Decentralization, Performance Measurement, and Balanced Scorecard

Joseph Y. Ugras, Ph.D., CMA
Why decentralize?

Advantages and Disadvantages

Environment of the Firm
- Lawrence and Lorsch “Contingency Theory”
  - Complex and uncertain environments require decentralized structures
- Burns and Stalker “Mechanistic vs. Organistic Form” supports the evidence in L & L study

Information Specialization

Response Time

Conservation of Central Management

Complexity of Decisions

Training of Local Managers

Motivation
Benefits of Decentralization

- Top management freed to concentrate on strategy.
- Lower-level decisions often based on better information.
- Lower-level managers can respond quickly to customers.
- Lower-level managers gain experience in decision-making.
- Decision-making authority leads to job satisfaction.
Disadvantages of Decentralization

May be a lack of coordination among autonomous managers.

Lower-level managers may make decisions without seeing the “big picture.”

Lower-level manager’s objectives may not be those of the organization.

May be difficult to spread innovative ideas in the organization.
# Responsibility Centers and Performance Measures

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<th>Responsibility Center:</th>
<th>Key Financial Performance Measure:</th>
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## Responsibility Centers and Performance Measures

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<td>Budget vs. Actual Revenues</td>
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<tr>
<td>Profit Centers</td>
<td>Profitability</td>
</tr>
<tr>
<td>Investment Centers</td>
<td>ROI or RI (EVA)</td>
</tr>
</tbody>
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Return on Investment (ROI) Formula

\[
\text{ROI} = \frac{\text{Net operating income}}{\text{Average operating assets}}
\]

- Income before interest and taxes (EBIT)
- Cash, accounts receivable, inventory, plant and equipment, and other productive assets.
Understanding ROI

ROI = \frac{\text{Net operating income}}{\text{Average operating assets}}

Margin = \frac{\text{Net operating income}}{\text{Sales}}

Turnover = \frac{\text{Sales}}{\text{Average operating assets}}

ROI = \text{Margin} \times \text{Turnover}
Increasing ROI - An Example

Regal Company reports the following:

Net operating income $ 30,000
Average operating assets $ 200,000
Sales $ 500,000
Operating expenses $ 470,000

What is Regal Company’s ROI?

\[
\text{ROI} = \frac{\text{Net operating income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average operating assets}}
\]
Increasing ROI - An Example

**ROI = Margin × Turnover**

\[
\text{ROI} = \frac{\text{Net operating income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average operating assets}}
\]

\[
\text{ROI} = \frac{$30,000}{$500,000} \times \frac{$500,000}{$200,000}
\]

\[
\text{ROI} = 6\% \times 2.5 = 15\%
\]
Assume that Regal's manager invests in a $30,000 piece of equipment that increases sales by $35,000, while increasing operating expenses by $15,000.

Regal Company reports the following:

- Net operating income: $50,000
- Average operating assets: $230,000
- Sales: $535,000
- Operating expenses: $485,000

Let’s calculate the new ROI.
Investing in Operating Assets to Increase Sales

**ROI = Margin × Turnover**

\[
\text{ROI} = \frac{\text{Net operating income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Average operating assets}}
\]

\[
\text{ROI} = \frac{$50,000}{$535,000} \times \frac{$535,000}{$230,000}
\]

\[
\text{ROI} = 9.35\% \times 2.33 = 21.8\%
\]

ROI increased from 15% to 21.8%.
Residual Income - Another Measure of Performance

Net operating income above some minimum return on operating assets
Calculating Residual Income

\[
\text{Residual income} = \text{Net operating income} - \left( \frac{\text{Average operating assets} \times \text{Minimum required rate of return}}{ } \right)
\]

This computation differs from ROI.

ROI measures net operating income earned relative to the investment in average operating assets.

Residual income measures net operating income earned less the minimum required return on average operating assets.
Residual Income - An Example

- The Retail Division of Zephyr, Inc. has average operating assets of $100,000 and is required to earn a return of 20% on these assets.
- In the current period, the division earns $30,000.

Let’s calculate residual income.
Residual Income - An Example

Operating assets $100,000
Required rate of return × 20%
Minimum required return $20,000

Actual income $30,000
Minimum required return (20,000)
Residual income $10,000
Divisional Comparisons and Residual Income

The residual income approach has one major disadvantage. It cannot be used to compare the performance of divisions of different sizes.
### Recall the following information for the Retail Division of Zephyr, Inc.

