A Performance Measurement Case for Managerial Accounting

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ABSTRACT

This instructional case is designed to develop students' understanding of strategic performance measurement concepts. Case requirements ask students to interpret operating results, evaluate a current performance measurement system, and then construct a balanced scorecard for the company described in the fictitious case narrative. The case is appropriate for MBA and upper-level undergraduate accounting students.

LEARNING OBJECTIVES

The specific learning objectives for the case are to develop students' ability to:

1. Analyze standard cost variance results and deduce likely causes.
2. Analyze changes in non-financial operating measures and deduce likely causes.
3. Understand the importance of aligning performance measurement with organizational vision and strategy.
4. Apply balanced scorecard concepts to evaluate an existing performance measurement system.
5. Understand the potential benefits of the balanced scorecard approach to performance management.
6. Articulate an organization's business vision and strategy and construct a balanced scorecard based thereon.
7. Effectively communicate the results of an analysis in professional written form.

THE MASQUERADE MASQUE COMPANY[1]

Case Abstract

This case is designed to help you develop a working understanding of strategic performance measurement and the use of the balanced scorecard framework for managerial purposes. The case narrative describes a business scenario and a problematic performance measurement system. The case requirements ask you to apply performance measurement concepts to interpret production results, evaluate the company's current performance measurement system, discuss the applicability of the balance scorecard framework for improving the current performance measurement system, construct a balanced scorecard for the company, and then effectively communicate the results of your analysis, evaluation, and recommendations in the form of a professional written memo.

[1] Alternative case materials based on an alternative case scenario are presented in Appendix A.

Case Narrative

The Masquerade Masque Company produces high quality costumes and theatrical props for theatrical and movie productions. Masquerade started out as the hobby of an eccentric artist, Erasmus Raven. Erasmus' peculiar hobby budded into a small family-owned company that made and sold hand-detailed Halloween and Mardi Gras masks and faces. Masquerade, set apart by a strong positive rapport with its customers, a long-standing reputation for quality and service, and the company's unique product offering, soon found itself a very small company in an intensely competitive holiday novelty market characterized by high volume, low cost manufacturers. Over time, in response such competitive pressures and customer needs, the company has grown and diversified its product offering; and recently, the company has expanded into the custom (to-order) production of professional props, scene creation, costumes, masks, and special effects to serve its small but diverse customer base. Additionally, the company has begun to incorporate computer technology into its design creation function and is now considering expansion into the arena of computer animation and visual effects.

Erasmus has become concerned with maintaining control over operations central to the company's competitiveness and well-being; recently he has expressed a desire to improve performance measurement within the mask division. The mask division manufactures latex masks and faces for decorative use, holiday costumes (such as Halloween and Mardi Gras), and professional theatrical props (for theatrical and movie productions); holiday masks and festival faces were among the first product offerings of the company and remain a core aspect of Masquerade's business. Masquerade's masks are known for their superior theatrical quality and attention to detail as well as their reasonable price.

The masks are made from a high quality rubber latex compound that is sprayed onto a plaster cast by high precision machinery. The company maintains a minimal inventory policy and as such, raw materials are generally purchased as needed to fill standard and custom orders and finished orders/products are normally shipped out as soon as they are completed. Original plaster cast templates are sculpted by hand by skilled employees for detail and made into molds; molds are then inspected for quality before they are used to make production casts. Production casts are reproduced as needed using the molds. Approximately 5 masks can be made with each production cast; if too many masks are made with any one production cast, the detail is lost due to the softness of the casting material (necessary to create lifelike skin texture and detail). Once the masks are removed from the production cast, they are meticulously detailed by individual employees with paint, feathers, scales, or other materials. Finally, each order is inspected for quality before it is shipped to the customer. Many of Masquerade's employees have undergraduate degrees in art (painting or sculpting); and the company regularly sends its employees to training workshops so that they may improve their skills. The company relies heavily on its employee artists to maintain its rapport with customers and quality image and wholeheartedly encourages its employees to make suggestions for redesigning existing products, take creative liberties while working on custom projects, and propose imaginative new products.

