

Variation in Business Processes

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INTRODUCTION

During business processes analysis and development, we are often confronted with the criticism that we introduce additional administration and stifle the creativity of those who play a part in the process. As analysts and architects, we naturally oppose this notion in our quest for simplicity and optimal solutions. With good reason too; enterprises are complicated, and it is not uncommon to encounter hundreds of business processes, categorized into dozens of process groups and several process areas.¹ Such decomposition may lead to thousands of process activities and tasks, quickly becoming a managerial burden. This makes it easy for us to make the argument for standardization, because allowing every business unit or competency area to have its own variation of common processes will exponentially grow those numbers.

Yet we know that variation exists, and the goal of business process modeling is to capture things that reflect reality. For example, the way quality management is performed in manufacturing operations differs quite significantly from the way it is done in accounting. Although these business processes have similar goals and contribute towards the overall quality targets of the enterprise, the techniques applied and skills required are so different that we do not even consider these the same processes. Manufacturing applies techniques like statistical process control and is concerned with concepts such as sample sizes, whereas accounting relies more heavily on checks, balances, and audits. Clearly, these two very different practices should not be unified and standardized, as that will decrease value while cutting very little cost. In fact, the decision to allow variation in business processes is always a trade-off between value to the enterprise and the potential to decrease costs.

This chapter explores the phenomenon of variation in business processes. It explains what process variance is and how to identify it. Much of the discussion is related to the need for business process variation and how much is enough. Some examples are provided on how to model and manage process variance and how to relate it to the business model and strategy. Finally, the benefits, and typical pitfalls when modeling and managing process variance, are explained to give insight into how variance should be handled and what to avoid.

BUSINESS PROCESS VARIANCES: WHAT IS IT?

According to ISO9000:2005, a process is quite simply a set of activities that transforms inputs into outputs.² However, even though the activities performed may be the same, various other factors influence how those activities are actually performed. The most obvious factors that cause such variation are unequal quality of input or

the ability of the role players in the process. Factors that are more difficult to detect and define are influences such as the motivation of practitioners or poorly defined interdependencies between business processes. In reality, slight differences in the way business processes are executed are always present, though it may be at a level of detail that does not lend itself to concern.

Variation in process performance prompted the pioneering research of Frederick Winslow Taylor on scientific management. He improved industrial efficiency by performing work studies and providing detailed instructions to standardize the work.³ Yet, by studying what is normal, we will remain merely normal, and, in many cases, the outliers or nonstandard data points inspire the inquiry.⁴ It is not in the interest of a modern business to remain normal, but rather to become an outlier and differentiate itself from its competitors. In fact, those differentiating capabilities offer superior value to customers that give businesses their competitive advantage.⁵

Variations of business processes occur in different ways. The example given above, showing how different quality is managed within the manufacturing and accounting domains of a business, represents the type of variation that can be found in any enterprise. Most processes are variations of the basic themes in business, such as governance, resource management, product realization and service delivery.

Systems Applications Products (SAP) define process variances the following way⁶: “A Business Process Variant is a fundamental flow variant of a Business Process which uses the same input and delivers the same measurable outcome.” The flow of process steps is defined at Business Process Variant level. To keep level consistency, it is necessary that each business process has at least one Business Process Variant attached. The SAP modeling handbook proceeds by stating that a Business Process Variant should differ from another at least in one of the following ways:

- Flow of documents;
- Business objects needed;
- Life cycle schema of the business objects (status and status transitions);
- Application to Application/Business to Business (A2A/B2B) message choreography or choreography with direct interactions with other business processes.

The SAP handbook also offers the following characteristics of business process variants:

- A business process variant is not just an alternative user interface (UI);
- A process variant is not just another sequence of tasks that a user decides to perform on the UI;
- Two business process variants differ in the way the business process flows. The difference is so important that the variants are to be considered separately in a business process analysis.⁷

Thus, variance is a challenge within BPM, information management, and operations management, effecting entire end-to-end flows of processes, information, and services. To illustrate this, consider the following scenario: finance, people, and raw materials are all types of resources consumed and managed in the business, through

the processes of financial management, human resource management, material management, and production/operation. It is very difficult to identify commonality, partly because the processes have different purposes, roles, and so on. At the other extreme, however, we find those business processes serve the same purpose and seem identical, except for the finest of details. These processes are typically found in the same business area and can therefore truly be considered variances of each other. To illustrate, consider the differences in how engineers perform failure analysis for two different pieces of equipment. Failure analysis is a well-documented industry standard, but for the equipment specialists the differences are huge.

These two extremes help us distinguish between what are typically considered separate processes and what we consider business process variances. Both of these, though, are controlled variations. The differences in how the different competencies and people perform quality management and failure analysis are understood and acknowledged. Variation can also be uncontrolled, in which the state of the business has an impact on the processes, for example, emergency state as opposed to normal operation.

