



PROCESS CATEGORIZATION
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Executive Summery

Not all processes are created equal. Some processes are of significant strategic value and therefore of great importance to the organization. Other processes, while they must be done, offer nothing of particular significance to the business. At the same time, some processes are simple, highly repeatable, and involve the same transactional and transformation work which can be done over and over again; others are more complex or dynamic, involved in cases where the rules either are not clear, are chaotic, or subject to dynamic change. Understanding the nature and importance of processes is therefore central to effective process management and the basis to develop a process architecture.

Process Management & Process Architecture Challenges & Complications

Since not all processes are equal in performance and or value potential, the ability to identify and specify the appropriate design of each of the process, within its proper context of value, remains in both BPM and Process Architecture one of the biggest challenges. The challenge is, however, not only about the ability to differentiate value in processes or to distinguish between simple or complex processes that convert one or more inputs into a single output (transformational work). The challenge also relates to the difficulty to identify and distinguish between which processes need what kind of governance, rules, monitoring and decision making, to form coherent process design and process architecture. The architecture of a process system is a combination of the processes that exist in the successive layers, which exist within the different conceptual spaces, which make up a particular process as well as the chain of activity that converts the inputs into the outputs which are at the core of the enterprise purpose.

Part of the challenge in making the design decisions is that process, and the work it entails, cannot be connected directly to strategy. Before understanding the linkage of process to strategy process must first be connected through the integrated and holistic set of knowledge, skills, and abilities that combined, enable the enterprise to act in a particular situation, its competencies, and to differentiate within these, what is important to the strategy and what is not. It is only those competencies that make a difference as part of the means of achieving the value set out in the strategy which have processes that can be considered to deliver value, whereas other processes, while they might be necessary, do not provide value so that the goal then becomes to do them for as little cost as possible. Core competitive competencies and their processes are valued for providing the ability of the enterprise to compete within an industry; core-differentiating competencies, with their respective processes are also of value as they provide something that the customer uses to make choices in the market. All remaining competencies and processes are simply things that must be done. Given that it is mandatory that the work be carried out, it is desirous that it be done at the lowest possible cost to be good enough for the circumstances.

Once the enterprise truly understands which processes are actually of value, it is appropriate to invest in optimization to perform to include all factors that will determine a product's success across its entire value stream and life cycle, to reduce waste, improve the quality of the design, and reduce the time to achieve the final result. On the other hand, processes that do not contribute to strategy and therefore lack in value creating properties do not warrant the focused attention of customized design and thus a generic approach to how they are conceived is appropriate. Where process architecture is not applied, the product will not align to goals, produce unnecessary pain, and raise the potential of a process being too expensive, too complex, or not enabled with an appropriate solution architecture. On the other hand, where a sound process architecture exists, it can lead to processes that are of high value, creating differentiation of strategic import where this is needed while simultaneously finding process with low business value potential and they can therefore be performed at minimum cost.

Conceptually we know that a process may draw on a range of properties to get its context or to capture its behaviour in a complete form. Specifically, a process will always have a direction, established via its purpose and goal, and will exist inside a competency that will call upon it to execute. Of further consideration are the Objects, which are a mechanism used by each process to fulfil their actions, the rules which control how they are employed, the Roles which both call upon and provide input to the actions of a process, and the Owner who seeks to control how each performs. There is also a requirement of each process to have the means to ensure it remains in control by being in Compliance, and that each be within suitable Flows that call upon their output. We further see that a well formed and complete process will be controlled through Measurement, and may use an Application as a mechanism to improve its capability to deliver, as well as interacting with Media, drawing on, or creating Data accessing the path

to receive or deliver outputs which is achieved through one or more Channels, and that it will be instantiated through a Service.

