

## View Point



### Modular Global Sourcing

#### An Imperative for the ETRM Industry

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#### Abstract

Lack of scalability of the IT delivery organisation has become a major impediment to achieving synergies across ETRM initiatives. Global sourcing can provide a solution to the scale requirements of this sector. However this needs to be done in a modular fashion. CIOs need to collaborate with the business and sourcing partners to take a strategic approach to Modular Global Sourcing to enforce an enterprise-wide business-IT alignment

# Modular Global Sourcing

## – An Imperative for the ETRM Industry

In our previous article<sup>1</sup> *ETRM - Top 5 IT Imperatives*, we articulated key business imperatives and the resultant top IT imperatives for the ETRM<sup>2</sup> sector. This article, in continuation, delves deeper into the imperative of [scalability](#).

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IN ITS QUEST to achieve straight-through-processing (STP) and zero-tolerance culture towards compliance, control and data integrity, the ETRM sector is witnessing a surge of multiple intertwined IT initiatives. These range from small ROI-justified projects to huge projects in the risk and operations domain spanning multiple geographies and internal business units.

Lack of scalability of the IT delivery organisation has become a major impediment to achieving synergies across these initiatives. Global sourcing can provide a solution to the scale requirements of this sector, and hence, there is a strong need for the ETRM sector to embrace it whole heartedly. In addition, global sourcing would also provide benefits like cutting-edge technology frameworks, process maturity rub-off, and adoption of best practices from related industries, e.g. financial industry for risk management and compliance, biotechnology for records management, etc., apart from strong domain expertise in the ETRM space.

Given the mission-criticality of the business and underlying application assets, global sourcing must be embraced in a phased manner by following a 'Modular approach'.<sup>3</sup> This will help the ETRM sector "wet its feet", discover the unknowns and lower change management issues and risks in moving onto a newer and radically different delivery model. It would also enforce and thus enable enterprise-wide business-IT alignment, optimisation of different applications for different and distinct business imperatives and determining the optimal mix of in-source vs. outsourced portfolio.

This paper maps the current initiatives and work packets across the Risk vs. Value framework and thereafter proposes the progression of the modules. Support and maintenance of existing legacy and newer bespoke application scan form the first module. The second module can comprise specific work packets for new global projects, either be spoke or involving generic packages like SAP, Oracle, etc.. It can also include the technical architecture design of mission-critical applications and the support and maintenance of existing mission-critical legacy applications on technologies where skills are rare. The third module can include higher-end work packets of newer global projects involving niche packages in the ETRM sector. Finally, there would be work packets like strategic visioning exercises that are either too strategic or have a high risk profile to be outsourced, and hence can continue to reside in-house.

### *What's Keeping CIOs Busy in the ETRM Industry?*

The key business challenges faced by the ETRM industry are achieving STP efficiencies, real-time risk management, compliance and control, and supporting the fast pace of M&A activity and overall changes in business practices and models. According to Triple Point Technology President Peter Armstrong, *"The sense of urgency from CIOs has increased dramatically in recent years. The volatility of the market and sophistication of instruments has grown in recent years and when coupled with a more restrictive regulatory environment and intense focus on corporate governance, it has put CIOs under pressure to act now."*

There is an urgent need for CIOs to act on multiple fronts:

- a. Re-engineering or replacement of legacy applications to enable an agile IT application infrastructure.
- b. Executing ambitious projects targeting the operations and back-office automation to achieve STP efficiencies. These projects are difficult to scope and analyse due to the high degree of freedom allowed in the way that underlying business processes are executed, and also due to their wide geographic scope.
- c. Executing multiple projects — ranging from tactical to strategic projects, to cater for compliance, risk management and control requirements. Most of the strategic risk projects have dependencies upon the projects in the vertical businesses.
- d. Regular stream of ROI-driven projects in the front, mid and back office space.
- e. Finally, coping up with the fast paced business requests for enhancements and modifications of the existing applications.

Figure 1. provides a snapshot of the business-IT imperative relationship in the ETRM space. In a nutshell, there is an explosion of activities and IT has taken centre stage like never before. It is truly a time to make IT matter. While many

		Business Imperatives				
		Compliance	Control & real time risk management	STP efficiencies	Rapid growth	Rapid business changes
IT Implications	Legacy application re-engineering	✓	✓	✓	✓	✓
	Robust integration backbone	✓	✓	✓	✓	
	Robust master data backbone	✓	✓	✓	✓	
	Efficient risk management	✓	✓			
	STP efficiencies via automation of operations			✓		
	Scalable & efficient IT delivery model				✓	✓