COMPLICATIONS AND CHALLENGES

Although it is very important to be able to define process variances, many organizations suffer under the phenomenon of having too much variation. Typically, this happens when the various business units are allowed to specify how unique they are during process development and mapping. This leaves the organization with too much variation, resulting in increased cost and complexity of operation. Even more debilitating is when such processes are used in blueprints for information systems and are implemented into customer relationship management (CRM), enterprise resource planning (ERP), supply chain management (SCM), security risk management (SRM), and/or mobile solutions. Not only are high cost and complexity built into the business processes, but now also into the information systems of the organization.

Some vendors offer standard reports on variances of work. These reports enable organizations to identify where they have too many variances and perhaps even duplication or unnecessary processes. These variances in work processes occur when the total costs charged to a job or schedule do not equal the total costs relieved from a job or schedule. Oracle provides the following usage, efficiency, and standard cost adjustment variance calculations in transactions⁸:

- Material Usage Variance;
- Resource and Outside Processing Efficiency Variance;
- Move-Based Overhead Efficiency Variance;
- Resource-Based Overhead Efficiency Variance;
- Standard Cost Adjustment Variance.

Variance is a known pitfall and issue of business process modeling and management, so much so that the ERP vendors officially ask their customers to “Define

Reasons for Variances.” For example, SAP asks customers to define the reasons for any variance that occurs and to document this variance.⁹ The official action is to “define the possible causes for variation that could occur in your company.” Such variances might be any of the following¹⁰:

- Scrap on a quantity basis;
- Excess consumption of activities;
- Longer execution time;
- Other resource, and so on.

Anyone following that recipe will end up with multiple variations, which has also been evident of the high level of ERP system customization. Not realizing that there might be a variation because of duplication of business function, roles, services, and so forth. Another missing aspect is the lack of ability to identify aspects in which the organization is unique and not unique. Therefore, as with most aspects of business process modeling and management, no simple recipe exists to model and manage business process variance. It depends on what is expected from the modeling and management effort. Business processes are developed, modeled, and managed for different reasons, and different stakeholders have different expectations. For example, the manager of an engineering department may be entirely aware of the differences between failure analysis for mechanical and that for electronic components, but does not consider the differences of enough significance to warrant separate processes. For the engineers who design and develop the mechanical and electronic products, those differences are of the greatest significance and may even be the unique value that a specific group or team contributes to the organization. The difference between the two variations of the failure analysis process does not necessarily have to lie in the steps carried out, but can be in the type of information used or how the results are captured and presented. Both those cases are from the perspectives within the process, however. Tsikriktsis and Heineke found that customer satisfaction is significantly affected by inconsistency in process, especially when the average service quality is low.¹¹ Clearly then, allowing variation is a decision best taken with care.

This example is meant to serve the purpose of showing how different expectations will inform the decision to allow business process variation and how much to allow. Again, the basis for decision returns to the business model of the organization. It has been shown that most organizations, especially highly successful organizations, have more than one business strategy concurrently in effect, in an effort to maintain its competitive advantage.¹² The model that is concerned with delivering unique value to customers will most likely embrace business process variance in the parts of the organization that creates that value. The business model that drives cost cutting will drive for standardization and simplification when possible.

Embracing variation does not acquit us from the burden to manage the business processes. In fact, allowing more than one version of a business process to exist inherently increases the complexity in the business. More problematic though, it becomes important to identify and clearly define the similarities and principles that

must be maintained in all versions of a process. It is also easy to extend the thinking toward a scenario in which the differences between two variations of a business process become so pronounced that it is difficult to explain why they are considered variations of the same process. Clearly then, the decision to allow variations of a business process to exist should be taken very carefully and should support business goals and objectives.

To make informed decisions regarding business process variation, the problem has to be understood. To summarize, four main challenges deal with business process variation:

- Deciding when and how much variation to allow;
- Defining and justifying business process variances;
- Capturing business process variation without introducing unnecessary complexity and ambiguity; and
- Managing business process variances.

SOLUTION DESCRIPTION

Business analysts and architects will naturally oppose allowing variation in business processes. It will seem like it makes the solution more complicated or even suboptimal. Instead, business process variance should be seen as an opportunity for the processes to more accurately reflect reality. More importantly, process variance is a way to capture techniques, knowledge, or other intricacies that are unique to a certain business competency or practitioner. Those details can be compared to the standardized process to identify that which creates the unique value to the business. Thus, business process variance is not only a viable option for an organization to identify its own unique value enablers, but also to exploit those enablers and hopefully build on them.

When Should Variation Be Allowed and How Much Is Enough?

We have established that variation in business processes introduces performance, modeling, and management challenges. Thus, we require guidance on when business process variance is desirable and how much should be allowed. What helps here is to find out when the organization should allow for uniqueness and thereby high variability, or when the level of standardization should be high and variation minimal. The challenge is that this information will not be found in the process itself, but rather in the business model showing the relevant business competencies being identified and calling upon their respective processes.¹³ By exercising its business competencies, the business delivers value internally and externally, for example, value is delivered through business tasks, business functions, and services within a competency to those that benefit from the value created. Competencies may be essential to compete, in which case they are described as *core-competitive*; or they may differentiate the business from its customers, in which case they are

core-differentiating. The majority of competencies are simply necessary for the functioning of the business, and these are commonly referred to as *non-core* competencies. The ability to categorize competencies as either *core-differentiated*, *core-competitive*, or *non-core* is missing within contemporary process modeling and process architecture practice. The inability to identify competencies is the very reason why process experts and process architects have no insight as to which processes are a part of an organization’s competitive aspects and which are not. This is also why they are not able to take into consideration the process variances in terms of where they should be, where they create value and where they should not be.

