Standard Operations Reference Models - the key to realising HP's Adaptive Enterprise

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Executive Summary

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Introduction

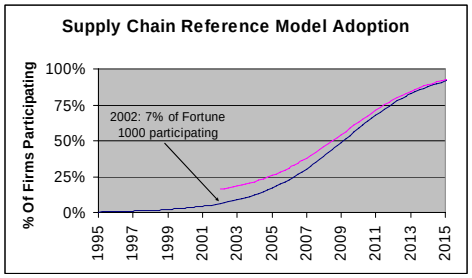
In order to extend HP's service businesses over the value chain, the company needs a means of capturing, analysing and implementing core business processes that can stand up to competition from companies such as IBM. Equally as challenging, it must also be capable of interoperating with many, sometime competing mechanisms for measuring and managing business processes. Getting this right is key to succeeding in the Adaptive Enterprise.

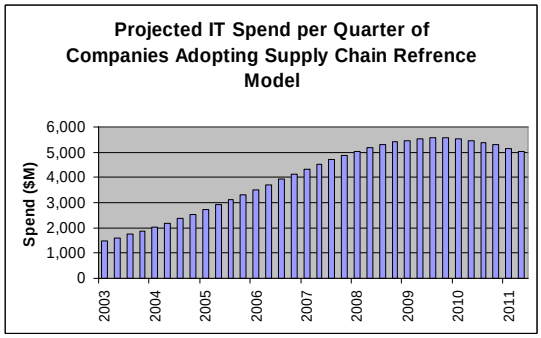
HP already has an impressive internal capability that can be leveraged to drive these services –operations reference model based business process management. This white paper describes these processes, their proven value, and the means by which they could be exploited to provide a significant and long lasting competitive advantage for the company.

Standard Operations reference models make it possible for an organisation to optimise service offerings through the identification of best practice, common (key) infrastructure components, systems analysis processes and training with a consequent improvement in bottom line performance. Emerging from industrial consortia (such as the supply chain council – a body made up of organisations that both use and source supply chains), whose members understand the value in collaboration, these have proven commercial value. For example, the following performance data demonstrates a striking difference in the effectiveness of the 7% of the 2002 Fortune-1000 companies that use the 'supply chain operations reference model' (SCOR):

	Supply Chain Council Members	Other	7% Supply Chain Council Members
Net Profit	**$71B**	**$131B**	35% Profit of Fortune-1000 due to 7% supply chain council members
Average Profit	**$1B**	**$0.141B**	721% more profitable
Net Revenue	**$1,458B**	**$6,908B**	17% Revenue of Fortune-1000 in supply chain council members
Average Revenue	**$20B**	**$7.4B**	280% more revenue

Taking this as the entry point to a growth curve for process reference adoption, setting IT spend as roughly 3% of revenue paralleling these figures, the results are impressive:





Within the next 4 years, at a conservative estimate, process-correlated IT spend will rise to $19B in the US, in Fortune-1000 companies alone. This does not factor in:

- Revenue growth due to performance improvement
- Process model adoption in operating domains other than Supply Chain
- Agility in Business Performance due to rapid realization of IT value driving higher IT spend as a % of revenue.

Why does process focus provide such results? The answer lies in simple, explicit, objective linkage between business outcomes (metrics), process (ways of working), and necessary enablers (IT, and People) to achieve business targets.

Analysis and Rational Improvement

Standard reference models such as SCOR are effective 'common languages' for capturing, analysing and improving (re-engineering) business processes. The use of standard models enables coherency between business units and between enterprises since there is common agreement on

- metrics – the performance measurement framework describing what is meaningful to measure and aligned with performance attributes such as asset management, cost control, flexibility, reliability and responsiveness;
- process modelling – the structured capture and analysis of the business processes typically found in the sector; and
- best practices – the operational practices that lead to 'best in class' performance in the sector.

Enterprises maintain multiple operations reference models describing the ‘what’ and the ‘how’ for both externally visible parts of the organisation (customer interactions for example) supply and internal (finance and supply chain for example).

The value of the model is realised when it is combined with a transformational process, such as the Business Process Management (BPM) methodology from HP-IT. Starting with the key performance indicators drawn from the predefined metrics and using them as the drivers for change, BPM is used to document the current state of the system to give an ‘As-Is’ model of existing processes and practices. Business goals are articulated in terms of target performance indicators and a ‘To-Be’ model of the system required to meet these targets is developed. Business strategy is expressed as the intention to move towards to the target system.

Reasoning over models provides the answers to many ‘What-If’ type questions and thus provides the framework for rationally assessing investment decisions using whatever financial tools are appropriate. If necessary, predictions can be obtained from simulations. Once executing the strategy the metrics framework provides the monitoring and control environment as we move toward the target system.

The use of standard models enables an organisation to minimize time, cost and potential errors in the execution of a BPM since little time is required to customize the performance measurement framework and the process descriptions for a specific instance. Best practices provide a ready made list of potential operational practices to achieve target performance. Associating best practices with IT solution patterns provides a means of linking process improvement to the IT infrastructure. Consequently, moving from capture, through analysis and to execution can proceed rapidly.