The production manager for the mask division, Erasmus' daughter Lenore Raven, has historically maintained a set of internal operating measures that she uses as performance indicators. Ms. Raven has argued that these non-financial operating measures serve as good indicators of production efficiency and product quality and moreover, since they are dynamic, they support the company's focus on continuous improvement and innovation. Ms. Raven has conceded however, that these operating measures, while serving as good indicators of internal process activities, do not provide the firm with an indication of the financial impact of these operations. On the advice of an outside consulting firm where Erasmus' nephew works, the mask division recently started using traditional standard cost variance analysis to evaluate operating performance within the mask division. The consulting group has argued that such measures are more objective, will motivate cost efficient behavior, and will accurately measure the financial impact of operating performance. Ms. Raven has expressed reservations about the new standard cost variance analysis system and is concerned that undue emphasis on variance results will result in a lack of attention to key operating concerns such as inventory levels, product quality, and customer satisfaction. Mr. Bedloe, the company's chief accountant, has likewise expressed his doubts and has argued that such standards may encourage behavior inconsistent with Masquerade's core values ultimately resulting in negative consequences for the company. The performance results for the most recent period appear below.

Results of Production Manager's Operations Analysis

Operating Measure	*Change*	*Operating Measure*	*Change*
Production Cycle Time[2]	Increase	Raw Materials Store Time	Increase
Delivery Cycle Time[3]	Increase	Finished Goods Store Time	Increase
Inspection Time	Decrease	Raw Material Inv Levels	Increase
Rework Time[4]	Increase	Finished Goods Inv Levels	Increase
Scheduled Downtime	Decrease	Customer Orders (Sales)	Decrease
Unscheduled Downtime	Increase	Customer Complaints	Increase
% Defective Products	Increase	Customer Returns	Increase
% Scrap[5]	Decrease	Employee Absenteeism	Increase
Average Unit Cost	Increase	Employee Turnover	Increase
Raw Materials Processed	Increase	Employee Attitude Survey	N/A[6]

[2] Production cycle time is measured as the amount of time required to turn raw materials into completed products from the time raw materials are received to the time goods are transferred to finished goods inventory. Since defective products are reworked before being transferred to finished goods, Masquerade includes rework time in cycle time.

[3] Delivery cycle time is measured as the amount of time required to get the finished product to the customer (from customer order receipt to the time the goods are shipped); it includes wait time between order receipt and the start of production as well as production cycle time.

[4] Rework time is measured as the amount of time necessary to correct for defects found in products by inspectors. The consulting company accounted for rework time separately from original work time; as such, rework time was not incorporated into the direct labor time variance.

[5] % Scrap refers to discards and wasted materials measured as a percentage of total raw materials processed.

Results of Consulting Firm's Variance Analysis

Resource	***Standard Stated As***	***Variance***
Materials		
Rubber Materials Price Variance	Price per ounce	Favorable
Rubber Materials Usage Variance	Ounces per mask	Favorable
Resource		
Detail Materials Price Variance	Price per package	Favorable
Detail Materials Usage Variance	Usage per mask	Favorable
Labor		
Direct Labor Rate Variance	Rate per detail labor hour	-0-
Direct Labor Time Variance	Detailing time spent per mask	Favorable
Indirect Materials		
Plaster Cast Price Variance	Price per pound of plaster	Favorable
Plaster Cast Usage Variance	Uses per 5 masks	Favorable
Indirect Inspection Labor		
Inspection Spending	Rate per hour	-0-
Inspection Labor Efficient	Time per batch	Favorable
Machine Maintenance		
Maintenance Spending	Cost per maintenance hour	Favorable
Maintenance Efficiency	Maintenance hours per run	Favorable
Fixed Overhead		
FOH Spending Variance[7]	Cost per period	-0-

[6] The employee attitude survey was discontinued on the advice of the consulting firm; the consulting firms questioned the usefulness of the survey as it did not provide objective, quantifiable information. The employee attitude survey was used as a means of soliciting employee attitudes, comments, feedback, and suggestions regarding process improvements and new product designs.
[7] Fixed overhead consists primarily of factory depreciation and insurance.

The consulting firm was quite pleased at the results of the variance analysis. However, Mr. Bedloe and Ms. Raven were disturbed about the results of the operating measures; and Mr. Raven is *particularly* concerned with the operating measures having to do with employee and customer dimensions. Mr. Bedloe has expressed the opinion that the standards used as a basis for the variance analysis are not entirely consistent with the organization's core values; he has been researching the balanced scorecard framework and has suggested that the strategic performance management concepts underlying the balanced scorecard might prove helpful.