The link between the organization’s competencies and process execution provides the means of identifying ways to appropriately standardize variances and thereby reduce cost, improve the effectiveness and efficiency of operations, or conversely to support value creation and thereby revenue growth. Without this context, there is no means to judge the “goodness” of a particular process or process variance design. For example, if it is not possible to detect that a process contributes value, it is best not to have any variances as it should be done is the cheapest way possible. Figure 1 shows a summary of the concepts for categorizing the three domains of business models, the competencies that enable the business models, and the type of practice standards that correspond to the different competencies.¹⁴

For noncore competencies it makes sense to adopt standard best practice, in an effort to optimize operations and minimize cost. Similarly, industry best practice may be adopted for core-competitive competencies, because the business only aims to compete effectively with its competitors and maximize its performance. However, to drive growth in revenue and value, new products and services have to be developed to give the business a competitive advantage. By its nature, an advantage requires something that is not offered elsewhere, thus the business strives toward developing and nurturing core-differentiating competencies. However, applying such differentiating competencies in a standardized business process will at best result in high performance, but not in differentiating value. As shown in Figure 1, true differentiating competencies

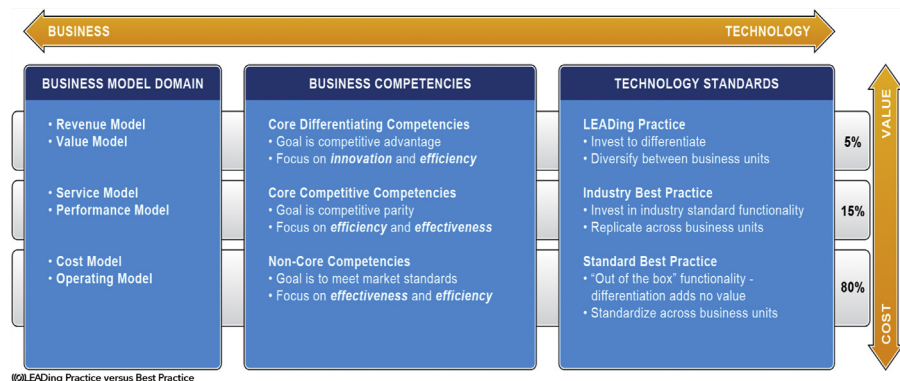


FIGURE 1

When to apply LEADing industry and best practice.¹⁵

typically compose a very small portion of the business, though it may be a much larger percentage in truly innovative enterprises. Therefore, in the relatively limited cases in which a business aims to offer unique or even market-leading products and services, it is crucial for the business to appreciate and embrace variation in the business processes that produce the characteristics that make the offering superior.

The challenge we see in most organizations is actually relating the business competencies to the processes. Table 1 illustrates how to link traditional process aspects with business competencies and Table 2 provides a step-by-step guide how to do it.

Table 1 The Possible Linkage between Process and Competencies

	Process #	What Specification:					Who/Whose Specification:		
		Business Process Area	Process Groups	Business Process	Process Steps	Process Activities	Stakeholder Involved	Process Owner	Roles/Involved
Business competency 1	#								
Business competency 2	#								
Business competency N	#								

Table 2 A Table Showing that Process Objects Relate to Business Competency and the Tasks Associated with It

Business Competency: An Integrated and Holistic Set of Interconnected Knowledge, Skills, and Abilities, Related to a Specific Set of Resources (Including Persons and Organizations) that, Combined, Enable the Enterprise to Act in a Particular Situation

Rules	(D) Process relates to Business Competency.
Tasks	<ul style="list-style-type: none"> • Identify in the business model or an operating model which business competencies are core-differentiated. • Identify in the business model or an operating model which business competencies are core-competitive. • Identify in the business model or an operating model which business competencies are non-core. • Associate and tie the business competencies to the business processes. • Associate and tie the business competencies to the process steps of the business process. • Associate and tie the business competencies to the process activities of the business process. • Associate and tie the business competencies to the stakeholders involved in the business process. • Associate and tie the business competencies to the process owner of the business process. • Associate and tie the business competencies to the managers involved in the business process. • Associate and tie the business competencies to the roles/resources involved in the business process.

Table 1 shows all the aspects that can be linked to a competency, including stakeholders, managers, process owners, and roles that are in a business competency area. The process–business competency matrix captures all aspects that can be linked between a business competency and business processes. See Table 2 for the semantic rules for this mapping and the tasks to establish the relationship.

It is important to note that the business competency type, that is, core-differentiated, core-competitive or non-core, needs to be derived directly from a business model, operating model, or a business competency matrix.¹⁶ Figure 2 shows an example of an Oil and Gas business model showing the business competencies and the typical aspects of a business model, including the following¹⁷:

- The Business Competency Areas;
- The Business Competency Groups;
- The various Business Competencies.