Process Identifier	S1 : Source Stocked Product		
Description	The series of processes including materials procurement, receipt and warehousing for sourcing standard materials used in the assembly and configuration processes (for both B606 and EIC). The majority of the materials are supplier owned, with the exception of processors and drip parts		
Major Activities		Key Inputs	Metrics
▪ S1.01 : Schedule Product Deliveries ▪ S1.02 : Receive Product ▪ S1.03 : Verify Product ▪ S1.04 : Transfer Product ▪ S1.05 : Authorize Supplier Payment		▪ Sourcing Plans ▪ Material Pull Signal ▪ Supplier Shipment ▪ Supplier Invoice	▪ Supplier Cycle Time ▪ Supplier ▪ Acquisition Cost ▪ Inventory DOS
		Key Outputs	Best Practices
		▪ Scheduled Receipts ▪ Receipt Verification ▪ Materials/Goods ▪ Inventory Availability ▪ Invoice Verification	▪ Joint Service Agreements (not found) ▪ Alliance and Leverage Agreements (not found) ▪ Supplier Owned Inv.
Organization	Roles (Participants)	Location	Technology
▪ Inbound Logistics ▪ Site Procurement	▪ Out-of-Scope	▪ Boeblingen B606 ▪ Boeblingen EIC	▪ Hp Fusion EU
Notes	For supplier owned materials possession is taken at transfer to manufacturing (make), for non supplier owned at shipment receipt.		

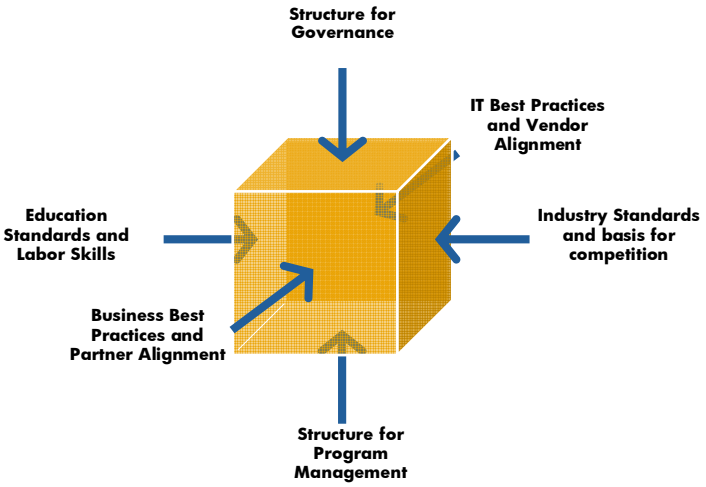
Since the models are standardised and relatively open, there is incentive in the market for vendors to provide software tool support. ProVision, from Proforma, is already used extensively within HP-IT to support BPM in the expression of As-Is and To-Be models. For simulation, Gensym market the e-SCOR tool. Aris, SAP, i2, Manugistics, and many other ERP-related vendors provide reporting, management and transaction systems organized around open Supply-Chain process standards, as a light sample.

Framework	Owned by	Process Framework Status	Metrics Status	Best Practice Model Status
Supply Chain	SCOR	Open Distribution from Supply-Chain Council (SCC), Complete	Complete	Sourced from SCOR Model in Supply Chain Council
Design Chain	HP	In Test In assessment with SCC for "Design for Supply-Chain"	Complete. Soon to be RFC.	To be sourced from the Capability Practice Analysis Survey
Demand Chain	HP	Complete, in internal release.	Complete	Complete, in internal release.
Marketing	HP	WIP	WIP	TBD
Finance	HP	WIP. Further development with Sarbanes-Oxley project.	Not yet started	TBD. Multiple Market Sources.
HR	HP	Not yet started	Not yet started	TBD. Multiple Market Sources.
IT	HP	Complete, in test	Complete	In rationalization with ITSM. Limited set of practices already.
Management	HP	Dependent on other Frameworks 2004	WIP	WIP
PP&E	HP	Dependent on other Frameworks 2004	WIP	WIP
Internal Support	HP	Dependent on other Frameworks 2004	WIP	WIP

HP-IT is in the process of completing the Customer Chain and Design Chain models and intends to launch corresponding councils, on the Supply Chain Council model, in November this year. Finance, HR and IT will be complete within 2004. Other areas are derived from process structures in the core operations areas.

Open Reference Models and Choice

We see at least six balanced factors driving companies to use open-source reference models.



1. Structure for Governance: ISO-9000, Sarbanes-Oxley 404 and similar auditing and governance structures make it valuable for companies to use open, standards-based process reference models to provide the maximum of choice for vendors to support governance.
2. Education Standards and Labor skills: Graduate Education and Labor Skills development around open standards will provide a richer base of job opportunity for individuals, providing impetus for them to develop, retain, and attain formal certification.
3. Industry Standards: the US government already uses reference models in some engagements – Defence Logistics Agency – as standards to define and manage relationships, and lead businesses using reference models drive collaborating and

competing businesses to adopt them defensively. The market grows to provide greater and greater choice at an industry level.