<table>
<thead>
<tr>
<th>Operating assets</th>
<th>Retail</th>
<th>Wholesale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$100,000</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

### Assume the following information for the Wholesale Division of Zephyr, Inc.

<table>
<thead>
<tr>
<th>Required rate of return</th>
<th>20%</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum required return</td>
<td>$20,000</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

### Actual income

<table>
<thead>
<tr>
<th>Retail</th>
<th>Wholesale</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30,000</td>
<td>$220,000</td>
</tr>
</tbody>
</table>

### Minimum required return

<table>
<thead>
<tr>
<th>Retail</th>
<th>Wholesale</th>
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<tr>
<td>(20,000)</td>
<td>(200,000)</td>
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</table>

### Residual income

<table>
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<tr>
<td>$10,000</td>
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The residual income numbers suggest that the Wholesale Division outperformed the Retail Division because its residual income is $10,000 higher. However, the Retail Division earned an ROI of 30% compared to an ROI of 22% for the Wholesale Division. The Wholesale Division’s residual income is larger than the Retail Division simply because it is a bigger division.

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<td>Residual income</td>
<td>$10,000</td>
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</table>
Let us practice ---
The Magnetic Imaging Division
Problem
Let us practice ---
Billings Company’s Office
Products Problem
Non-Financial Productivity Measurement Examples
Process time is the only value-added time.
Delivery Performance Measures

Manufacturing Cycle Efficiency = \frac{\text{Value-added time}}{\text{Manufacturing cycle time}}
Let us Practice ---
Mittel Rhein AG of Köln Problem
Let us Practice ---
DataSpan, Inc. Problem
Performance Measurement Issues in Decentralized Units

“Decentralized Responsibility with Centralized Control”

What is the goal?

Issue with Goal Congruence? Unit vs Firm

Which financial goals are appropriate? What about including other measures?

Development of a Matrix / Balanced Score Card
Let us Practice

Mason Paper Company
Strategic Objectives and Performance Measures through a Balanced Scorecard

Joseph Ugras, Ph.D., CMA
Why do we need a balanced scorecard?

- Need for mix of Financial and Non-financial Measures
- Many organizations have both
- Multiple measures can be ambiguous and can lead to confusing and often conflicting signals
- “Translate the Vision to Strategic Objectives and Measures” which can be understood by the front-line
The Balanced Scorecard

Management translates its strategy into performance measures that employees understand and accept.

- Financial
- Customers
- Internal business processes
- Learning and growth

Performance measures
The Balanced Scorecard

- How do we look to the owners?
- In which internal business processes must we excel?
- How can we continually learn, grow, and improve?
- How do we look to customers?
The Balanced Scorecard

Learning improves business processes.

Improved business processes improve customer satisfaction.

Improving customer satisfaction improves financial results.
Balanced Scorecard at a Glance

**Vision and Strategy**
- What are our financial goals?
- What customers do we want to serve and how are we going to win and retain them?
- What internal business processes are critical to providing value to customers?

**Performance Measures**

**Financial**
- “Has our financial performance improved?”

**Customer**
- “Do customers recognize that we are delivering more value?”

**Internal Business Processes**
- “Have we improved key business processes so that we can deliver more value to customers?”

**Learning and Growth**
- “Are we maintaining our ability to change and improve?”
Robert Paladino served as the vice president and global leader of the Telecommunications and Utility Practice for the Balanced Scorecard Collaborative—a consulting organization that works with companies to implement balanced scorecards. He offers four reasons why nine out of ten organizations fail to execute their business strategies.

1. Only 5% of a company’s workforce understands their organization’s strategy.
2. 85% of management teams spend less than one hour per month discussing strategy.
3. 60% of organizations do not link their budgets to strategy.
4. Only 25% of managers have their incentives linked to strategy.

Paladino says the balanced scorecard overcomes these four barriers because it helps employees focus their actions on executing organizational strategies.
Jaguar Posibility

• Suppose, that Jaguar’s strategy is to offer distinctive, richly finished luxury automobiles to wealthy individuals who prize handcrafted, individualized products.

• For customer intimacy, a value proposition is considered to its wealthy target customers: create a large number of options for details, such as leather seats, interior and exterior color combinations, and wooden dashboards, that each car becomes virtually one of a kind.

• For example, instead of just offering tan or blue leather seats in standard cowhide, the company may offer customers the choice of an almost infinite palette of colors in any of a number of different exotic leathers. For such a system to work effectively, Jaguar would have to be able to deliver a completely customized car within a reasonable amount of time—and without incurring more cost for this customization than the customer is willing to pay.
The Balanced Scorecard — Jaguar Example

Financial

Customer

Internal Business Processes

Learning and Growth

Profit

Contribution per car

Number of cars sold

Customer satisfaction with options

Number of options available

Time to install option

Employee skills in installing options
The Balanced Scorecard — Jaguar Example

Strategies

- Increase Options
- Increase Skills

Results

- Satisfaction Increases
- Time Decreases

Profit

Contribution per car

Number of cars sold

Customer satisfaction with options

Number of options available

Time to install option

Employee skills in installing options

Increase Options

Number of options available

Time to install option
The Balanced Scorecard — Jaguar Example

- Employee skills in installing options
  - Number of options available
  - Time to install option
  - Contribution per car
    - Number of cars sold
      - Customer satisfaction with options
        - Satisfaction Increases
        - Results
          - Cars sold Increase
The Balanced Scorecard — Jaguar Example