This Oil and Gas Petroleum Engineering business model will be used to show the different options for modeling business process variance. The Technical Quality Control business competency will be used, because it was identified to be core-competitive with high-value potential, but poor performance. In addition to that, it needs to be standardized and needs evaluation and audit aspects. It is exactly such a case in which process variances and the people involved need to be identified to reduce unnecessary complexity and ensure high performance and value realization.

Defining and Justifying Business Process Variance

Once it has been determined when and how much variance will be allowed, these decisions should be documented to ensure that the rationale is captured. Furthermore, the variances that will be allowed should be defined to ensure that the business process modeling stays in line with the intention. Table 3 shows a matrix that may be used to document the decisions and define the variances to be developed.

As previously explained, process variances are justified by linking the process to a core business competency. Table 3 also allows business competency variances to be defined and justified and the number of variances that will be created. To ensure consistency in the way variances are identified, justified, and defined among different team members, Table 4 provides some rules and tasks to be followed by the business analysts, architects, and subject matter experts. These rules are similar to the reasons for process variance listed in Section 3 of this chapter.

Once a process or competency variant has been justified, the steps listed in Table 4 may be followed to complete Table 3. This will help that the necessary information for each variant is properly captured, resulting in consistency and repeatability in the business process modeling. Such a completed table will be an invaluable input into the modeling of business process variance.

PETROLEUM ENGINEERING
 LEADING Practice Business Model Reference Content (Operational Business Model View)
 A part of the LEADING Practice Oil & Gas Industry Standards

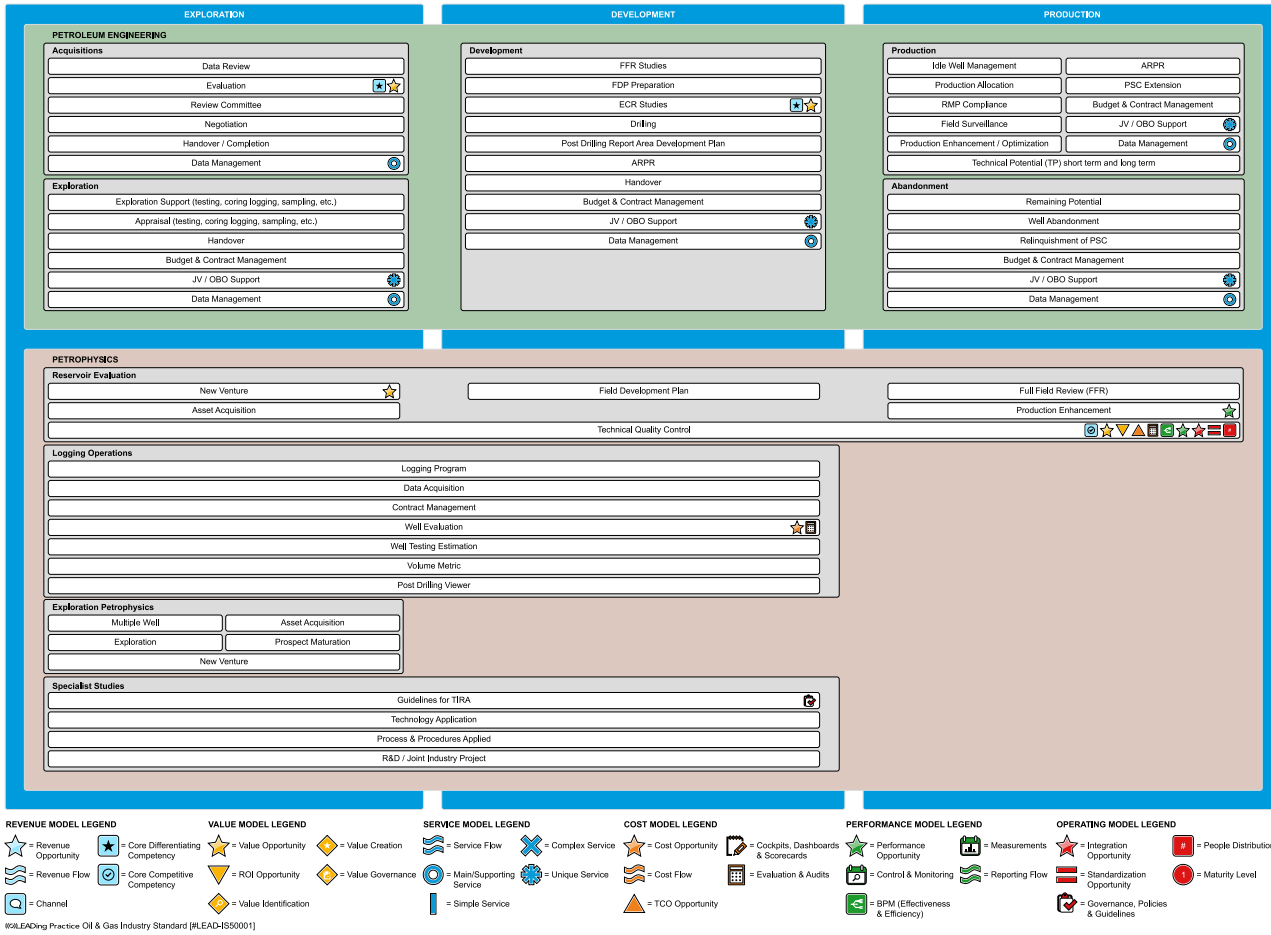


FIGURE 2

Example of Oil and Gas Petroleum Engineering business model.