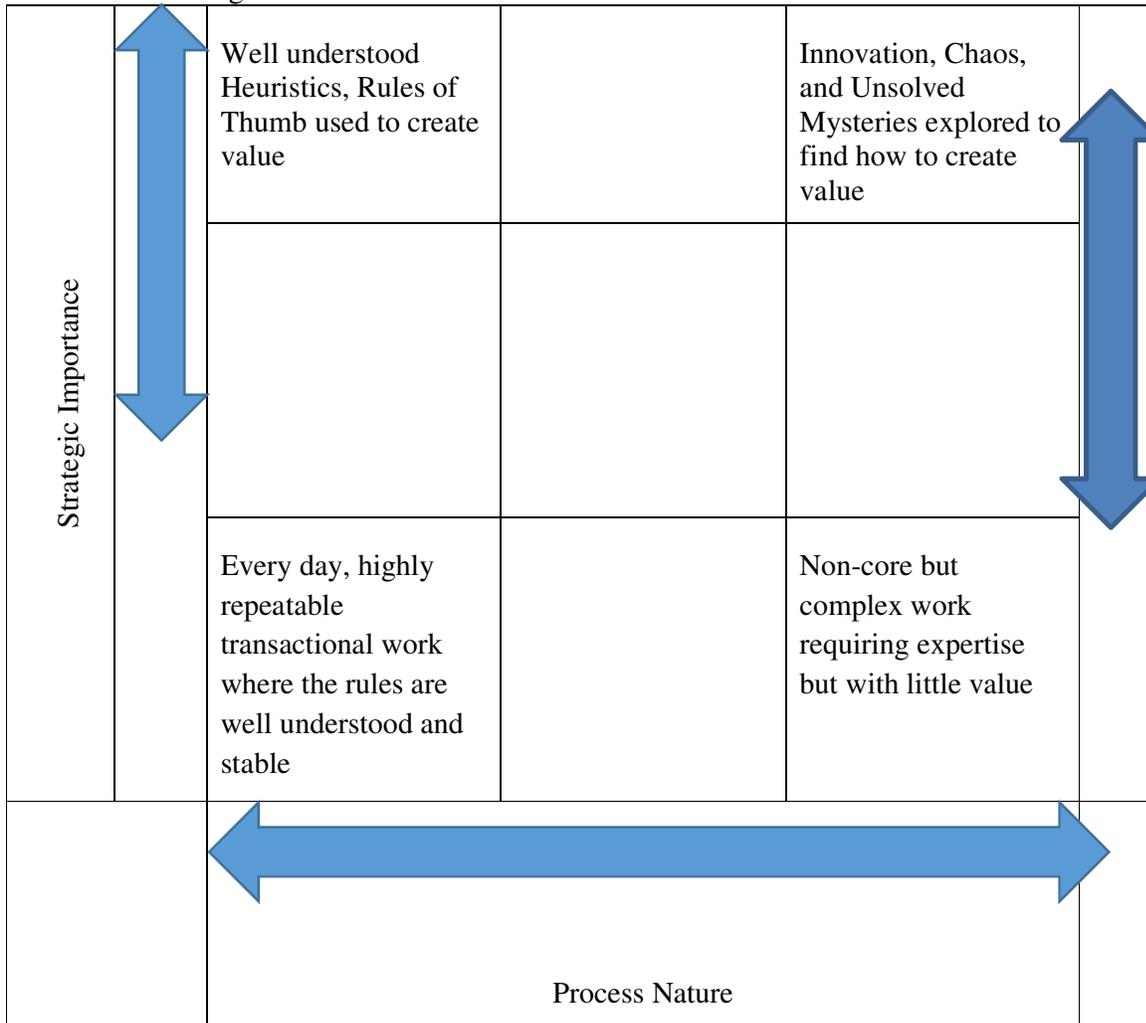


Figure 1 – Interaction between the nature of process and their importance

As noted earlier, and as shown in Figure 1 – Interaction between the nature of process and their importance, two factors distinguish processes, their relative value in the execution of strategy and their complexity. While the interplay between these factors leads to a set of patterns and choices, it is first critical to understand the nature of how the work considers both relative value and relative complexity, as well as how they interact with each other.

