*Overview, organization of the paper, and linkages*

This section provides a brief overview of the paper, its organization and linkages. The theoretical framework that provides the context for the proposed alternative measures of financial performance consists of three related parts:

1. an organizational effectiveness model;
2. a model of the stages of growth of organizations; and
3. a model of the disequilibrium created when there is a lack of sufficient “strategic development of an organization” appropriate to its stage of growth.

In brief, the proposed organizational effectiveness model identifies the “key drivers” of organizational and financial success. However, the relative importance of these key drivers changes according to the size of the company (its stage of growth). If there is a sufficient “fit” between the “level of strategic development of an enterprise” and its complexity (measured or identified in terms of its stage of growth) then there is equilibrium, and the organization is likely to be successful. However, if there is a lack of a sufficient fit between the level of “strategic development of an enterprise” and its complexity (measured or identified in terms of its stage of growth) then there is disequilibrium, and a reduced probability of success. There are identifiable symptoms of this equilibrium or disequilibrium called “growing pains.” The extent of these “growing pains” can be measured by an instrument developed called “The Survey of Growing Pains.”

The paper is organized as follows: first, we discuss all three parts of the theoretical framework that provides the context for the proposed alternative measures. Then we discuss the measurement tools, which have been developed to monitor performance in real time rather than through historical data. Next we discuss the practical application and uses of these proposed measurement tools.

**The organizational effectiveness model**

In previous research (Flamholtz, 1986, 1995, 2003) I have developed a model for organizational growth, which identifies six key drivers (or factors) of financial performance and organizational success[3]. In this developmental model (shown schematically in Figure 1), organizational “form” or architecture consists of six key components or “building blocks”: markets selected, products (including services), resources (including human capital) to support growth, operational systems, management systems, and culture. The first two of these variables (markets and products) relate to the particular business the organization is in, while the last four comprise what might be termed “organizational infrastructure,” and constitute a type of intellectual capital[4]. One of the key components of “infrastructure” is corporate culture. This is a part of what has conventionally been termed “goodwill”[5].
These six variables are simultaneously strategic building blocks of organizational and drivers of financial performance[6]. A series of empirical research studies (discussed below) have tested and confirmed that there are statistically significant relationships between these variables and financial performance and that therefore the model has predictive validity.

These six critical tasks in what have been termed (Flamholtz, 1986, 1995) a “pyramid of organizational development” (shown in Figure 2), suggesting that these tasks must be performed in a stepwise fashion in order to build a successful organization. In fact, the six key tasks making up the pyramid must all be developed individually and as a system, for the organization to function effectively and increase its chance of long-term success.

**Empirical research on predictive validity and financial performance**

During the past several years, my colleagues and I have conducted a program of research designed to test this model. There is a growing body of empirical evidence which provides support for the proposed theoretical framework and the financial performance of organizations.

**The six factor model and financial performance**

Several studies have tested the empirical relationship between the proposed six factor model and various measures of financial performance including gross margin, earnings before interest and taxes (EBIT), and return on investment (ROI). This research is summarized below in chronological order.

**The model and ROI.** Flamholtz and Aksehirli (2000) empirically tested the proposed link between the organizational development model and the financial success of organizations measured in terms of ROI. They analyzed financial and non-financial information relevant to the hypothesized model for eight pairs of companies in different industries, and found a statistically significant relationship. The $R^2$ for this model was found to be 0.39 at a significance level of 0.01.

**The model and EBIT.** Flamholtz and Hua (2002a) provided additional empirical evidence of the hypothesized link between the organizational development model and financial performance. They reported the results of a test within a single firm, using a set of 15 relatively comparable divisions, and found a statistically significant relationship between the six factors model and EBIT. The $R^2$ for this model was found to be 0.55 at

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**Figure 1.**
Six key drivers of financial results or “building blocks” of organizational performance success

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<table>
<thead>
<tr>
<th>Resources</th>
<th>Products</th>
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</tr>
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<td>Operational systems</td>
<td>Corporate culture</td>
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Financial performance
a significance level of 0.01[7]. They also identified thresholds of strategic organizational development for profitability of individual companies or operating units.

A component of the model (culture) and EBIT. One of the six factors included in the model is corporate culture. Flamholtz (2001) provided empirical evidence of the hypothesized link between corporate culture and financial performance. He reported a test of this relationship within a single firm, using a set of 18 comparable divisions. He found a statistically significant relationship between culture and financial performance. The $R^2$ for this model was found to be 0.46 at a significance level of 0.05.