Table 3 Business Process Variance Matrix

Process Variance Matrix	Variance #	Where Specification: (Business Model Relevant)			What Specification: (Process Model Relevant)		
		Business Competency Area	Business Competency Group	Business Competency	Business Process	Process Steps	Process Activities
Variance 1 List reason for variance	#						
Variance 2 List reason for variance	#						
Variance N List reason for variance	#						

Table 4 Example of Process Variance Rules and Tasks

Process Variances: A Matrix Used by an Enterprise to Indicate Where They Have Variances and Indicate Why They Have Them

Rules	<p>Process variance should be allowed based on the rules defined in the organization. The following are some examples of such rules:</p> <ul style="list-style-type: none"> • The function of the resource varies (competency relevant). • Resource-based overhead efficiency variance (competency and process relevant). • Material-usage variance (competency and process relevant). • Move-based overhead efficiency variance (competency and process relevant). • Standard cost adjustment variance (competency and process relevant). • Processing-efficiency variance (process relevant). • Process policy, rule, and process compliance variance (process relevant). • Process-execution variance (process relevant).
Tasks	<ol style="list-style-type: none"> 1. Identify and categorize the variance to the business competency areas. 2. Associate and tie the variance to the business competency groups. 3. Pinpoint the variances relevant for the business competencies. 4. Relate variances relevant for the business competencies to the business processes. 5. Identify and categorize the variance-only specific business processes. 6. Decompose business process variance to process steps and process activities. 7. Identify and categorize the variance only specific to process steps and process activities.

Modeling of Business Process Variance

Once the business process have been linked to the business competencies, classified as core-differentiated, core-competitive, or non-core, business process development relies on modeling the processes that need variances and standardize those that need more repetition. This modeling takes on different forms to achieve different critical success factors and business objectives. This is important, because the most appropriate way business process variances are captured and

modelled also depends on the purpose. The following three options, or combinations thereof, can be considered:

1. Distinctive business process maps, diagrams, or models;
2. Separate processes with a master-and-variant type relationship; or
3. Single process with variances at the lower levels, such as activity or task variances.

These three options differ mostly at the level of detail at which the variation is captured. Variation in business processes can also entirely be removed from the process itself by capturing the differences in documents that accompany and support the process. Admittedly, this will lead to the desirable scenario in which only one business process model or document exists for each process, but simply delegates the burden to the domain of documentation management. This approach will also inevitably lead to unnecessarily complicated documents; therefore, this approach is not recommended here. These three listed options are briefly discussed to illustrate the differences.

Distinctive Processes

Creating new, distinctive business processes can be considered the most extreme measure for dealing with business process variations. Essentially, it eliminates the need for any special consideration of process variance, by rather increasing the number of business processes. It should also be noted that such distinct variances can be created at any level of decomposition. Business competencies or even competency groups may be variations of each other. In fact, it is common for organizations to establish new competencies as variations of current competencies, to develop new, specialized, or innovative products or services. It is very common for organizations to create new competency and process variants, then later consolidate to cut costs and standardize.

Figure 3 shows the Technical Quality Control business process of the Oil and Gas Petroleum Engineering business model. Four separate and specialized process steps are shown, with their own activities for failure analysis for different types of mechanical equipment.

These process steps may initially have come from a single failure analysis process, but now represent four distinct activity flows, with no dependencies or relationships actively maintained. The obvious result of such a separation is that eventually these processes may have nothing in common. Conversely, though, the possible benefit is that the unique details, such as process activities, skills, knowledge, and information can easily be captured.

Master-and-Variant Processes

If there is a desire to maintain commonality between different process variants, or at least traceability back to the master process, it is advisable not to create distinct process maps, diagrams, or models. Maintaining such relationships in documents is a laborious task and business process modeling methodologies and tools do not typically support it. Instead, the master process and its variants should be seen as