Results

Profit

Contribution per car

Number of cars sold

Customer satisfaction with options

Number of options available

Time to install option

Employee skills in installing options

Contribution Increases

Satisfaction Increases

Time Decreases
The Balanced Scorecard ─ Jaguar Example

If number of cars sold and contribution per car increase, profit should increase.

Results
- Profits Increase
- Contribution Increases
- Cars Sold Increases

Profit
- Contribution per car
  - Number of cars sold
    - Customer satisfaction with options
      - Number of options available
      - Time to install option
        - Employee skills in installing options

If the number of cars sold and contribution per car increase, profits should increase.
What to measure?

- The measures need to be tied to business strategy
- Lagging measures report how well the organization’s strategy has worked in the past period but provide little guidance on how to navigate in the future
- Need to have leading measures tied to strategy
• Traditional approach to use performance measures to control behavior and to evaluate past performance - lagging indicators

• New measures used to communicate the business strategy, and to help align individual, organizational, and cross departmental initiatives to achieve a common goal.
Business or Segment Strategies

- Growth
- Sustain
- Harvest
Growth

early stage of life cycle; considerable investment in infrastructure, distribution networks to support global relationships, and to nurture and develop customer relationships...etc.

• Examples:
Majority of the companies - still attract investment, but are required to earn excellent returns. Expected to maintain their market share and perhaps grow it.
Harvest

- Mature phase of the life cycle and need to harvest the investments made in earlier stages
- No need for major investments
- Cash flow back to the organization
Balanced Scorecard Perspectives

- Financial
- Customer
- Internal Business Process
- Learning and Growth
Financial Themes

• ROE, EVA, Operating Income
• Revenue Growth and Mix
  – expand product and service offerings, reaching new customers and markets, changing the product/service mix, … etc
• Cost Reduction / Productivity Improvement
• Asset Utilization / Investment Strategy
Examples of Financial Measures for Different Strategies

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<td>Working capital ratios; Asset utilization rates;</td>
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<td>Unit costs (per transaction)</td>
<td>Payback; Throughput;</td>
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Mobil in 1980s:

- A Case on Strategy Development & Implementation, Performance Measures that connect to the Business Strategy and Connecting the Business Strategy to Reward Systems
Gasoline Buyer Segments

- Road Warriors (16%)
- True Blues (16%)
- Generation F3 - F3 food fuel fast - (27%)
- Homebodies (21%)
- Price Shoppers (20%)
Customer Perspective

• Market share
  – Percent of sales from new products/customers
  – Percent of sales from proprietary product
  – Key accounts, segments

• On-time delivery

• Customer satisfaction / retention

• “Mystery Shopper” by MOBIL
Bain & Company consultant Fred Reichheld recommends measuring customer loyalty with one question—“On a scale of 0 to 10, how likely is it that you would recommend us to your friends and colleagues?” Customers who choose a score of 9 or 10 are labeled promoters. Those who choose a score of 0 to 6 are categorized as detractors, while those who select 7 or 8 are deemed passively satisfied. The net promoter score measures the difference between the percentages of customers who are promoters and detractors. Reichheld’s research suggests that changes in a company’s net promoter score correlate with (or move in tandem with) changes in its sales.
Net Promoter Scoring

• General Electric’s Healthcare Division used net promoter scores to determine 20% of its managers’ bonuses. The metric was eventually rolled out to all General Electric divisions.

• Other adopters of the net promoter score include American Express, consulting firm BearingPoint, and software maker Intuit.
Internal Business Perspectives

- Manufacturing excellence
  - cycle time
  - unit cost
  - yield
- New product introduction
- Response time
- Inventory Management
- Quality
- Safety
Innovation and Learning

• Systems
  – Technology Leadership
  – availability of real-time information

• Employee-based measures
  – satisfaction, retention, training, and skills

• Organizational procedures
  – alignment of incentives
Financial Scores - Mobil

- Return on Capital
- Cash Flow
- Profitability
  - P & L after tax
  - Net Margin (cents per gallon pre-tax)
  - Net Margin Ranking
- Cost
  - Total Operating Expenses (cents per gallon)
- Meet Profitable Growth Targets
  - Volume Growth
    - Retail, Trade, Lubes
Customer Scores - Mobil