Case Requirements

1. Deduce likely cause(s) for the materials, labor, and overhead variances. Note that interpretations of individual variances will most likely be interrelated. Summarize your interpretations. In your opinion, *should* the consulting firm be pleased with the results of the variance analysis? That is, are the favorable variances really "favorable"? Explain.

2. Deduce likely cause(s) for the changes in the operating measures. Note that interpretations of individual operating measure will most likely be interrelated. Summarize your interpretations. In your opinion, *should* the accountant, owner, and production manager be disturbed about the results of the operating measures? Explain. Why do you suppose the employee and customer dimensions are of particular concern to the owner? Explain.

3. In the narrative above, the company's accountant and the production manager have both expressed reservations about the company's new standard cost performance measurement system. Are these concerns valid? Discuss the accountant's and production manager's concerns in turn and then summarize your own assessment of the company's current performance management system.

4. Categorize each of the company's current performance measures (variances and operating measures) into the four basic balanced scorecard perspectives; note that some performance measures may fall into more than one perspective. Next, categorize each of the company's current performance measures as *lead* or *lag*, *financial* or *non-financial*, *internal* or *external*, and *objective* or *subjective*. Based on your categorizations, respond to the following: (a) Do the current performance measures appear to be derived from the company's vision and strategy? Explain. (b) Do you believe that all four balanced scorecard perspectives are *adequately* represented in the company's current performance measurement? Discuss. (c) Is the company's current performance measurement system *balanced*? Explain. (d) Do you believe that the company would benefit from the implementation of a balanced scorecard framework? Explain.

5. Design a balanced scorecard for the company: (a) First, succinctly articulate Masquerade Masque Company's vision and strategy. That is, describe what you believe to be Masquerade Masque Company's key values and/or strategic objectives and explain why each value/objective would be considered appropriate for the company. (b) Second, consider the four balanced scorecard perspectives and explain how each

perspective relates to or supports the company's vision and strategy. (c) Third, translate the company's overall vision and strategy into *specific* operational objectives (i.e., objectives that can be measured) for *each* of the balanced scorecard perspectives. (d) Finally, for each operational objective you constructed, list two or more performance measures that you believe will support the objective (you may choose measures already being used by Masquerade or alternative measures you select). Justify the relevance of each performance measure selected. (e) Develop initiatives for the operational objectives you constructed for the customer perspective *only* (i.e., describe how each of your stated operational objectives for this perspective might be accomplished).

6. In a professional memo (use proper headings and formatting) directed to the company owner, (a) Succinctly summarize your assessment of the effectiveness and suitability of the company's current performance management system, and (b) Outline your recommendations for improving the performance measurement system from the perspective of a balanced scorecard framework. Be Explicit.

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APPENDIX A: ALTERNATIVE CASE MATERIALS

Case Materials –The Comfy Company

Case Abstract

This case is designed to help you develop a working understanding of strategic performance measurement and the use of the balanced scorecard framework for managerial purposes. The case narrative describes a business scenario and a problematic performance measurement system. The case requirements ask you to apply performance measurement concepts to interpret production results, evaluate the company's current performance measurement system, discuss the applicability of the balance scorecard framework for improving the current performance measurement system, construct a balanced scorecard for the company, and then effectively communicate the results of your analysis, evaluation, and recommendations in the form of a professional written memo.

hCase Narrative

The Comfy Company makes high quality, hand-made, solid wood furniture. The Comfy Company started out as the woodworking hobby of eccentric real estate developer, Charles Chare. Charles' hobby eventually budded into a small family-owned business that made and sold hand-made rocking chairs and gliders. Comfy Company, set apart by a strong positive rapport with its customers, a long-standing reputation for quality and service, and the company's unique product offering, soon found itself a very small company in an intensely competitive market characterized by high volume, low quality, low cost manufacturers. In response such competitive pressures and customer needs, the company has grown and diversified its product offering expanding into standard production of hand-made writing desks, roll-top desks, bookshelves, and media cabinets as well as other custom ordered items to serve its small but diverse customer base. Additionally, the company has incorporated computer technology into its design function and is considering expansion into the area of historic reproductions and antique restoration.