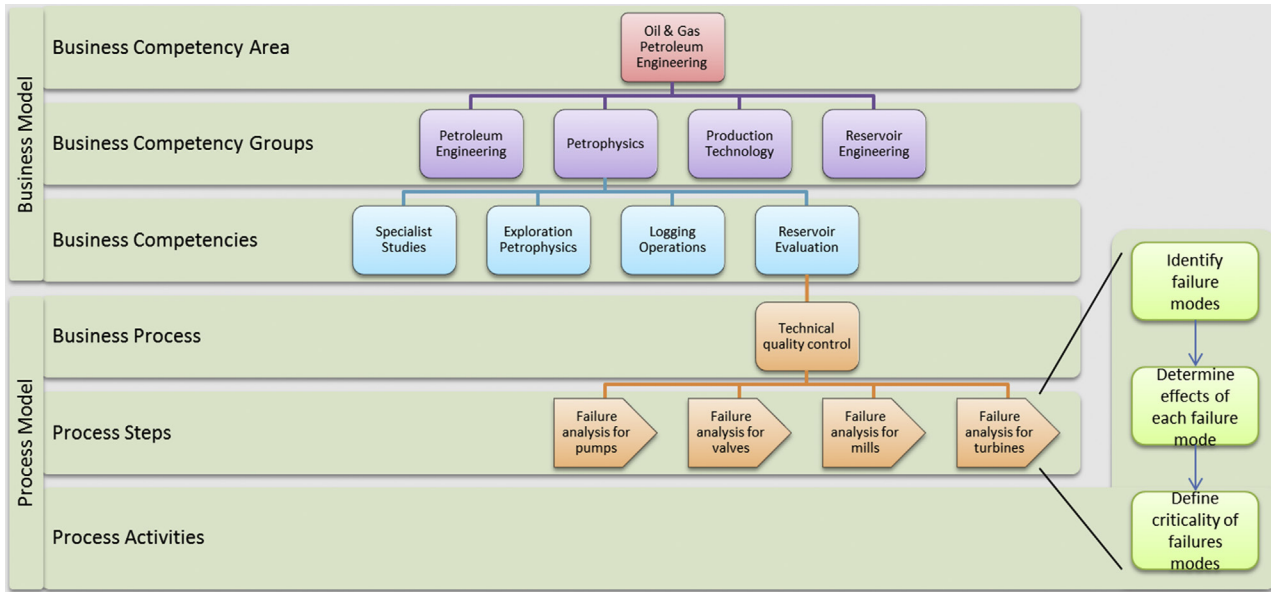


FIGURE 3

Breakdown of processes by failure analysis.

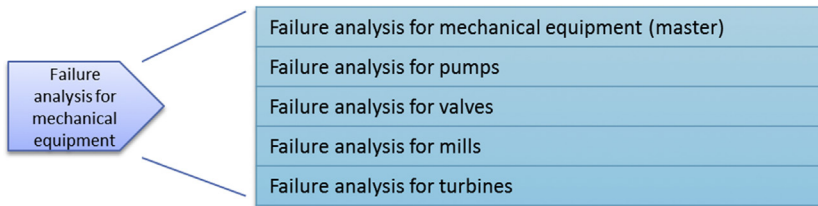


FIGURE 4
Master process with variants.

a single unit, with multiple stakeholders. In document format, the master and its variants will typically occupy a single document, with sections for the variants. Figure 4 shows a very simple illustration of how this configuration can be modeled for the same failure analysis process used previously.

When accessing the details of the failure analysis process, several options are presented. The user then has the option to access the details of the master process or any of its variants. Admittedly, this approach still does not force commonality between the process variances, but at least the traceability to the master process is very clearly maintained. Representing this type of business process with variants in a document format will ultimately result in a substantial document with sections for each of the variances.

Lower Level Variances

The final approach presented aims to maintain commonality of at least the process activities, or any lower level details of the process. Thus, traceability and alignment between the master and variance processes are maintained by essentially forcing the use of common process activities or tasks. This approach then only allows for differences in the inputs, outputs, controls, and mechanisms involved in the process. Figure 5 shows a very simple example of the lower level details of the same failure analysis process.

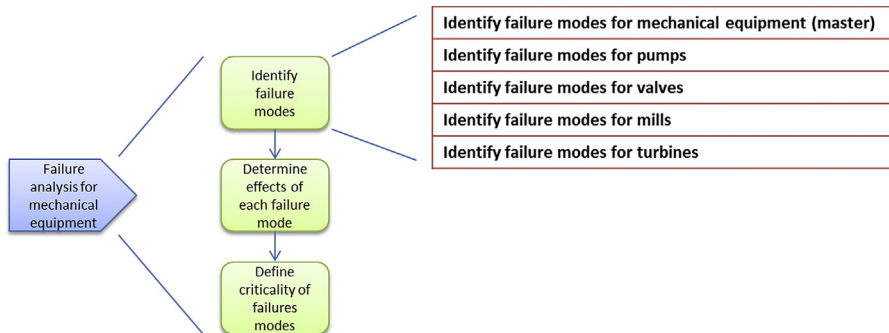


FIGURE 5
Common process with variation on activity level.

Only one process is shown with a definitive set of activities. When attempting to access the details of the first activity, the user is presented with a menu of options, corresponding to the application of the failure analysis process to different types of equipment. When selecting one of the options, the user may be presented with tasks that are more detailed or perhaps with the inputs, outputs, controls, and mechanisms for that specific application of the activity. This approach suffers when presenting business processes in document format. Each process step or activity is accompanied by a matrix to show the different inputs, outputs, mechanisms, and controls of the variants.