The characteristics of simple and static processes are that they are well understood, highly repeatable and are carried out multiple times in exactly the same way. At the same time, the characteristics of complex and dynamic processes are that they are difficult and challenging, the way they are carried out changes over time and the rules, practices and procedures of this class of process are subject to ongoing evolution.

Connected to the strategic importance of a process are two related ideas. The idea of a pain chain,¹ which is a set of factors, or pain points² that limit the ability of a process to actually provide value commensurate with the strategic importance of the value generated by the process. The idea of a goal chain³ captures the idea that the aspiration or desire to improve the creation of value through the elimination of deficiencies will lead to greater capability to provide value.

Strategic Importance	Value Focus	Support the differentiating strategies. high value potential.	Support the core differentiating strategies. high value potential.	Support of core differentiating strategies. high value potential.	
		Support the core competitive strategies with low to medium performance potential low value potential.	Support the core competitive strategies with medium to high performance potential. medium value potential.	Support the core competitive strategies with high performance potential medium value potential.	
	Cost Focus	Do not support strategy, provide low business value. low to medium potential for cost cutting	Do not support strategy, provide low business value. medium high potential for cost cutting	Do not support strategy, provide low business value. high to very high potential for cost-cutting.	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 2 – Role and Potentials for Process

¹The places where a business feels or has a "pain" due to either a difficulty, trouble, or problem in an area. It can be referenced in any context where something already has happened e.g. damage and/or even a crisis, or for anything that represents a dilemma of performance and/or value setback for the organization.

² an existing or not fully identified challenge to achieving value or reducing cost

³ Desired, "To Be" state

Figure 2 – Role and Potentials for Process, shows the connection between value and cost, both how they are produced in the steady state of the enterprise as well as through change. In figure 2, the model captures the idea that high value, complex processes are of high strategic importance while those that have little or no strategic importance have a cost focus. The figure also exposes the ideas of value and performance potential. Value potential relates to the possibility of creation of wished benefits. This value identification is also the basis of any business case input, building the case for any investment potential, whereas performance potential equates to possible improvement, optimization, and efficiency. From this, we see in figure 2 that value potential exists where there is strategic value and the nature of the process involved is relatively more complex. Indeed, by the time you get to the low value (not strategically significant, simple processes), we see that the processes involved have little or no value and warrant no time to even invest anything substantial in cutting their costs, they are just not worth the time.

Why this model is important is that it exposes missing elements in other approaches; it brings to the forefront the idea of value versus cost. In other words, while some processes must speak to the “voice of the customer” and seek to maximize value to the customer, we find that the cost of designing and executing processes where the value of the process results in something that the customer is indifferent to results in an unnecessary investment in optimization. Clearly then, the strategy, the resources, the management attention, and the approach to each of these nine different situations must be different. Through the distinctions it draws, the model exposes the consequences of across the board cost cutting, or in universal undifferentiated investment in process improvement. In the first case, it shows that universal cost cutting can lead to the loss of ability to compete strategically and to differentiate oneself in the market through the unnecessary loss of value. Second, unfocused investment in “improvement” can lead to increased costs without actually giving the customer something of value in such a way that improves the enterprise ability to complete i.e. increased cost without a return in actual value that makes a difference within the strategy.

Lessons Learned

There are seven dimensions of process design which individually and collectively influence how a process must be designed to achieve its performance targets, whether they be value maximization in support of the strategy or cost minimization due to the fact they are necessary but not valued.

1. Process Implementation Strategy
2. Process Drivers
3. Process Reporting
4. Business Process Management Need
5. Operating Cost Model
6. Risk Management
7. Deployment Strategy

A further, eighth dimension of process architecture also exists. This dimension, which is captured in an Operating Model, considers how best to consider interests across the enterprise given the portfolio of business involved and the degree to which their interests are shared so as to deploy it properly.