Flamholtz and Kurland (2005) have replicated and extended the study by Flamholtz and Hua (2002a). The prior research was replicated with similar results in an independent research site in a different industry (financial services). Using a set of seven relatively comparable divisions, Flamholtz and Kurland (2005) reported the results of a test within a single firm. The former study by Flamholtz and Hua used EBIT as the measure of financial performance while the study by Flamholtz and Kurland used gross margin as the measure. They found a statistically significant relationship between the six key variables contained in the pyramid and financial performance, measured in terms of gross margin.
The $R^2$ for this model was found to be 0.735 at a significance level of 0.02. They also found that a statistically significant relationship between the variables that are hypothesized to comprise an organization’s infrastructure (the top four variables in the pyramid) and financial performance[8]. The $R^2$ for this model was found to be 0.886 at a significance level of 0.01.

Implications of the empirical research
The most profound implication of the empirical research is that the model has demonstrated predictive validity with respect to financial performance. This suggests that the model’s variables can be used to create a set of measurement tools which can be used by management and boards of directors as virtual “real time” tools to assess the direction of future performance. This is central to the overarching purpose of this paper.

Another more subtle implication concerns the components of the six factors. Three of them comprise a form of intellectual capital: operational systems, management systems, and corporate culture. These are the top three variables in the pyramid of organizational development[9]. This suggests that these three drivers of financial performance are critical aspects of organizational success, but do not appear in traditional financial statements such as balance sheets. These intellectual assets are invisible to all but the most intimately familiar with organizational functioning.

The organizational effectiveness model at different stages of growth
In this section, I shall describe the model at different stages of organizational growth. This discussion provides the foundation for a later examination of measures of organizational performance that can be used as leading indicators of financial performance.

The identification of stages of growth is important because the degree of “strategic development of an organization” must match or fit the requirements of its particular stage of growth. If not, as explained below, the organization will experience a variety of “growing pains,” which are in turn a leading indicator of a future decline in financial performance.

Under this model of the key drivers or factors of organizational success and financial performance, the challenge of building an organization is to create the appropriate combination of these six key variables or building blocks for the stage of growth an organization is currently in. Operationally, the problem is to create the appropriate design for the organization, given its stage of growth. In other words, successful organizational development depends, to a great extent, on the organization’s ability to create the internal systems, structure, processes, and design needed to support the size that it has become.

As a part of the theoretical framework which has been developed, we have identified seven key stages of organizational growth as well as the relative emphasis upon each of the six factors which it required at each stage.

The emphasis that should be given to each task differs depending upon the size of the organization – that is, the stage of growth.

The stages of growth and their related critical development areas, as well as the approximate size (measured in millions of dollars of sales revenues) at which an organization can be expected or should scale-up to the next stage is shown in Table I. The numbers shown in Table I were initially developed by the analysis of a set of case studies of actual individual companies. As explained below, the predictive validity of these numbers was tested empirically by Randle (1990).
Long-term success depends on the extent to which the organization’s design (defined in terms of these six critical success factors) “fits” with its size. In other words, successful scale-up depends on the extent to which the organization has developed a design consistent with its size.

**Empirical support for hypothesized stages**
Randle (1990) provided empirical evidence that the stages of growth occur when predicted in terms of organizational size or revenues. She studied the evolution of the entire personal computer industry from the formation of new ventures until the industry “shakeout,” and confirmed that the stages occurred when predicted.

Randle (1990) also provided evidence that firms with “organizational forms” that are adapted to the requirements of their size have a higher probability of success, and vice versa.

**Organizational development equilibrium and disequilibrium**
If the organization is able to achieve the necessary design and changes in structure, systems, and management focus before it reaches a particular stage (as indicated by its size), it will not experience problems or problems will be minimized. It will be in equilibrium. However, this happens very seldom.

**Organizational growing pains**
The lack of “fit” between size or stage of growth and the extent of organizational development leads to problems, which can be termed “organizational growing pains.” As we shall discuss, growing pains are important because they are a leading indicator of expected future declines in financial performance. First, we need to understand the nature and cause of the growing pains, and then we will discuss their measurement and financial significance.

When an organization has not effectively developed the systems, structures, and processes needed to support its size, it will begin to experience what Flamholtz (1986, 1995) calls “growing pains.” Growing pains are symptoms that the organization has not yet made the successful transition (defined in terms of having the appropriate organizational design) to its current stage of development (defined in terms of revenue). In brief, growing pains indicate that the organization has not successfully scaled up (developed the required infrastructure to support its current stage of growth) and that it is in need of doing so.