Managing Business Process Variances

The three approaches to capturing and modeling business process variance unsurprisingly result in varying degrees of managerial burden. Simply put, the amount of administrative control necessary is proportional to the amount of content created and the need for accurate traceability. The first approach, in which distinctive processes are created, results in the most architectural content, but does not really lend itself to maintaining traceability between the processes. A generic master process may obviously be documented, but its relationship to the variant processes can at best be a text-based reference. The other two approaches are better suited to maintaining traceability to the master process. The second approach, in which variants of the master process are created, will result in significantly more business processes, but at least commonality is encouraged by keeping the processes together in the model. The third approach will result in the fewest business processes and least content to manage, but is very difficult to capture in document format.

When considering management of the complete process life cycle, the need for different approaches for different processes is further enforced. [Figure 6](#) shows how the various business models drive the value life cycle, which in turn drives the process life cycle.

The value and revenue models target innovation and align to the analysis and design phases of the process lifecycle. Thus, in the context of business process variance, business value, and revenue creation will drive the identification of unique variations in process and how those variations deliver value to the business. Innovation will eventually make way for a focus on efficiency and effectiveness, once a product or service reaches its midlife. Thus, the performance and service models will drive business process improvement and standardization. Eventually then, cost and operating models will be introduced to drive optimization and simplification. Thus, the management of business process variance is not only dependent on the business model and strategies, but also on the life cycle of the specific process and its resulting product or service. Early in the life cycle, when innovation is encouraged and freedom is sought, variation should be allowed. When the innovation delivers value, the core-differentiating competencies should be captured and treated as recognized business process variances. This approach ensures that the

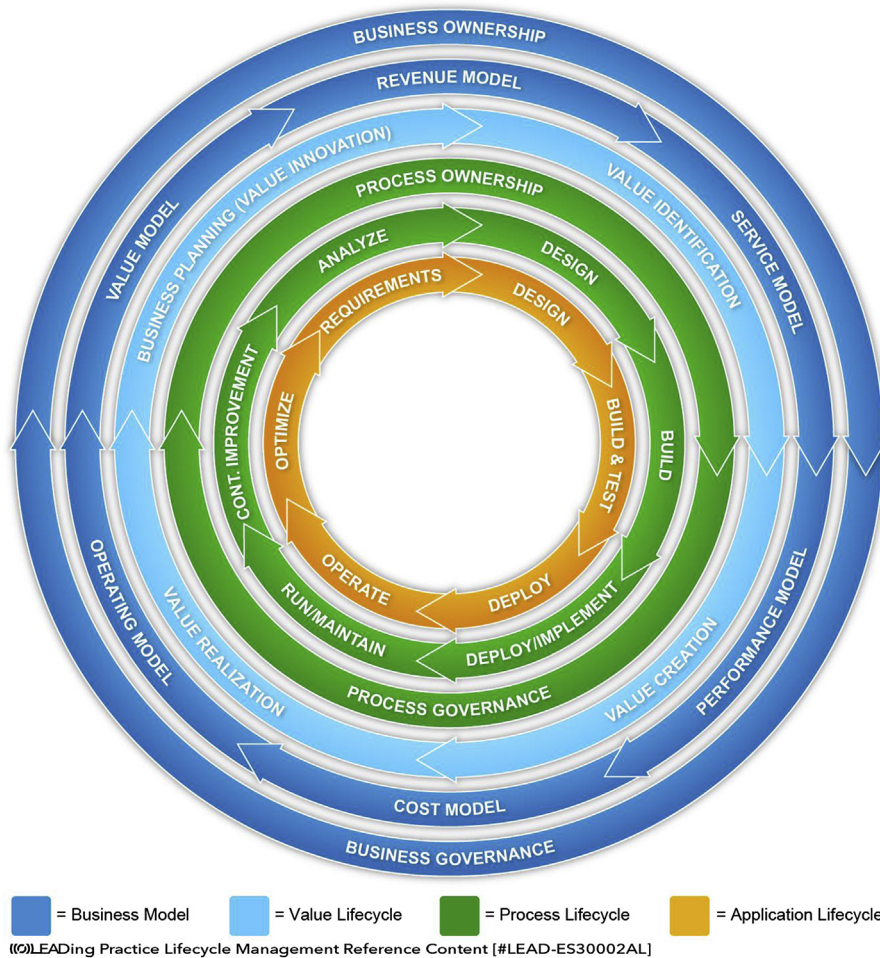


FIGURE 6

Business models and life cycle alignment.¹⁸

justification for the variance is captured to enable informed management thereof later in the process life cycle.

Regardless of the life-cycle phase of a process, it should be measured and managed. The process performance indicators will typically be associated to individual variants, to allow for comparison of the process variants. The more business process variance exists, the more management effort is necessary, because effectively the amount of architectural content is increased. As with all business processes the documentation, configuration, and interfaces of all variants must be managed. This task is significantly more difficult though; not only must alignment be maintained between the actual process, the documentation that describes it and what is

expected of the process, but also traceability and commonality to the master process, if one exists. This requires establishment and maintenance of an additional relationship within the process content and appreciable attention from business process management.