Each of these models provides an opportunity to gain insight into a particular aspect or feature of a process. The conclusions drawn about the relative value and cost of a process can then be used in a consistent way to understand the choices available in developing the process architecture.

These models collectively provide a very powerful tool to classify and categorize process and through these mechanisms to tag them within the process architecture to facilitate analysis and disposition.

Process Implementation Strategy

The process implementation strategy focuses on how the process is put into operation, differentiating based on how to produce change: through evolutionary change, transformational change, or through innovation.

While evolution is about the gradual change of what is there, transformation is more fundamental, changing the nature or essential aspect of something which already exists and innovation introduces something never seen before or makes a connection between two things in a way which is unique.

The process implementation strategy therefore shows how to invest appropriately in a change agenda to adapt processes to their circumstances. The focus of innovation is within the high, value complex processes, whereas evolutionary change is focused on the relatively simpler and lower value domains, leaving the middle ground for transformation.

Strategic Importance	Value	Evolution of Own practice	Transformation of existing practice through elimination of pain points.	Innovation to find new practice.	
		Evolution of Industry best practice	Evolution of existing practice through elimination of pain points.	Transformation of industry practice through elimination of operational weakness clusters.	
	Cost	Evolution of Best Practice enabled to cut costs	Evolution of existing practice through elimination of pain points.	Evolution of existing practice to reduce cost through elimination of operational weakness clusters.	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 3- Strategy Options for Process Implementation

Process Drivers

Understanding the factors that lead to the functioning of a particular process provides a means of not only understanding what to consider when evaluating the operations of a process but of developing the approach to improving that function.

Strategic Importance	Value	Performance and value drivers	Performance and value drivers	Human based process innovation	
		Performance drivers	Performance drivers	Identification and elimination of operational weakness clusters	
	Cost	Cost Cutting	Cost Cutting	Human based cost cutting	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 4 – Factors that influence Process Design

When we consider the factors that influence process design, we see that when we are looking at low value, cost centric processes, it is all about cost. Human based cost cutting, which is generally achieved by training or other means that improves human performance, must occur on processes that are more complex. More straightforward standard cost cutting is normally applied on the less complex processes.

As the focus of a process becomes less about cost, the nature of its performance and the factors that influence its ability to perform become more relevant. By understanding these factors, the process drivers, we see that improvements to a particular process can best be achieved by selecting the right tool for the right job. As the focus continues to shift from being cost centric to getting the needed value from the process, the value drivers, or factors that impact on its ability to deliver this value obviously become more relevant. Similarly, as the work becomes more complex the need for human invention is needed to find ways to determine just how the process should function.

Process Reporting

The need to exert control over effective delivery by those responsible for the performance of a process is key both to the ability to control the process and to ensuring it is behaving in accordance with its design targets.

As with Process Implementation Strategies and the factors that influence and push processes, reporting choices should be appropriate to the situation.

Within reporting, reports are periodic accounts of the activities of the enterprise, whereas the other reporting tools are real time or near real time communications tools for providing information in such a way as to connect the activities to their strategic context. Whereas scorecards are a summary record of events of the execution, dashboards provide at-a-glance views of KPIs (key performance indicators) relevant to a particular objective, and cockpits provide real time/actual measurement. Reports are not necessarily connected to strategy as they simply communicate what has happened within the process, or to its input and output. Reports typically occur after the fact, and are used for analysis. Their primary function is to support the oversight of resources in roles that are primarily concerned about the control of execution of work. In this case as the concerns are just about control, all that is required here is the applications of sound standards and guidelines.

