Chapter V
Research Findings and Propositions

Introduction

In this chapter, information will be presented regarding the stage of each company with regards to the functional integration, approach, systems, and performance measurement dimensions. A short overview is given of each company’s perceived level of accuracy of the sales forecast and level of managers’ satisfaction with the sales forecasting process. The results of the research propositions are presented using transcript data from the participants. An adapted model based on the results of the propositions is also presented. The trustworthiness of the data will also be discussed.

Stages in the Research Constructs

Company A

Functional Integration Dimension

Company A is in Stage 2 of the functional integration dimension. Characteristics of this stage include coordination (formal meetings) between marketing, finance, sales, production, logistics, and forecasting; forecasting located in a certain area — typically operations-oriented (located in logistics or production) or marketing-oriented (located in marketing or sales) — which dictates forecasts to other areas; planned consensus meetings, but with meetings dominated by operations, finance, or marketing--i.e, no real consensus; and performance rewards for forecasting personnel based only on performance contribution to the department in which forecasting is housed.

This company exhibits these characteristics because coordination exists between the finance, marketing, and operations departments. The finance department dominated the development of the forecast and the finance department plans consolidation and consensus between other departments; however, the finance department still dominates these efforts.
Approach Dimension

Company A is in Stage 2 of the approach dimension. Characteristics of this stage include bottom-up forecasting approach; forecasting self-reported demand (demand recognized by the organization) or adjusted demand (invoice keyed demand); recognizing that marketing/promotion efforts and seasonality can drive demand; recognizing the relationship between forecasting and the business plan, but the plan still takes precedence over the forecasts; and providing limited training in statistics with no training in understanding the business environment, and providing limited documentation of the forecasting process.

Company A exhibits these characteristics through use of a combination of top-down and bottom-up forecasting. There is limited training and understanding the business environment in forecasting. The company appears to recognize a connection between the business plan and the forecast; however, not all managers understand how the forecast fits into the business.

Systems Dimension

Company A is considered high in Stage 1 of the systems dimension. Characteristics of this stage include corporate MIS, forecasting software, and DPR (Distribution Requirement Planning) systems not linked electronically; printed reports; manual transfer of data from one system to another; lack of coordination between information in different systems; understanding by only a few people of the systems and their interaction (all systems knowledge held in MIS); existence of "Islands of analysis"; and lack of performance metrics in any of the systems or reports.

This company exhibits these characteristics because the POS and MIS are not connected. The company produces several printed reports; however, the reports do not capture the necessary information to develop effective forecasts and aid daily operations.

Performance Measurement Dimension

Company A is considered high in Stage 2 of the performance measurement dimension. Characteristics of this stage include accuracy measured primarily as Mean Absolute Percent Error, but sometimes measured inaccurately (e.g., forecast, rather than
demand, used in the denominator of the calculation); forecasting performance evaluation based upon accuracy, with no consideration for the implications of accurate forecasts on operations; recognition of the impact upon demand of external factors (e.g., economic conditions, competitive actions, etc.)

Company A exhibits these characteristics because it appears that measuring effectiveness or performance is haphazard. Performance measurement is based on accuracy of actual versus theoretical numbers; however, there is no reconciliation.

**Level of Accuracy of Sales Forecast**

Company A has a means of evaluating accuracy by comparing projected sales to the actual sales. However, no set measures exist to use when evaluating these criteria.

**Level of Managers’ Satisfaction with the Sales Forecasting Process**

The participant was not satisfied with the adaptability of the sales forecasting process. The participant was somewhat satisfied with the information systems used to conduct the forecast. The participant was not satisfied with the approaches used to conduct the forecast. Overall, the participant was not very satisfied with the sales forecasting process.

**Company B**

**Functional Integration Dimension**

Company B is in Stage 3 of the functional integration dimension. Characteristics of this stage include communication and coordination between marketing, finance, sales, production, logistics, and forecasting; existence of a forecasting champion; recognition that marketing is a capacity-unconstrained forecast and operations is a capacity-constrained forecast; consensus and negotiation process to reconcile marketing and operations forecasts; and performance rewards for improved forecasting accuracy for all personnel involved in the consensus process.