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These growing pains indicate that change is needed if the organization is to continue operating effectively and thus reduce the likelihood of failure. They are also an indication of a lack of successful organizational development. If, for example, a company does not focus on developing the systems needed to support its operations at $10-$100 million in annual revenues, it will in essence still be operating as a birth stage organization even though its size (and growth) is consistent with the growth stage. This will place it at risk of failure (Flamholtz, 1986; Flamholtz and Randle, 1987). Life cycle theorists, then, suggest that success depends on the ability of managers to recognize and make the necessary changes in organizational form at the appropriate time (Flamholtz and Randle, 2007).

Through a combination of research and practical organizational experience, I (Flamholtz, 1986, 1995) have identified a set of the most common growing pains:

- People feel that “there are not enough hours in the day”.
- People are spending too much time “putting out fires”.
- People are not aware of what others are doing.
- People lack an understanding about where the firm is headed.
- There are too few good managers.
- People feel that, “I have to do it myself if I want it done correctly”.
- Most people feel that meetings are a waste of time.
- When plans are made, there is very little follow-up, so things just don’t get done.
- Some people have begun to feel insecure about their place in the firm.

*Nature and causes of organizational growing pains*

Growth, though essential to organizations over the long-term, creates its own set of problems: the growing pains described above. These growing pains are symptoms that something has gone wrong in the growth and development of a business enterprise. They are a symptom of organizational distress, and an early warning or leading indicator of future organizational difficulties, including financial difficulties.

Growing pains indicate that the “infrastructure” of an enterprise (i.e. the resources, internal operational and management systems and culture it needs at a given stage of growth) has not kept up with its size, as measured by its revenues. Stated differently, it means that scale-up has not been successful. For example, a business with $200 million (USA) in revenues may only have an infrastructure to support the operations of a firm with $50 million in revenues, or one-fourth its size. This type of situation typically occurs after a period of growth, sometimes quite rapid growth, where the infrastructure has not been changed to adjust to the new size and complexity of the organization. The result, as shown in Figure 3 is an “organizational development gap,” (that is, a gap between the organization’s actual infrastructure and that required at its current size or stage of development) which produces the growing pains.

The severity with which an organization experiences these growing pains indicates the extent to which it is experiencing problems scaling up (to the next stage of development). When these growing pains are extreme, the organization is in jeopardy of failing if it does not take the steps needed to develop the systems, processes, and design needed to take it fully into the next stage of growth (i.e. have a design that “fits” with its size).
Organizational disequilibrium, growing pains, and financial performance
Flamholtz and Hua (2002b) presented an empirical test of the hypothesized relationship between organizational growing pains and financial performance. They found a statistically significant relationship. The adjusted $R^2$ for this model was found to be 0.54 at a significance level of 0.01.

In addition, they identified evidence that there appear to be threshold levels of growing pains which might be used to predict which organizations are likely to be profitable and versus those that are unlikely to be profitable.

Flamholtz and Kurland (2005) have replicated the study by Flamholtz and Hua (2002b). Their overall results were not statistically significant at the standard 0.05 level but were statistically significant at 0.07[10]. However, regressions of the individual variables comprising the infrastructure indicated that there was a statistically significant relationship between the variable resources and growing pains. All of the divisions were experiencing rapid growth. This finding suggests that those which had the greater resources (including people, financial, and other resources) were better able to manage their growing pains.

Measurement tools to monitor performance
During the past two decades, I have been engaged in a program of research and development to create measurement tools based upon the framework described above. The intent of this research has been to produce measurement tools that facilitate the management and monitoring of organizational performance in real time rather than through historical data. This effort has produced two related validated surveys which have demonstrated “predictive validity” to financial performance[11]. These surveys are:

(1) The “Survey of Organizational Effectiveness”™.
(2) The organizational Growing Pains Survey™.

Measurement of organizational growing pains
The organizational Growing Pains Survey™ is, as the name implies, a technique for the measurement of organizational growing pains, Flamholtz, 1986). The survey has been validated (Kannan-Narasimhan and Flamholtz, 2006)[12].

![Figure 3. Organizational development gap and growing pains](image-url)
Measurement of organizational effectiveness
The Organizational Effectiveness Survey measures the extent to which an organization has developed the key strategic building blocks needed to support its growth and/or stage of development. In brief, this questionnaire identifies an organization’s strengths and vulnerabilities with respect to each of the key dimensions included in the pyramid of organizational development, plus financial results management. Financial results is the ultimate measure of a company’s success and is, therefore, included as a critical success factor in this instrument.

This instrument consists of 65 items, with each item focused on one of the levels in the pyramid of organizational development. The components of the pyramid’s six key variables is shown in Table II. Respondents are asked to indicate the extent to which each item reflects their organization in its current state using a five-point Likert scale. This instrument has been validated both in terms of the content and reliability of the questionnaire items.