Strategic Importance	Value	Scorecards and reports	Scorecards and dashboards	Scorecards and dashboards	
		Scorecards and reports Governance	Scorecards and dashboards	Scorecards and dashboards	
	Cost	Reports Governance	Reports and cockpits Governance	Cockpits and dashboards	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 5 – Process Reporting Model

By using the correct reporting tool, supervisors, managers, and executives are given access to the right information, in the right form, and at the right time to obtain the necessary insight to understand, decide, and act to control and adapt processes in a suitable manner.

Business Process Management Need

Business process management (BPM) is a systematic approach to making an organization's workflow more effective, more efficient, and more capable of adapting to an ever-changing environment. Process management is concerned with both process efficiency and process effectiveness but to differing degrees. While process efficiency is the ability to do something or produce something without wasting materials, time, or energy, process effectiveness is the degree to which something is successful in producing a desired result.

The simpler a process, the less variation in its ability to produce the required result is worth investment. Due to the lack of a value focus Process effectiveness, i.e. producing the desired result, a lot of time should not be wasted on eliminating waste or otherwise increasing efficiency, the effort will never get the needed payback, and the time is best spent elsewhere.

On the other hand, it will be a great value to an organization to engage in continuous improvement and seek ever better ways to operate the relatively complex, higher value processes while paying relative attention to Process efficiency and effectiveness for improving the overall performance and value.

Strategic Importance	Value	Process efficiency	Process efficiency and innovation	Process efficiency and continuous improvement through innovation	
		Process efficiency and effectiveness	Process efficiency and effectiveness	Process efficiency and innovation	
	Cost	Process effectiveness	Process effectiveness	Process efficiency and effectiveness	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 6 – Business Process Management Need

One of the things exposed in this context is that a process can be inefficient but still be of great value if it is effective in delivering that value. In such circumstances, it is important not to seek to improve such a process by improving its efficiency (reducing waste and cost) in a manner that reduces value.

Operating Cost Model

Analysing, monitoring, and reducing cost in one’s operating model is not a new discipline. In fact it is among the top strategies applied by organizations. Managing the cost model is the process used by organizations to administrate, evaluate, and in the end, reduce their costs and therefore increase their profits. As every decision in the product development process affects cost, depending on the services or product, the specific application of the strategy can vary.

While cost is always important to manage, we have found that the cost model becomes very important when competition increases and price becomes a differentiator in the market. The design and implementation of a comprehensive cost reduction strategy should focus for the most on three key deliverables:⁴

1. Cost Reduction - reducing overall operating costs
2. Cost efficiency - Improving the management of utility contracts and relationships
3. Reducing the waste generally across all departments within a business.

It does not matter which strategy is chosen, each can only be executed through process optimization, process standardization, or process reengineering. The challenge faced however is in two parts, first not all processes have the same cost cutting potential and second, is that when applying the same cost cutting principle to an area with high value potential, the organization actually starves the area where they are unique. The result is that they spent lots of money creating a situation where they destroy their ability to compete by eliminating the ability to differentiate. Using the process categorization to differentiate where and how cost-modelling principles are applied to the operation and nature of the processes and the strategic importance is therefore vital for making effective cost choices.

Strategic Importance	Value	Low to Medium	Medium to High	High to very high	
		Low to Medium	Medium to High	High to very high	
	Cost	Low to Medium	Medium to High	High to very high	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 7 – Operating Cost Model

⁴Cost Model Reference Content LEAD-ES20011BCPG

Barrett R. Crane, <http://hdl.handle.net/1721.1/11020> "Cycle time & cost reduction in a low volume manufacturing environment", MIT DSpace

Apichart Jearasatit, <http://hdl.handle.net/1721.1/60836> "Using a total landed cost model to foster global logistics strategy in the electronics industry", MIT DSpace

Bryan K. Parks, <http://hdl.handle.net/1721.1/12092> "Cost and lead time reduction in the manufacture of injection molding tools", MIT DSpace

Risk Management

When considering the effects of uncertainty on process design and operations, risk is invariant with respect to value, but increases as complexity increases (assuming process volumes are consistent across the entire enterprise).