Source: Infosys

Figure 1. Business Imperatives

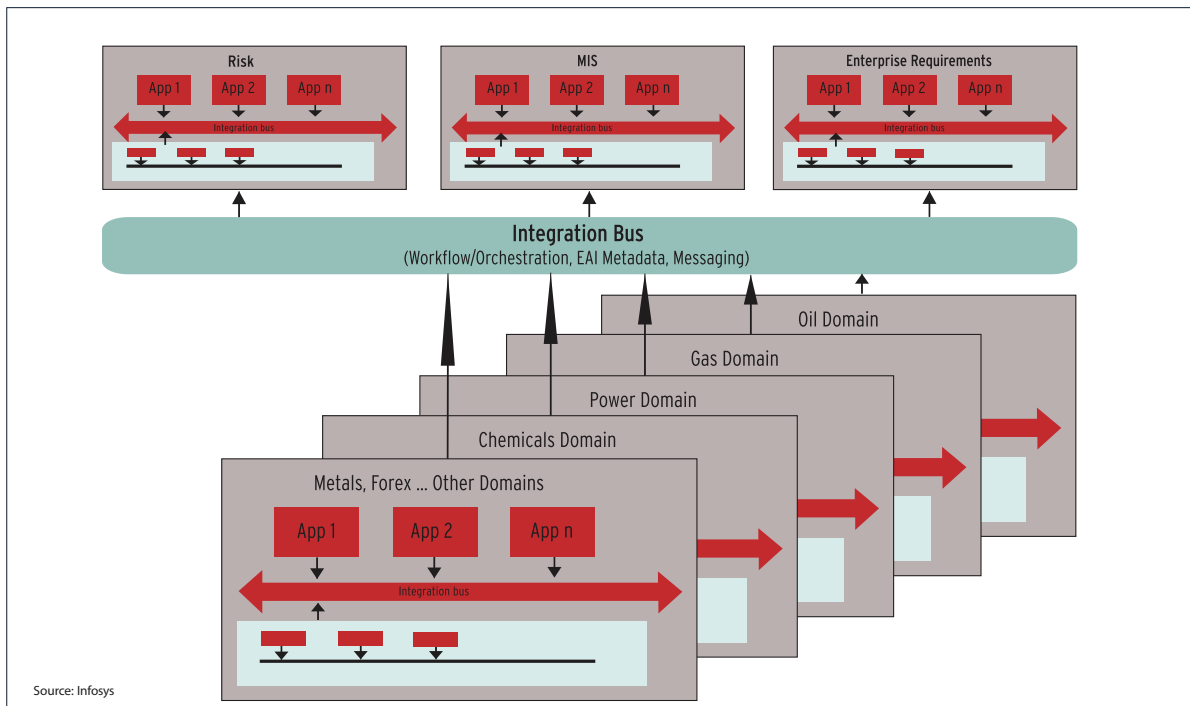


Figure 2. Complexity Increase With Multiple Commodity Interfaces

may see this explosion as difficult and challenging, some CIOs view it as an opportunity to provide a strong IT-based competitive advantage to the business; provided they can scale up to execute the IT initiatives.

### The Challenge of Scale & Scalability

The biggest challenge facing CIOs is that of scalability, or the lack of it. Scalability means being able to get the right number of resources with the right skill sets at the right time. It also means being able to release these resources, when not required, bringing in cost efficiencies. The current IT sourcing model of internal staff and independent contractors does not render itself suitable to current scalability requirements. Lack of scalability impacts IT operations in multiple ways:

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*“The sense of urgency from CIOs has increased dramatically in recent years”*

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### Enhancing Existing Applications

Enhancement requests in the existing applications may take an undesirably long time to close. Given the mission critical nature of the business, these delays can lead to huge financial losses. Further, during the wait, business might create some

workarounds in terms of process changes, resulting in extra change management and training issues later. Finally, there are huge time overheads, both for business and IT, in reviewing and prioritising pending requests during every enhancement cycle.

## Pacing the Dependent Programmes

Most IT initiatives can be viewed as vertical threads intertwined closely with each other. Given the interdependencies—particularly of horizontal programmes like risk management—adjusting the pace of the vertical programmes to meet the time requirements of the dependent projects becomes necessary. If this requirement is not underpinned with a scalable model, it leads to several buffers getting built in costs and timelines — not a healthy practice from the perspectives of time and cost-efficiency.

## Ramp-Up & Ramp-Down Requirements

New development projects go through a development lifecycle requiring different skill sets at each stage, e.g. business analysis, development, testing, etc. In the absence of a scalable model for resources, the projects either try and leverage the same resources across different stages or build a buffer into the sourcing model. While the former leads to suboptimal quality, the latter leads to inefficient staffing.

## Management Bandwidth

Getting the right resources on board takes substantial project and top management bandwidth and defocuses them from the quality, architecture and other important issues.

## Process Orientation

Adoption of processes and best practices is inconsistent across the organisation. There is a strong people dependency leading to longer transition cycles and higher risk of “Knowledge Loss”.

## Synergies Through Cross-Pollination

The fact is that all initiatives across all commodities order derivatives provide solutions within the remit of a ‘Common-to-all’ trading life cycle. Figure 2. provides an illustrative application landscape for an integrated ETRM player.