Practical applications of tools
The measurement tools which have been developed have a variety of applications, both for monitoring external financial as well as for internal managerial use.

Measures of organizational and operational risk
Under the US securities law known as “Sarbanes-Oxley,” companies need to monitor operational risk. The proposed measures can provide a measure of operational risk.

Our current thinking is that these measures ought to be collected by and independent third part as part of an organizational audit or assessment. They would then be reported to management and the Board of Directors of public and private companies.

<table>
<thead>
<tr>
<th>Markets</th>
<th>Clearly identifying the customer that the company wants to serve and developing systems that allow the company to track customer needs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products/services</td>
<td>Developing products and/or services to meet the needs of the customers that the company wishes to serve.</td>
</tr>
<tr>
<td>Resources</td>
<td>Acquiring and effectively managing the resources – human, technological, physical, and financial – needed to support the long-and short-term development of the company.</td>
</tr>
<tr>
<td>Operational systems</td>
<td>Developing, implementing, and successfully managing the systems needed to support the company’s day-to-day operations (e.g., information systems, accounting, human resources management, communication, production, sales, marketing, etc.).</td>
</tr>
<tr>
<td>Management systems</td>
<td>Developing, implementing, and successfully managing the systems needed to support the company’s long-term development (planning, performance management, organizational structure, and management development).</td>
</tr>
<tr>
<td>Corporate culture</td>
<td>Having a well-defined and communicated corporate culture and having systems in place to promote behavior consistent with the values, beliefs, and norms of the company (which support the achievement of the company’s long-term goals).</td>
</tr>
</tbody>
</table>

Table II.
Components of pyramid of organizational development
Measures as leading indicators of financial performance

Just as the US Federal Reserve and economists use. The university of Michigan’s Survey of Consumer confidence as a leading indicator of economic growth to monitor economic trends and perforce, these measures can be uses as leading indicators of the direction of corporate financial performance.

Managerial uses

The framework and related measurement tools have been used by a significant number of widely differing companies over a period of more than 20 years. The uses include: strategic planning and performance management. Some of these applications have been previously reported (Kurland and Flamholtz, 2005; McGee and Flamholtz, 2005; Nayar and Flamholtz, 2005).

Other implications: next generation of the balanced scorecard

This framework and related tools set has significant implications for the so-called balanced scorecard. As discussed previously in Flamholtz (2003), the Kaplan-Norton version of the balanced scorecard has not been supported by previous empirical research. It relies upon “face validity.” The framework presented here provides an alternative or next generation to the generic concept of a “balanced scorecard,” but one that has been supported by empirical research and validation testing.

Conclusion

This paper is addressed to the need for alternative measures of financial performance that can provide a real time indication of what is actually happening in organizations. It has described a framework that provides the context for these alternative measures and related empirical research. The results are promising in their capability to provide measures, which might complement traditional financial account information. Although the problem has not been fully resolved, this paper points in a promising direction and makes some progress toward its ultimate resolution.

We have also shown how this research is related to the broad research stream that developed in the last quarter of the last century of the previous millennium as well as to some of the research and thinking of Grojer, who was a major player in that movement towards an alternative paradigm of accounting. Grojer had the perspective to understand and appreciate this research. I hope it is worthy of his memory.

Notes

1. This was the opening section heading of his paper (1997) dealing with “Employee artifacts on the balance sheet.”
2. The “level of strategic development of an enterprise” can be measured as explained in a subsequent section.
3. We will describe empirical support for this model and set of variables in a subsequent section.
4. The top three variables are all forms of intellectual capital: operational systems, management systems, and culture. The variable “resources” include human capital and technology but also financial resources, so it is a hybrid form of intellectual and financial capital.
5. Grojer recognized that human assets could be viewed as a part of goodwill (Grojer, 1997, pp. 29-34).
6. This model has been proposed as an alternative to the variables used in the so-called “balance scorecard” (Flamholtz, 2003).

7. Actually, the level of significance was an astounding 0.0003.

8. The variables comprising infrastructure include; resources, operational systems, management systems, and culture.

9. Another variable (resources) includes components of intellectual capital: human capital and technology.

10. Adjusted $R^2$ was significant at 0.07. The sample size for this paper was relatively small ($n = 6$); it was considerably larger in the prior Flamholtz Hua (2002a) study. As a result this relationship requires further investigation.

11. They have demonstrated a statistically significant relationship between the survey scores and key measures of financial performance, including gross margin, EBIT, and ROI.


References


Further reading


About the author
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