Company B exhibits these characteristics because the process to conduct the forecast is clear and precise. Rewards are given for forecasting performance for all personnel involved in the forecast. The company exhibits consensus and negotiation between those members who conduct the forecast.
**Approach Dimension**

Company B is in Stage 2 of the approach dimension. Characteristics of this stage include use of a bottom-up forecasting approach; forecasting self-reported demand (demand recognized by the organization) or adjusted demand (invoice keyed demand); recognize that marketing/promotion efforts and seasonality can drive demand; recognize the relationship between forecasting and the business plan, but the plan still takes precedence over the forecasts; and providing limited training in statistics with no training in understanding the business environment—limited documentation of the forecasting process.

Company B exhibits these characteristics through use of the bottom-up approach to forecasting. Limited training is provided in using statistics, and the forecasting process has limited documentation. The company recognizes the relationship between the business plan and the sales forecast, but it appears that the plan takes precedent over the sales forecast.

**Systems Dimension**

Company B is considered high in Stage 2 of the systems dimension. Characteristics of this stage include electronic links between marketing, finance, forecasting, manufacturing, logistics, and sales systems exists; on-screen reports are available; measures of performance are available in reports; and reports are periodically generated.

Company B exhibits these characteristics because it operates both an intranet and Internet system. Links exist between the finance, marketing, and the point of sales systems. Finally, the company generates performance reports periodically.

**Performance Measurement Dimension**

Company B is considered high in Stage 2 of the performance measurement dimension. Characteristics of this stage include accuracy measured primarily as Mean Absolute Percent Error, but sometimes measured inaccurately (e.g., forecast, rather than demand, used in the denominator of the calculation); forecasting performance evaluated
based upon accuracy, with no consideration for the implications of accurate forecasts on operations; and the impact upon demand of external factors recognized (e.g., economic conditions, competitive actions, etc.).

The company exhibits these characteristics because forecasting is based upon ease of use and credibility. The same measures used to evaluate performance measurement are used to evaluate accuracy.

**Level of Accuracy of Sales Forecast**

Company B uses the same criteria to measure accuracy and performance. These criteria are variance reports and standard deviation reports. These two criteria are very important to the level of accuracy of the sales forecast. The company appears to view performance measurement and level of accuracy as the same.

**Level of Managers’ Satisfaction with the Sales Forecasting Process**

The participant was satisfied with the adaptability of the forecasting process. The participant was also satisfied with the information systems and approaches used to conduct the sales forecast. Overall, the participant appeared to be very satisfied with the sales forecasting process.

**Company C**

**Functional Integration Dimension**

Company C is in Stage 1 of the functional integration dimension. Characteristics of this stage include major disconnects between marketing, finance, sales, production, logistics, and forecasting departments; individual area forecasting effort; and no accountability between areas for forecast accuracy.

Company C exhibits these characteristics as each department develops its own forecast. Major disconnects exist between marketing, finance, and other areas involved in the sales forecast. The forecast is only used to calculate bonuses. No real accountability is evident for the sales forecast.
**Approach Dimension**

Company C is in Stage 1 of the approach dimension. Characteristics of this stage include use of a plan-driven, top-down forecasting approach (failure to recognize the interaction between forecasting, marketing, and the business plan); forecasting of shipments only; treatment of all forecasted products the same; naïve and/or simple statistic approach to forecasting often with little understanding of the techniques used or the environment ("Black Box Forecasting"); failure to see the role of forecasting in developing the business plan (forecasting viewed solely as a tactical function); no training of forecasting personnel in techniques or understanding of business environment; and no documentation of the forecasting process.

This company exhibits these characteristics through use of the bottom-up approach to forecasting. Little training is provided for forecasting, and the company uses very simple statistical techniques in forecasting. The participant indicated that the forecast is just an exercise with no reasons provided for why it is done.