Strategic Importance	Value	Low, based on nature of processes	Medium, based on nature of processes and attached issues	High, based on nature of and the value clusters	
		Low, based on nature of processes	Medium, based on nature of processes and attached pain points	High, based on nature of and the operational weakness clusters	
	Cost	Low, based on nature of processes	Medium, based on nature of processes and attached pain points	High, based on nature of and the operational weakness clusters	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 8 – Process Risk Management Trade off Model

While the probability and impact of variation in the performance of a process is consistent within processes of the same nature, when considering other than simple and static processes the reason for the risk varies.

Variations within simple processes are generally not material to their performance and therefore not of concern to the extent that explicit risk management centric oversight is required. On the other hand when considering bottlenecks in processes, a phenomenon where a single or limited number of components, aspects or resources effect and thereby limit the capacity effecting performance and value, the same bottleneck would have a different impact to a high value process than it would to a lesser value process. Therefore considering the process nature one distinguishes between pain points, weakness cluster and value clusters:

- Bottlenecks in processes with low value potential are typically effecting progress in terms of performance pain points. The gap between performance expectations and some aspect of the

organization's ability to deliver represent a specific process **pain point** and need be addressed within performance modelling and the process risk management regime.

- Bottlenecks in processes with interconnected constellations that limit the ability to deliver value to customers are called value clusters. Deficiencies related to the creation of value will be of greatest interest and be addressed within value modelling and the process risk management regime.
- Weakness Clusters are concentrations of interconnected limitations of the enterprise's ability to execute and perform. Variations generated as a consequence of the existence of weakness clusters are of interest and are appropriately mitigated

Deployment Strategy

To actually put processes in operation and gain the value of their operation requires the processes be deployed and enabled through the appropriate investment in capabilities so as to increase the ability to perform.

Strategic Importance	Value	Through the application of heuristics and rules of thumb	Invest in big data and data analytics	Invest in big data and data analytics	
		Automate in transactional systems or through automation	Through the application of heuristics and rules of thumb	Invest in big data and data analytics	
	Cost	Standards and guidelines These processes are so simple that investment in automation is not warranted	Automate in transactional systems or through automation	Candidate to outsource	
		Simple/Static	Generic/Hybrid	Complex/Dynamic	
		Process Nature			

Figure 9 – Deployment Strategy Model

Humans may be substituted for machines to achieve a lower cost of operations. First, aspects of human labour were replaced with simple tools and that of animals and later with machines and finally with computerized equipment. In modern times transformational work, which converts inputs from one form to another has typically been achieved through machines and more recently through transactional work, which centres on information that has been achieved through software systems. Now more and more, with the introduction of data analytics, we see the adoption of enabling systems to support the creation of tacit knowledge and introduce new, evidence-based practices, based on the insights so gained.

For simple transformational and transactional type work, automation by substituting mechanical or software-based equipment and through the elimination of waste can make economic sense and/or allow the affected process to bring more value to the enterprise. For those processes that tend to be either more

complex or more valuable, it makes sense to seek improvements just through the exploration and development of the methods and practices to achieve greater value. Generally, transaction volumes aside, investment in automation or other capabilities should receive low priority when the process is cost focused and simple, the business case will not be there unless the transaction volumes are significantly larger than elsewhere in the process landscape.

Understanding the dimensions of a particular process is necessary to its design, but not sufficient. It is also essential to place the process into a meaningful context in terms of how it will need to operate. For this, we must go to a model that does not consider the relationship between complexity and value but considers how the process must be applied.

Operating Model

An Operating model is an abstract representation of how an organization operates, or could operate, across process, organization, and technology domains to achieve its purpose and execute its strategy. The operational model is orthogonal to the previous models. While all the other models examine strategic importance and process complexity within a particular context, the operating model does not; the operating model considers the implications of relative process standardization and integration, irrespective of its value or relative complexity.