As the company has grown and diversified its product offerings, Mr. Chare has become concerned with maintaining control over operations central to the company's competitiveness and well-being; recently he has expressed a desire to improve performance measurement within the rocker and glider division. The rocking chairs and gliders were the first product offerings of the company and remain a core aspect of Comfy Company's product offerings and business. The Comfy Company's rockers and gliders are known for their superior durability, quality, and attention to detail as well as for their reasonable price.

All rockers and gliders are constructed, assembled, detailed, and finished by hand based on detailed specifications and customer preferences. The furniture is made from the highest quality wood (mostly ash, cherry, teak, oak and mahogany) purchased from a small group of suppliers that the company has used for years. The company maintains a minimal inventory policy and as such, materials are generally purchased as needed to fill standard and custom orders and finished products are normally shipped out as soon as they are completed. For each rocker or glider, the desired wood is selected, component pieces are hand-measured and cut based on specifications, and then components are inspected for defects before assembly. Next, component pieces are finished and assembled, with workers making small adjustments as needed to make sure all pieces fit together neatly and firmly. Finally, a final finish is put on assembled rockers and gliders and each completed piece is inspected for quality before it is shipped to the customer. Comfy relies heavily on its workers to maintain its quality image and regularly sends its workers to training workshops so that they may improve their skills and learn new woodworking techniques. Moreover, Mr. Chare wholeheartedly encourages workers to make suggestions for redesigning existing products, take creative liberties while working on custom projects, and propose imaginative new products.

The production manager for the rocker and glider division, Ms. Cabenet, has historically maintained a set of internal operating measures that she uses as performance indicators. She has argued that these non-financial operating measures serve as good indicators of production efficiency and product quality and moreover, since they are

dynamic, they support the company's focus on continuous improvement and innovation. Ms. Cabenet, has conceded however, that these operating measures, while serving as good indicators of internal process activities, do not provide the firm with an indication of the financial impact of these operations. On the advice of the outside consulting firm where Mr. Chare's nephew works, the rocker and glider division recently started using a traditional standard cost variance analysis system to evaluate the performance of rocker and glider division. The consulting group has argued that such measures are more objective, will motivate cost efficient behavior, and will accurately measure the financial impact of operating performance. Ms. Cabenet has expressed reservations about the new standard cost variance analysis system and is concerned that undue emphasis on variance results will result in a lack of attention to key operating concerns such as inventory levels, product quality, and customer satisfaction. Mr. Dehsk, the company's chief accountant, has likewise expressed his doubts and has argued that such standards may encourage behavior inconsistent with Comfy Company's core values, ultimately resulting in negative consequences for the company. The performance results for the most recent period appear below.

Results of Production Manager's Operations Analysis

Operating Measure	***Change***	***Operating Measure***	***Change***
Production Cycle Time[8]	Increase	Raw Materials Store Time	Increase
Delivery Cycle Time[9]	Increase	Finished Goods Store Time	Increase
Inspection Time	Decrease	Raw Material Inv Levels	Increase
Rework Time[10]	Increase	Finished Goods Inv Levels	Increase
Scheduled Downtime	Decrease	Customer Orders (Sales)	Decrease
Unscheduled Downtime	Increase	Customer Complaints	Increase
% Defective Products	Increase	Customer Returns	Increase
% Scrap[11]	Decrease	Employee Absenteeism	Increase
Average Unit Cost	Increase	Employee Turnover	Increase
Raw Materials Processed	Increase	Employee Attitude Survey	N/A[12]

[8] Production cycle time is measured as the amount of time required to turn raw materials into completed products from the time raw materials are received to the time goods are transferred to finished goods inventory. Since defective products are reworked before being transferred to finished goods, Comfy Company includes rework time in cycle time.

[9] Delivery cycle time is measured as the amount of time required to get the finished product to the customer (from customer order receipt to the time the goods are shipped); it includes wait time between order receipt and the start of production as well as production cycle time.

[10] Rework time is measured as the amount of time necessary to correct for defects found in products by inspectors. The consulting company accounted for rework time separately from original work time; and as such, rework time was not incorporated into the direct labor time variance.

[11] % Scrap refers to discards and wasted materials measured as a percentage of total raw materials processed.