**Systems Dimension**

Company C is considered high in Stage 2 of the systems dimension. Characteristics of this stage include electronic links between marketing, finance, forecasting, manufacturing, logistics, and sales systems; on-screen reports available; measures of performance available in reports; and reports periodically generated.

The company exhibits these characteristics because the MIS/IT department only understands the information systems; however, links exist between departments such as finance, marketing, and operations.

**Performance Measurement Dimension**

Company C is in Stage 1 of the performance measurement dimension. Characteristics of this stage include that accuracy is not measured, and forecasting performance evaluation is not tied to any measure of accuracy (often tied to meeting plan, reconciliation with plan, etc.).

The company exhibits these characteristics because the participant does not spend time measuring accuracy. Performance measurement is not tied to the measurement of
accuracy. The company uses percentage of bonus payout to measure effectiveness. Finally, no performance measurement reports are available.

**Level of Accuracy of Sales Forecast**

The company does not measure accuracy. The participant could not evaluate the importance of the level of accuracy because this is not something that the company measured.

**Level of Managers’ Satisfaction with the Sales Forecasting Process**

The participant was not very satisfied with the adaptability of the sales forecasting process. The participant was not satisfied with the information systems or approaches to conduct the sales forecast. Overall, the participant had a low level of satisfaction with the sales forecasting process.

**Company D**

**Functional Integration Dimension**

Company D is considered high in Stage 3 of the functional integration dimension. Characteristics of this stage include communication and coordination between marketing, finance, sales, production, logistics, and forecasting departments; existence of a forecasting champion; recognition that marketing is a capacity unconstrained forecast and operations is a capacity constrained forecast; existence of a consensus and negotiation process to reconcile marketing and operations forecasts; and administration of performance rewards for improved forecasting accuracy for all personnel involved in the consensus process.

The company exhibits these characteristics because communication exists between marketing, finance, operations and planning departments. The finance department is the forecasting champion. In addition, the company reconciles the forecast with the corporation.
Approach Dimension

Company D is considered high in stage 3 of the approach dimension. Characteristics of this stage include use of both top-down and bottom-up forecasting approaches; forecast POS (point of sales) demand and/or utilize key customer demand information ("uncommitted commitments"); use of regression-based models for higher level (corporate to product line) forecasts and time-series models for operation (product to SKUL) forecasts; recognize the importance of subjective input from marketing, sales, and operations to the forecast; recognize that forecasting drives the business plan; and training in quantitative analysis/statistics and understanding of the business environment—a strong manager/advocate of the forecasting process.

The company exhibits these characteristics because it uses a combination of top-down and bottom-up approaches to forecasting. The company uses quantitative techniques to forecasting and recognizes the subjective input from departments such as marketing and operations. The business plan is based upon the sales forecast. A strong manager advocate exists in the forecasting process.

Systems Dimension

Company D is considered high in Stage 3 of the systems dimension. Characteristics of this stage include client server architecture that allows changes to be made easily and communicated to other systems; improved system-user interfaces to allow subjective input; common ownership of data bases and information systems; measures of performance available in reports and in the system; and reports generated on demand and performance measures available on line.

The company exhibits these characteristics because the data is warehoused on mainframes and pulled to the desktop computers for “number crunching.” The forecasting models are maintained in the software, and performance measures are available through reports and in the information system.

Performance Measurement Dimension

Company D is considered high in Stage 3 of the performance measurement dimension. Characteristics of this stage include accuracy still measured as Mean
Absolute Percent Error, but more concern given to measurement of the supply chain impact of forecast accuracy (i.e., lower acceptable accuracy for low-value noncompetitive products, recognition of capacity constraints in the supply chain and their impact on forecasting and performance, etc.); graphical and collective reporting of forecast accuracy (throughout the product hierarchy) utilized; forecasting performance evaluation is still based upon accuracy, but a growing recognition exists that accuracy has an effect upon inventory levels, customer service, and achieving the marketing and financial plans.

The company understands the impact of external factors on the sales forecast. Forecasting performance is based upon accuracy, and the company understands the effect of accuracy on other items such as customer service and achieving financial goals. Performance measures are available in report form.