	Process standardization	
Process Integration	Low	High
High	Coordination	Unification
Low	Diversification	Replication

Figure 10 – Process Deployment Options

The two dimensions of processes considered for the Operating Model are:

- **Process Integration** – The extent to which each occurrence of a process in the enterprise uses the same data no matter where the process is executed. A process with low integration might be the activity involved in booking a conference room at a remote site; nobody in other offices needs to know about the availability of a room so information about the room, its status, what is in it, would not be shared across the organization. On the other hand the list of employees might be common and shared throughout a far flung world-wide organization, necessitating high process integration
- **Process Standardization** – The degree to which the activity process must (or can) be made uniform. A process with low standardization will be done in different ways, whereas one with high standardization will be done in exactly the same way, even though it may be done in many different places within the enterprise.

The possible options for the actual deployment of a process are to use one of the following methods.

- A **Coordination** strategy is appropriate when there is low process standardization (processes are carried out for valid different reasons) but high process integration (data used within the process are the same). That is, processes can be deployed locally but kept in coordination through a central mechanism so each process is done the same way, but with different data.
- A **Unification or centralization** strategy is obviously applicable when there is both high standardization of the use of data and common use of data (process and data are the same across the organization irrespective of where execution occurs).
- A **Diversification** strategy is appropriate when businesses require processes with low standardization (processes are carried out for valid different reasons) and low integration (data used within the process

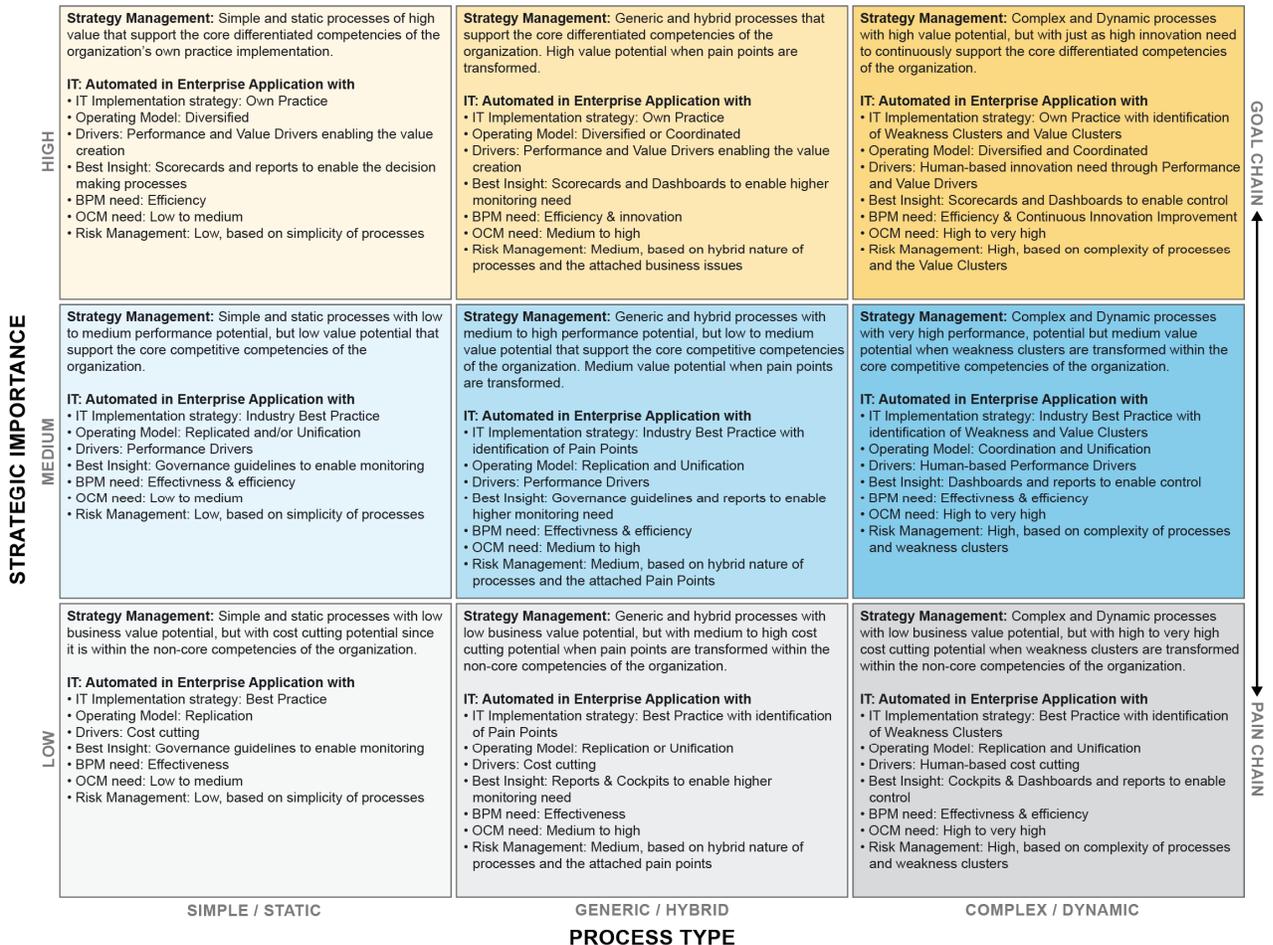
are not the same), in which case not only is the way each process carried out locally unique, that data consumed and produced has its own local flavour.