[12] The employee attitude survey was discontinued on the advice of the consulting firm; the consulting firms questioned the usefulness of the survey as it did not provide objective, quantifiable information. The

Results of Consulting Firm's Variance Analysis

Resource	***Standard Stated As***	***Variance***
Materials		
Wood Materials Price Variance	Price per board foot	Favorable
Wood Materials Usage Variance	board feet per chair	Favorable
Finishing Materials Price Variance	Price per gallon	Favorable
Finishing Materials Usage Variance	Quantity per chair	Favorable
Direct Labor		
Direct Labor Rate Variance	Rate per wood working labor hour	-0-
Direct Labor Time Variance	Work time spent per chair	Favorable
Wood Finishing Labor		
Direct Labor Rate Variance	Rate per finishing labor hour	-0-
Direct Labor Time Variance	Work time spent per chair	Favorable
Indirect Inspection Labor		
Inspection Spending	Rate per hour	-0-
Inspection Labor Efficiency	Time per chair	Favorable
Indirect Maintenance Labor		
Equip. Maintenance Spending	Cost per maintenance hour	Favorable
Equip. Maintenance Efficiency	Maintenance hours per run	Favorable
Fixed Overhead		
FOH Spending Variance (factory insurance & depreciation)		-0-

employee attitude survey was used as a means of soliciting employee attitudes, comments, feedback, and suggestions regarding process improvements and new product designs.

The consulting firm was quite pleased with the results of the variance analysis. However, Mr. Chare and Ms. Cabenet were very disturbed about the results of the operating measures; and Mr. Chare is *particularly* concerned with the operating measures having to do with employee and customer dimensions. Mr. Dehsk has expressed the opinion that the standards used as a basis for the variance analysis are not entirely consistent with the organization's core values; he has been researching the balanced scorecard framework and has suggested that the strategic performance management concepts underlying the balanced scorecard might prove helpful.

Case Requirements

1. Deduce likely cause(s) for the materials, labor, and overhead variances. Note that interpretations of individual variances will most likely be interrelated. Summarize your interpretations. In your opinion, *should* the consulting firm be pleased with the results of the variance analysis? That is, are the favorable variances really "favorable"? Explain.

2. Deduce likely cause(s) for the changes in the operating measures. Note that interpretations of individual operating measure will most likely be interrelated. Summarize your interpretations. In your opinion, *should* the accountant, owner, and production manager be disturbed about the results of the operating measures? Explain. Why do you suppose the employee and customer dimensions are of particular concern to the owner? Explain.

3. In the narrative above, the company's accountant and the production manager have both expressed reservations about the company's new standard cost performance measurement system. Are these concerns valid? Discuss the accountant's and production manager's concerns in turn and then summarize your own assessment of the company's current performance management system.

4. Categorize each of the company's current performance measures (variances and operating measures) into the four basic balanced scorecard perspectives; note that some performance measures may fall into more than one perspective. Next, categorize each of the company's current performance measures as *lead* or *lag*, *financial* or *non-financial*, *internal* or *external*, and *objective* or *subjective*. Based on your categorizations, respond to the following: (a) Do the current performance measures appear to be derived from the company's vision and strategy? Explain. (b) Do you believe that all four balanced scorecard perspectives are *adequately* represented in the company's current performance measurement? Discuss. (c) Is the company's current performance measurement system *balanced*? Explain. (d) Do you believe that the company would benefit from the implementation of a balanced scorecard framework? Explain.

5. Design a balanced scorecard for the company: (a) First, succinctly articulate The Comfy Company's vision and strategy. That is, describe what you believe to be Comfy Company's key

values and/or strategic objectives and explain why each value/objective would be considered appropriate for the company. (b) Second, consider the four balanced scorecard perspectives and explain how each perspective relates to or supports the company's vision and strategy. (c) Third, translate the company's overall vision and strategy into *specific* operational objectives (i.e., objectives that can be measured) for *each* of the balanced scorecard perspectives. (d) Finally, for each operational objective you constructed, list two or more performance measures that you believe will support the objective (you may choose measures already being used by Comfy Company or alternative measures you select). Justify the relevance of each performance measure selected. (e) Develop initiatives for the objectives you constructed for the customer perspective *only* (i.e., describe how each of your stated operational objectives for this perspective might be accomplished).

6. In a professional memo (use proper headings and formatting) directed to the company owner, (a) Succinctly summarize your assessment of the effectiveness and suitability of the company's current performance management system, and (b) Outline your recommendations for improving the performance measurement system from the perspective of a balanced scorecard framework. Be Explicit.

Teaching Note/Instructor Manual available from the Journal of Business Cases and Applications.