Level of Accuracy of Sales Forecast
The company evaluates accuracy of the sales forecast. The company uses percentage values and absolute values as a means of evaluating accuracy. The criteria are very important to the level of accuracy of the sales forecast.

Level of Managers’ Satisfaction with the Sales Forecasting Process
The participants were very satisfied with the adaptability of the sales forecasting process. They were satisfied with the information systems and the approaches used to conduct the forecast. Overall, the participants were very satisfied with the sales forecasting process.

Company E
Functional Integration Dimension
Company E is considered high in Stage 3 of the functional integration dimension. Characteristics of this stage include communication and coordination between marketing, finance, sales, production, logistics, and forecasting departments; existence of a forecasting champion; recognition that marketing is a capacity unconstrained forecast and operations is a capacity constrained forecast; use of a consensus and negotiation process
to reconcile marketing and operations forecasts; and use of performance rewards for improved forecasting accuracy for all personnel involved in the consensus process.

The company exhibits these characteristics because the finance department is the forecasting champion. Communication exists between finance, operations, planning, and marketing departments. In addition, the company reconciles the forecast with the corporation.

**Approach Dimension**

Company E is considered high in Stage 3 of the approach dimension. Characteristics of this stage include both top-down and bottom-up forecasting approaches; forecast POS (point of sales) demand and/or utilize key customer demand information ("uncommitted commitments"); use of regression-based models for higher level (corporate to product line) forecasts and time-series models for operation (product to SKUL) forecasts; recognize the importance of subjective input from marketing, sales, and operations to the forecast; forecasting drives the business plan; and training in quantitative analysis/statistics and understanding of the business environment—a strong manager/advocate of the forecasting process.

The company exhibits these characteristics because the company uses quantitative techniques for forecasting and recognizes the subjective input from departments such as marketing and operations. The company uses a combination of top-down and bottom-up approaches to forecasting, and the business plan is based upon the sales forecast. A strong manager advocate is present in the forecasting process.

**Systems Dimension**

Company E is considered high in Stage 3 of the systems dimension. Characteristics of this stage include usage of client-server architecture that allows changes to be made easily and communicated to other systems; improved system-user interfaces to allow subjective input; common ownership of data bases and information systems; measures of performance are available in reports and in the system; reports are generated on demand; and performance measures are available on line.
The company exhibits these characteristics because the data is warehoused on the mainframes. The forecasting models are maintained on software, and performance measures are available through reports and in the information system.

Performance Measurement Dimension

Company E is considered high in Stage 2 of the performance measurement dimension. Characteristics of this stage include accuracy measured primarily as Mean Absolute Percent Error, but sometimes measured inaccurately (e.g., forecast, rather than demand, used in the denominator of the calculation); forecasting performance evaluation based upon accuracy, with no consideration for the implications of accurate forecasts on operations; and the impact upon demand of external factors is recognized (e.g., economic conditions, competitive actions, etc.).

The company exhibits these characteristics because the company tries to understand the forecast. The company understands how external factors affect the sales forecast. The emphasis is on understanding the forecast.

Level of Accuracy of Sales Forecast

The company does evaluate accuracy. Guest counts and average guest checks are used as criteria to evaluate accuracy. These criteria are considered very important to the level of accuracy of the sales forecast.

Level of Managers’ Satisfaction with the Sales Forecasting Process

The participants were satisfied with the adaptability of the sales forecasting process. The participants were satisfied with the approaches used to conduct the sales forecast as well as the information systems used to conduct the forecast. Overall, the participants were very satisfied with the sales forecasting process.

Company F

Functional Integration Dimension

Company F is in Stage 2 of the functional integration dimension. Characteristics of this stage include coordination (formal meetings) between marketing finance, sales,
production, logistics, and forecasting departments; forecasting located in a certain area — typically operations-oriented (located in logistics or production) or marketing-oriented (located in marketing or sales) — which dictates forecasts to other areas; planned consensus meetings, but with meeting dominated by operations, finance, or marketing— i.e., no real consensus; and performance rewards for forecasting personnel based only on performance contribution to the department in which forecasting is housed.