- In a Replication strategy, the way the process is performed is the same but the data is different, a condition which is then addressed by copying the capability which then permits the organization to “think globally, but act locally.”

This model can therefore inform business owners about the suitability and strategies for how a particular process should be deployed to protect value and uniqueness while ensuring costs are controlled where appropriate.

Conclusions

In this chapter we have shown that all processes are not equal a fact that most BPM CoE and BPM teams need to build into their approach. Strategies for managing them and for ensuring the enterprise obtains what it needs from each cannot be a one size fits all strategy that focuses on cost, seeks optimization, to create a process landscape and process architecture that is sound, testable and leads to the ability to describe and define an integrated value management, real time performance, and decision-making.



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Figure 11 - Process classification, tagging the process archetypes that exist within each of the eight models

We have seen that while processes may be differentiated by their value and by their complexity, the methods to design and deploy them must account for the different factors that influence and shape them. We have further seen that processes have their own connection to the purpose and goal of the enterprise, to the competencies needed to perform in the environment, as well as in terms of the roles, rules, compliances needs, and other factors. Finally, we saw that through the process of tagging the process archetypes that exist within each of the eight models that we are able to create a classification scheme to find processes which lack the ability to create value and therefore have the greatest potential pay-off for cost cutting, separating them from those where investment should occur (see figure 11).

These lessons learned shared in this chapter illustrate which process classification principles can be applied to improve the properties of a process depending on where a process is in the distinct continuums of value (high, medium, and low) and the process type (simple, hybrid, and complex). Such a process architecture categorization and classification can therefore enable value, execute strategy, empower process decisions and to identify where to cut costs.

Note on Intellectual Property

While this document should be seen and used as a detailed description of how the process reference content can be used, it does not have all aspects of the Process Categorization reference content and thereby the various process engineering, modelling and architecture disciplines involved.

It attempted to build a basis of a structured way of thinking, working, modelling and implementation of process categorization. It endeavoured to provide a standardized terminology, build common understanding and make available the standardized and integrated Process Categorization model.

For further learning around the process categorization reference content or how the process reference content can be used within the other LEADing Practice Reference Contents we refer both to the LEADing Practice Body of Knowledge document as well as the other LEADing Practice Enterprise Standards and their Reference Content on www.LEADingPractice.com.

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