4. Business Improvement Practices – Reference standards unite business improvement methodologies uniformly to provide the fastest and most widely usable set of practices across an enterprise. Businesses have access to a wider choice of tools to perform business improvement using existing company information.
5. Vendors – Reference standards expand the markets for IT and vendors who can address and cooperate in shared, open models. Customer using open reference standards have more choice in all elements of enabling business process execution and improvement.
6. Structure for Program Management: Process accelerates the articulation and outcome of programs for business improvement, from the ability to measure program outcome and guides to decision-making in investments, to detailed work break down structure and program delivery. Open standards allow for wider choice across the board in program management from prioritizing and ordering enterprise-level programs in a like-for-like manner, to ability to source from multiple vendors at key stages in program delivery.

Benchmarking

Benchmarking performance against competitors using standard metrics provides a clear motivation to embark on process improvement. Rather than surveying customers to instil fear, uncertainty and doubt, engagements can be built around proper quantifiable comparison with the competitive population (e.g. equivalent, advantageous, best in class).

The process of capturing actual performance provides in itself a valuable engagement opportunity. Companies such as PRTM, one of the founding members of the supply chain council, have surveyed widely and have current benchmark data.

Supply Chain Scorecard v. 5.0

	Overview Metrics	SCOR Level 1 Metrics	Actual	Performance Versus Competitive Population: Parity	Advantage	Superior	Value from Improvements
EXTERNAL	Reliability	Delivery Performance to Commit Date	50%	85%	90%	95%	
		Perfect Order Fulfillment	0%	80%	85%	90%	$50 M Revenue
	Responsiveness	Fill Rate	63%	94%	96%	98%	
		Order Fulfillment Lead time	35 days	7 days	5 days	3 days	
	Flexibility	Supply Chain Response Time	125 days	82 days	55 days	13 days	Key enabler to cost and asset improvements
		Production Flexibility	45 days	30 days	25 days	20 days	
INTERNAL	Cost	Total Supply Chain Management Cost	19%	13%	8%	3%	$30 M Indirect Cost
		Cost of Goods Sold	54%	70%	60%	50%	
		Value Added Employee Productivity	NA	$156K	$306K	$460K	
		Warranty Cost	NA	NA	NA	NA	
	Assets	Cash-to-Cash Cycle Time	196 days	80 days	46 days	28 days	$7 M Capital Charge
		Inventory Days of Supply	119 days	55 days	38 days	22 days	

Making Investment Decisions

The ultimate value of using standard reference models with a change methodology such as BPM comes down to how well they support investment decisions. BPM provides a means to assess the likely return of the project required to achieve the As-Is → To-Be transition and thus provide an up-front assessment of RoI. However, in an uncertain business world, it is likely that analysis will provide a number of potential To-Be options and estimates of the probabilities of certain business events occurring; in which case financial tools, such as Real Options Analysis (ROA), should be used to assist the investment decision making process.

Financials

The expected value from improving one or more of the performance measures is calculated by modelling the financial sensitivity of the metrics. This almost certainly requires simulation

to be carried out in order to calibrate the system. An alternative approach to obtaining metric sensitivity data is to work from sample data from similar businesses. For example, Gartner calculate financial sensitivity from an industry average normalised to the financial data from the customer's balance sheet. They then use ROA to calculate the value of the proposed project.

HP's Competitive Position

HP is poised to reap the rewards of business process reference. First, HP can define an open market through the promotion of its internal reference as an industry standard. This creates a problem for IT companies such as IBM at the top end, and with some large Business Consulting firms such as Accenture who have heavily invested in proprietary models, and have much to lose when such models are freely available. Second, then HP has the opportunity to rapidly define and capture an open process market linked to IT deployment. High-end Competitors such as IBM and EDS, as well as Business Consulting such as Accenture and Deloitte will be in a long-term catch-up mode both attempting to compete with a process market which is open (there is no 'visible' competitor, as with LINUX), and attempting to redefine their product range to address the market. It creates internal conflict, whereas with HP it can become a standard approach. Along with this, IT competitors who only address parts of a process implementation – hardware, software, services, consulting – become commodity players for those who orchestrate solutions. Lastly, corollary results of open process standards such as analytic tools, techniques, and methodologies, as well as benchmarking data, industry-vertical models, and process patterns are patentable and copyrightable creating deep barriers to entry in an open process market.

Conclusions

Process Reference models are increasingly valuable for companies which exploit them. They address a wide range of business concerns, and accelerate and improve business decisions through rational, rapid analysis of business case problems, and articulation of solutions. HP has the ability to seize the markets driven by reference models through market definition and leadership, disruption of competitive offerings, and through rapid evolution of barriers to entry in open process industry sub-segments and competitive analysis.

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