The company exhibits these characteristics because coordination is present between departments such as marketing, finance, and operations. Forecasting is located in the finance department, and both are housed in one location.

**Approach Dimension**

Company F is in Stage 2 of the approach dimension. Characteristics of this stage include bottom-up forecasting approach; forecast self-reported demand (demand recognized by the organization) or adjusted demand (invoice keyed demand); recognizing that marketing/promotion efforts and seasonality can drive demand; recognizing the relationship between forecasting and the business plan, but the plan still takes precedence over the forecasts; and limited training in statistics with no training in understanding the business environment—limited documentation of the forecasting process.

The company exhibits these characteristics because limited training is available for forecasting. The company uses a combination of bottom-up and top-down approaches to forecasting. The company understands that a relationship exists between the sales forecast and the business plan.

**Systems Dimension**

Company F is in Stage 2 of the systems dimension. Characteristics of this stage include electronic links between marketing, finance, forecasting, manufacturing, logistics, and sales systems; on-screen reports are available; measures of performance are available in reports; and reports are periodically generated.

The company exhibits these characteristics because there are electronic connections between departments. Reports are generated and measures of performance are available in report form.
Performance Measurement Dimension

Company F is in Stage 1 of the performance measurement dimension. Characteristics of this stage include accuracy is not measured; and forecasting performance evaluation is not tied to any measure of accuracy (often tied to meeting plan, reconciliation with plan, etc.).

The company exhibits these characteristics because effectiveness is measured and accuracy is used as criteria of effectiveness. The company uses dollars-and-cents variance reports as a measure of performance.

Level of Accuracy of Sales Forecast

The company measures the effectiveness of the forecast. The one criteria used to measure effectiveness is accuracy.

Level of Managers’ Satisfaction with the Sales Forecasting Process

The participant was reasonably satisfied with the adaptability of the sales forecasting process. The participant was satisfied with the approaches used to conduct the forecast and moderately satisfied with the information systems used to conduct the sales forecast. Overall, the participant was somewhat satisfied with the sales forecasting process.

Company G

Functional Integration Dimension

Company G is in Stage 1 of the functional integration dimension. Characteristics of this stage include disconnects exist between marketing, finance, sales, production, logistics, and forecasting departments; each area has its own forecasting effort; and no accountability between areas for forecast accuracy.

This company exhibits these characteristics because no accountability is evident for forecasting and no reconciliation exists to the process. Major disconnects exist between the departments, and each department is responsible for conducting its own forecast.
Approach Dimension

Company G is in Stage 1 of the approach dimension. Characteristics of this stage include using plan-driven top-down forecasting approaches (failure to recognize the interaction between forecasting, marketing, and the business plan); forecasting shipments only; treating all forecasted products the same; using naïve and/or simple statistic approach to forecasting often with little understanding of the techniques used or the environment ("Black-Box Forecasting"); failing to see the role of forecasting in developing the business plan (forecasting viewed solely as a tactical function); and no training of forecasting personnel in techniques or understanding of business environment-no documentation of the forecasting process.

This company exhibits these characteristics because no training is provided for the forecasting process. Managers incorporate their own level of sophistication. The company uses a disconnected top-down and bottom-up approach to forecasting. Simple models are used to conduct the sales forecast.

Systems Dimension

Company G is in Stage 1 of the system dimension. Characteristics of this stage include corporate MIS, forecasting software, and DPR (Distribution Requirement Planning) systems not linked electronically; printed reports; manual transfer of data from one system to another; lack of coordination between information in different systems; understanding by only a few people of the systems and their interaction (all systems knowledge held in MIS); existence of "Islands of analysis"; and lack of performance metrics in any of the systems or reports.

This company exhibits these characteristics because the major information systems for accounting or point of sales are not linked electronically. Islands of analysis exist at different levels within the company (corporate, divisional, and restaurant levels). Performance metrics are lacking in any system or report.