- Continually Delight the Targeted Customer
  - Share of Segment %
    - % of Road Warriors
    - % of True Blues
    - % of Generation F3’s
  - Mystery Shopper
- Improve the profitability of our partners
  - Total Gross Profit, Split
Internal Scores - Mobil

- Improve Environment, Health, Safety
  - Safety Incidents
  - Environmental Incidents
- Alt. Profit Centers Gross Margin/Store/Month
- Lower Manufacturing Costs
  - Refinery ROCE and Expense
- Improve Hardware Performance
  - Refinery Reliability and Yield Indices
- Laid Down Cost
- Inventory Management
  - Product Availability Index, Inventory Level
- Quality Index
Learning and Growth Scores

- Organizational Involvement
  - Climate Survey Index
- Core Competencies and Skills
- Access to strategic Information
THE WELLNESS SCORECARD

- Health care spending per employee now exceeds $10,000. However, companies that have implemented high-performing corporate wellness programs have experienced significant annual less health care costs.

- The **wellness scorecard** is one framework for measuring corporate wellness performance. Four categories of measures—attitudes, participation, physical results, and financial results—that are connected on a cause-and-effect basis. If employee attitudes toward the company’s wellness program improve, then it should increase the rate of employee participation in wellness activities. If employees increase their participation rates, then it should produce physical results, such as lower obesity rates, lower incidents of diabetes, and increased smoking cessation rates. These physical improvements should produce positive financial results for the company, such as lower medical, pharmaceutical, and disability disbursements.
<table>
<thead>
<tr>
<th>Customer Perspective</th>
<th>Desired Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Measure</td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction as measured by survey results</td>
<td>+</td>
</tr>
<tr>
<td>Number of customer complaints</td>
<td>-</td>
</tr>
<tr>
<td>Market share</td>
<td>+</td>
</tr>
<tr>
<td>Product returns as a percentage of sales</td>
<td>-</td>
</tr>
<tr>
<td>Percentage of customers retained from last period</td>
<td>+</td>
</tr>
<tr>
<td>Number of new customers</td>
<td>+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal Business Processes Perspective</th>
<th>Desired Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Measure</td>
<td></td>
</tr>
<tr>
<td>Percentage of sales from new products</td>
<td>+</td>
</tr>
<tr>
<td>Time to introduce new products to market</td>
<td>-</td>
</tr>
<tr>
<td>Percentage of customer calls answered within 20 seconds</td>
<td>+</td>
</tr>
<tr>
<td>On-time deliveries as a percentage of all deliveries</td>
<td>+</td>
</tr>
<tr>
<td>Work in process inventory as a percentage of sales</td>
<td>-</td>
</tr>
<tr>
<td>Unfavorable standard cost variances</td>
<td>-</td>
</tr>
<tr>
<td>Defect-free units as a percentage of completed units</td>
<td>+</td>
</tr>
<tr>
<td>Delivery cycle time</td>
<td>-</td>
</tr>
<tr>
<td>Throughput time</td>
<td>-</td>
</tr>
<tr>
<td>Manufacturing cycle efficiency</td>
<td>+</td>
</tr>
<tr>
<td>Quality costs</td>
<td>-</td>
</tr>
<tr>
<td>Setup time</td>
<td>-</td>
</tr>
<tr>
<td>Time from call by customer to repair of product</td>
<td>-</td>
</tr>
<tr>
<td>Percent of customer complaints settled on first contact</td>
<td>+</td>
</tr>
<tr>
<td>Time to settle a customer claim</td>
<td>-</td>
</tr>
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</table>

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<td>Performance Measure</td>
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</tr>
<tr>
<td>Suggestions per employee</td>
<td>+</td>
</tr>
<tr>
<td>Employee turnover</td>
<td>-</td>
</tr>
<tr>
<td>Hours of in-house training per employee</td>
<td>+</td>
</tr>
</tbody>
</table>
Let us Practice ---

Lost Peak ski resort
Let us Practice ---

Ariel Tax Services
Let us Practice ---

Haglund Department Store
Tying Compensation to the Balanced Scorecard

• Yes but ….
• Should be done only after the organization has been successfully managed with the scorecard for some time—perhaps a year or more.
• Managers must be confident that the performance measures are reliable, sensible, understood by those who are being evaluated, and not easily manipulated.
• “You have to be pretty confident that you have the right measures and have good data for the measures before making the link.”
• Sears Example
Agency Theory

- How should we reward?
- Agency Theory – Principal and Agent
- Rewards – What amount of Risk / Short vs Long-Term Orientation / Financial vs Non Financial / Group or Individual / What amount of the pay should be based on performance?/
- Agency Cost
- Moral Hazard Problem / Inability of the Principal to monitor the agent
- Should Rewards be based on Accounting Measures or Market Measures?
- Reward overall performance or units’ performance
Some Further Reading