COST CALCULATION OF PROCESS VARIANCES

The ability to calculate the cost of process variances is an important aspect for BPM, Information Management, and Operations Management. The typical information solution vendors like SAP¹⁹ or Oracle have standards to calculate cost of process variances. Oracle lists the following ways to calculate cost of process variances²⁰:

1. *Material Usage Variance*: The difference between the actual material issued and the standard material required to build a given assembly, calculated as follows:

$$\text{Standard material cost} \times (\text{quantified issued} - \text{quantified required})$$

Such a variance occurs when an organization over- or underissue components or use an alternate bill.

2. *Resource and Outside Processing Efficiency Variance*: The difference between the resources and outside processing charges incurred and the standard resource and outside processing charges required to build a given assembly, calculated as follows:

$$(\text{applied resources units} \times \text{standard or actual rate}) - (\text{standard resource units at standard resource rate})$$

This variance occurs when you use an alternate routing, add new operations to a standard routing during production, assign cost resources to No-direct charge operations skipped by shop floor moves, overcharge or undercharge a resource, or charge a resource at actual.

3. *Move-Based Overhead Efficiency Variance*: Move-based overhead efficiency variance is the difference between overhead charges incurred for move-based overheads (overhead basis of Item or Lot) and standard move-based overheads required to build a given assembly, calculated as follows:

$$\text{applied move-based overheads} - \text{standard move-based overheads}$$

This variance occurs when you use an alternate routing, add operations to a standard routing during production, or do not complete all the move transactions associated with the assembly quantity being built.

4. *Resource-Based Overhead Efficiency Variance*: Resource-based overhead efficiency variance is the difference between overhead charges incurred for resource based overheads (overhead basis of Resource units or Resource value) and standard resource-based overheads required to build a given assembly, calculated as follows:

$$\text{applied resource-based overheads} - \text{standard resource-based overheads}$$

This variance occurs when you use an alternate routing, add new operations to a standard routing during production, assign cost resources to No-direct charge

operations skipped by shop floor moves, overcharge or undercharge a resource, or charge a resource at actual.

5. *Standard Cost Adjustment Variance*: Standard cost adjustment variance is the difference between costs at the previous standards and costs at the new standards created by cost update transactions.

cost of previous standards – cost of new standards

The following are some of the challenges doing cost calculations of process variances:

- The cost of the process variances can only be calculated if all the numbers exist before and after. Many organizations do not measure what they had, or they did not measure it the same way.
- The cost of calculating the cost of variances is very time and resource consuming. In other words, it is very costly to identify high-cost and inefficient process variances.
- To determine variances between production and planning involves not only the process but also the information flow. Although such an analysis has huge potential, it can be very time-consuming.
- The ability to show the causes of the variances and assign the variances to different variance categories depending on the cause.
- All of the above ways of evaluating cost of process variances do not really identify the specific process that is the root cause for the high cost and inefficient process variances. They only identify the high cost of doing it in a different way.

LESSONS LEARNED

For business process variance to deliver value to the enterprise, it is crucial to properly plan how it will be modeled and managed. As explained, variance introduces significant additional content and complexity to the business process landscape, resulting in increased management burden. Furthermore, it is important to consider whether the business process management function is up to the task of handling the increased burden. Ultimately, it is always a trade-off between more accurate representation of the core-differentiating competencies and increased complexity in the business processes.

The best approach is to introduce as little variation as possible and to make sure it is in the core business. If it is found that only the skills, knowledge, information, or tools differ between process variants, it should be entirely adequate to only have variances at process activity level. This will ensure that the desired commonality between the process variants is maintained and the amount of new content is minimized. Alternatively, if the business is targeting innovation and wants to allow its practitioners more freedom, it is probably more appropriate to create completely distinct and separate processes. Either way, the business processes should be formalized and documented, even if only at a low level of detail, to gain the wide-ranging benefits thereof.

CONCLUSION AND SUMMARY

Business process variance should be seen as a viable way of allowing small differences in the way the core business functions are performed. It is advisable to only introduce variation in those business processes that represent the core-differentiating competencies of the organization. This will allow an enterprise to develop its own practice and deliver unique value to clients and other stakeholders. For non-core and core-competitive competencies, best practice and industry best practice should suffice.

Business process variance can be modeled three different ways, depending on what is expected thereof. If the aim is only to capture slight differences in the inputs, outputs, controls, and mechanisms of processes, it will be adequate to only create variances at the process activity or task levels. However, if the actual steps of the variant processes are different, true process variances can be used by presenting all the variances together in a single model or document or separate distinct processes may even be developed.

The modeling approach taken has a major impact on the management of the business processes and variances. When certain commonality between the master process and its variants is important, additional business process management techniques are necessary to maintain this traceability. This will require that a great deal of attention is given to establishing and maintaining the traceability links between the variants. Separate and distinct processes introduce more process content, but standard business process management is applied because traceability to the master process is unnecessary.

When introducing process variance, caution should be taken and the amount of variation should be minimized. If the development and modeling is not sufficiently controlled, the amount of additional and unnecessary content will very quickly become unmanageable. However, if it is done well, it is an excellent way for organizations to acknowledge and embrace their unique value enablers, without losing out on the many benefits of business process modeling and management.

End Notes

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