Performance Measurement Dimension

Company G is in Stage 1 of the performance measurement dimension. Characteristics of this stage include that accuracy is not measured and forecasting
performance evaluation is not tied to any measure of accuracy (often tied to meeting plan, reconciliation with plan, etc.).

The company exhibits these characteristics because the company has no criteria to evaluate effectiveness. Accuracy is not measured. Forecasting performance is not tied to any measures.

**Level of Accuracy of Sales Forecast**

The company does not measure accuracy. When asked if the company measures any other criteria (understanding that accuracy is not measured), the participant responded “no.” In addition, no criteria are used to evaluate effectiveness.

**Level of Managers’ Satisfaction with the Sales Forecasting Process**

The participant was not very satisfied with the adaptability of the sales forecasting process. The participant was not satisfied with the current systems or approaches used to conduct the sales forecast. Overall, the participant was not satisfied with the sales forecasting process; however, the participant was very close to being somewhat satisfied with the sales forecasting process.

**Construct Overview**

**Benchmarking Dimensions Overview of Seven Companies**

The data in Table 5.1 overviews where each company falls within the stages of the four sales forecasting benchmarking dimensions.
Table 5.1. Sales Forecasting Benchmarking Dimensions with Stages by Company

<table>
<thead>
<tr>
<th>Stages Level</th>
<th>Functional Integration</th>
<th>Approach</th>
<th>Systems</th>
<th>Performance Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage One</td>
<td>Company C</td>
<td>Company C</td>
<td>Company A</td>
<td>Company C</td>
</tr>
<tr>
<td></td>
<td>Company G</td>
<td>Company G</td>
<td>Company G</td>
<td>Company G</td>
</tr>
<tr>
<td>Stage Two</td>
<td>Company A</td>
<td>Company A</td>
<td>Company B</td>
<td>Company A</td>
</tr>
<tr>
<td></td>
<td>Company F</td>
<td>Company B</td>
<td>Company C</td>
<td>Company B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Company F</td>
<td>Company F</td>
<td>Company C</td>
</tr>
<tr>
<td>Stage Three</td>
<td>Company B</td>
<td>Company D</td>
<td>Company D</td>
<td>Company E</td>
</tr>
<tr>
<td></td>
<td>Company D</td>
<td>Company D</td>
<td>Company E</td>
<td>Company D</td>
</tr>
<tr>
<td>Stage Four</td>
<td>Company E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the function integration dimension, two companies were in Stage 1, two companies were in Stage 2, and three companies were in Stage 3. A dispersion of companies existed across the stages in the functional integration dimension. In the approach dimension, two companies were in Stage 1, three companies were in Stage 2, and two companies were in Stage 3. A dispersion of companies existed across the stages in the approach dimension. In the systems dimension, two companies were in Stage 1, three companies were in Stage 2, and two companies were in Stage 3. A dispersion of companies existed across the stages in the systems dimension. In the performance measurement dimension, three companies were in Stage 1, three companies were in Stage 2, and one company was in Stage 3. A dispersion of companies existed across the stages in the performance measurement dimension. It is important to note that no company exhibited the characteristics of Stage 4 in any of the dimensions. Stage 4 is a very difficult stage to achieve and companies may be evolving towards this goal.

Level of Accuracy of the Sales Forecast of Seven Companies

The construct level of accuracy of the sales forecast did not receive support from the participants. The two constructs, level of accuracy of the sales forecast and performance measurement, appeared to be one construct. The reason for this may be that...
the level of accuracy was used as criteria for measuring effectiveness of the forecast within the performance measurement construct. No range of variability existed across companies and the participants did not view level of accuracy of the sales forecast as a mutually exclusive construct. Instead the construct was a part of the performance measurement construct. Because of the aforementioned points, the level of accuracy of the sales forecast construct did not receive support from the participants.

Level of Managers’ Satisfaction with the
Sales Forecasting Process of Seven Companies

The data in Table 5.2 below shows the level of managers’ satisfaction with the Sales Forecasting Process of the seven companies.

Table 5.2. Level of Managers’ Satisfaction with the Sales Forecasting Process of Seven Companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
<td>Not Satisfied</td>
</tr>
<tr>
<td>Company B</td>
<td>Very Satisfied</td>
</tr>
<tr>
<td>Company C</td>
<td>Not Satisfied</td>
</tr>
<tr>
<td>Company D</td>
<td>Very Satisfied</td>
</tr>
<tr>
<td>Company E</td>
<td>Very Satisfied</td>
</tr>
<tr>
<td>Company F</td>
<td>Somewhat Satisfied</td>
</tr>
<tr>
<td>Company G</td>
<td>Not Satisfied</td>
</tr>
</tbody>
</table>

When the participants were asked about the level of managers’ satisfaction with the sales forecasting process, a range of variability across companies existed. The participants from Companies A, C, and G were not satisfied with the overall sales forecasting process. The participants from Companies B, D, and E were very satisfied with the overall sales forecasting process. The participant from Company F was somewhat satisfied with the overall sales forecasting process.
Participant and Company Identification

Verbatim transcript information is used here to discuss the constructs and propositions. The participants were assigned a number, one through twelve, to maintain their anonymity. This number will be used in the remainder of this chapter when quoting a particular participant’s interview. Table 5.3 lists the company and participant identification. The following discussion will address the constructs and research propositions.

Table 5.3. Company and Participant Identification

<table>
<thead>
<tr>
<th>Company ID</th>
<th>Number of Participants</th>
<th>Participant ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
<td>1 manager</td>
<td>Participant 1</td>
</tr>
<tr>
<td>Company B</td>
<td>1 manager</td>
<td>Participant 2</td>
</tr>
<tr>
<td>Company C</td>
<td>1 manager</td>
<td>Participant 3</td>
</tr>
<tr>
<td>Company D</td>
<td>4 managers</td>
<td>Participants 4, 5, 6 &amp; 7</td>
</tr>
<tr>
<td>Company E</td>
<td>3 managers</td>
<td>Participants 8, 9 &amp; 10</td>
</tr>
<tr>
<td>Company F</td>
<td>1 manager</td>
<td>Participant 11</td>
</tr>
<tr>
<td>Company G</td>
<td>1 manager</td>
<td>Participant 12</td>
</tr>
</tbody>
</table>

Research Propositions

Proposition 1

The main proposition for Research Proposition 1 was:

P1: There is a relationship between the sales forecasting benchmarking model and the level of accuracy of the sales forecast in a commercial restaurant setting.

The four sub propositions were:

P1a: There is a relationship between functional integration and the level of accuracy of the sales forecast in a commercial restaurant setting.

P1b: There is a relationship between approach and the level of accuracy of the sales forecast in a commercial restaurant setting.

P1c: There is a relationship between systems and the level of accuracy of the sales forecast in a commercial restaurant setting.
P1d: There is a relationship between performance measurement and the level of accuracy of the sales forecast in a commercial restaurant setting.

Based on the information in the data transcripts of all companies, the level of accuracy of the sales forecast construct was not considered viable and was merged into the performance measurement construct. Thus, these four propositions were not testable.

Proposition 2

The main proposition for Proposition 2 was:

P2: There is a relationship between the sales forecasting benchmarking model and the level of managers’ satisfaction with the sales forecasting process in a commercial restaurant setting.

Each sub proposition will be discussed individually by dimensions.

Functional Integration and Level of Managers’ Satisfaction with the Sales Forecasting Process

The sub proposition relating to functional integration was:

P2a: There is a relationship between functional integration and the level of managers’ satisfaction with the sales forecasting process in a commercial restaurant setting.

The relationship proposed between these two constructs found support in the data shown in the transcripts. Figure 5.1 shows the functional integration dimension with its stages as it relates to the level of managers’ satisfaction with the sales forecasting process. This figure shows that there is a relationship between the two dimensions. Company A is not very satisfied with its sales forecasting process and it is in Stage 2 of the functional integration dimension. Companies C and G are in Stage 1 of the dimension and are not very satisfied with the sales forecasting process. Company G is very close to being somewhat satisfied. Company F is in Stage 2 of the dimension and somewhat satisfied with the sales forecasting process. Companies B, D, and E are in Stage 3 of the dimension and very satisfied with the sales forecasting process.
Companies D and E are high in Stage 3 and have a high level of satisfaction with the sales forecasting process.

The following discussion provides additional support for the relationship between the two dimensions.

**High Functional Integration Dimension Stage and High Level of Managers’ Satisfaction with the Sales Forecasting Process.** The major departments involved in the sales forecasting process were finance, marketing, and operations. Each department had a specific task to accomplish in order to develop a complete sales forecast for the company. Adequate accessibility of the data existed to make the sales forecast and a limit as to which departments could alter the sales forecast. Only the departments that had actual involvement in the forecasting process could adjust the forecast. Recommendations from other departments and individuals were taken under advisement; however, access to the data to make changes was limited.
Comments listed below verify this conclusion:

**Participant 11:**
Anybody can make recommendations. We may not use them, but anyone can make recommendations (Laughter).

**Participant 8:**
Yes, I mean we would develop . . . our group here, we would develop this sales forecast. There are other departments we would review it with, but they would not have any impact on really changing it unless there was new information that we didn’t know about that they had.

The internal communication between the departments at the corporate level facilitated timely development of the sales forecast. For the companies in which different departments shared pieces of sales forecasting information, this system worked well.

**Participant 9:**
It’s still unsure that they understand that they need to make pertinent adjustments so that certain pieces, from a company level, do apply to them as well. Because they share their profit levels . . .

**Participant 9:**
Probably very little on feedback. I mean it seems like individual property situations don’t impact us as much as making it happen at a corporate level, whether it’s seasonality trends or . . .

**Participant 8:**
Yeah. If there was a way that we could take our corporate level forecast and get it down to the restaurants in a meaningful package, I think that’s the key. But we’ve never been able to get around to that, like how do you do that when you have several hundred variables down there.

Some participants were satisfied with the mechanics of the sales forecasting process and its applicability at the corporate level. However, the same participants were not satisfied with the information getting down to the restaurant level.

**Participant 9:**
I think from a satisfaction standpoint I’ll put more into our process…but I don’t think internally the satisfactory job includes communicating down, to the individual restaurants and what our expectations are. We’ll always poll the local level, and I think we’re trying to figure out how do you give information to the
individual properties to take advantage of how well we’re doing at forecasting at the company level, let them take into account the things that are going on without dictating to them. Basically giving them information, I guess . . .

**Participant 9:**
The problem is the time line, I think, and the amount of information that our restaurants have. They work in too short of time lines. It’s credible when we’re maybe looking at things that impact a particular market such as road closures and things. Once again they can only do these for a very short period of time on what they observe. And they certainly don’t have a process that they go through the way we do. I mean we do have a pretty good process for the forecasting period. Our restaurants at this point do not have any sort of tool. I was going to say to develop something on Excel themselves, but we have to give them the proper tools. We’re working on that.

**Low Functional Integration Dimension Stage and Low Level of Managers’ Satisfaction with the Sales Forecasting Process.** Some companies created the sales forecast in isolation (separate departments) and it did not get used for many purposes.

**Participant 3**
. . . I find it very tedious <separate departments> . . . We don’t use it for a lot of things other than calculation of bonus . . .

Evidence exists that communicating the sales forecasting information down to the restaurant level was not as effective as some would have liked.

**Participant 1**
. . . It has drawbacks and the drawbacks are that it’s tedious and there are a lot of hands involved and it takes a significant amount of time from the operators. . . . On the flip side, I’m not handed something that I do not have any say in . . .

The participants were not quite satisfied in this area. In addition, some participants were not quite satisfied with the level of understanding at the restaurant level about the sales forecasting process and how it impacted each individual restaurant. In other words, the restaurants may not see the larger picture.