Given the multiple independent contractors and vendors working in their own silos, there is no enterprise-wide view of the entire landscape and the initiatives being undertaken or to be undertaken in the future. This leads to non-identification of common horizontal opportunities, e.g. document management, front office analytics, back office and settlement, inventory management, inspection, etc.,. Synergies through cross-pollinating and reusing best practices, architecture components and application assets are lost. Future maintenance costs for these applications are impacted due to differences in the technology standards adopted. In a nutshell, strategic value is lost due to tactical road blocks.

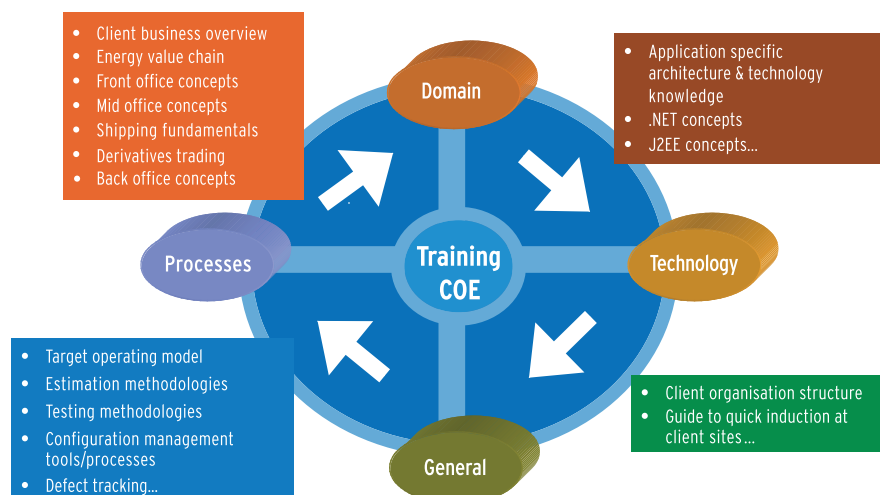


Figure 3. Training Centre of Excellence

## Global Sourcing – A Solution to the Scalability Challenge

The biggest ‘school of thought’ difference that global sourcing vendors practice is that of team and enterprise accountability, rather than individual brilliance. This approach is underpinned by multiple processes and organisational structures put in place, e.g. robust knowledge management, detailed documentation, training, quality audits, best practices like code reviews, defect tracking, testing, etc., as well as adoption of CMM process maturity.

Due to process orientation and tools to facilitate the same, the global sourcing model renders itself suitable to low people dependence and strong scalability. If a steep ramp-up is required for certain large projects, it is possible seamlessly. Figure 3. provides an illustration of a Training Centre of Excellence (CoE), which is leveraged for the ramp-up. Knowledge is harnessed from existing vendor expertise and client projects, and disseminated in a measurable and objective way to enable scalability.

Further, when the projects need tailing off, it can be done at neat low-cost locations, thus reducing the overall overhead on the client as well as the vendor and still retaining the experienced resources. This, in turn, brings in a lot of flexibility and cost efficiencies for the client. Strong ramp-up capabilities coupled with time-tested robust estimation models help clients achieve higher predictability, and thus lower risks. Risks can be further lowered by transferring accountability for results, schedule and quality of deliverables to the sourcing partner.

## Global Sourcing — Its Benefits Go Beyond Just Scalability

The scalability benefit mentioned above is only the tip of the iceberg. Global sourcing enables vendors to bring in best practices from their past experience and exposure to multiple industries. Table 1. provides an illustrative set of learnings that are brought to bear.

It also offers the traditional benefits of outsourcing like converting fixed costs into variable costs, lower management overheads and learning curve advantages, which lead to ongoing improvements in deliverables.

## Modular Approach Towards Global Sourcing

Given the advantages that the offshore model offers, it is only natural that the ETRM sector lean towards embracing it. However, given the mission-criticality of the applications and the fact that there is a fundamental difference between the proposed delivery model as compared to the traditional one, this journey needs to be “Modularized”. This approach reduces the risk on one hand but more importantly also brings in an enterprise-wide business-IT alignment enabling optimisation and synergies across the board.

Modularization involves deconstructing complex business processes, supporting IT applications and infrastructures, their current technologies and status (i.e. legacy vs. nonlegacy, to be replaced or re-engineered), their risk profiles (i.e. mission-criticality, change management challenges,

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etc.). and their execution phases (i.e., how they are conceptualised, designed, developed, tested and maintained). Figure 4. illustrates a typical application and business process landscape for an integrated energy company. It shows the multiple vertical business process threads, depicting the trading life cycle of different ‘commodities’ like oil,

Table 1.		
Type	Client processes/areas where best practices are brought	Source Industry / Competency area
<b>Domain</b>	Risk Management and Compliance	Financial Trading and risk management
	Inventory management, scheduling, operations	Transportation and manufacturing
	Records management	Biotechnology
<b>Technical</b>	Performance and heavy processing	Banking and financial trading
	Architecture, frameworks, tools	Centres of Excellence around .NET, J2EE, Architecture Consulting
	Application development and maintenance processes	Quality Centre of Excellence

Source: Infosys

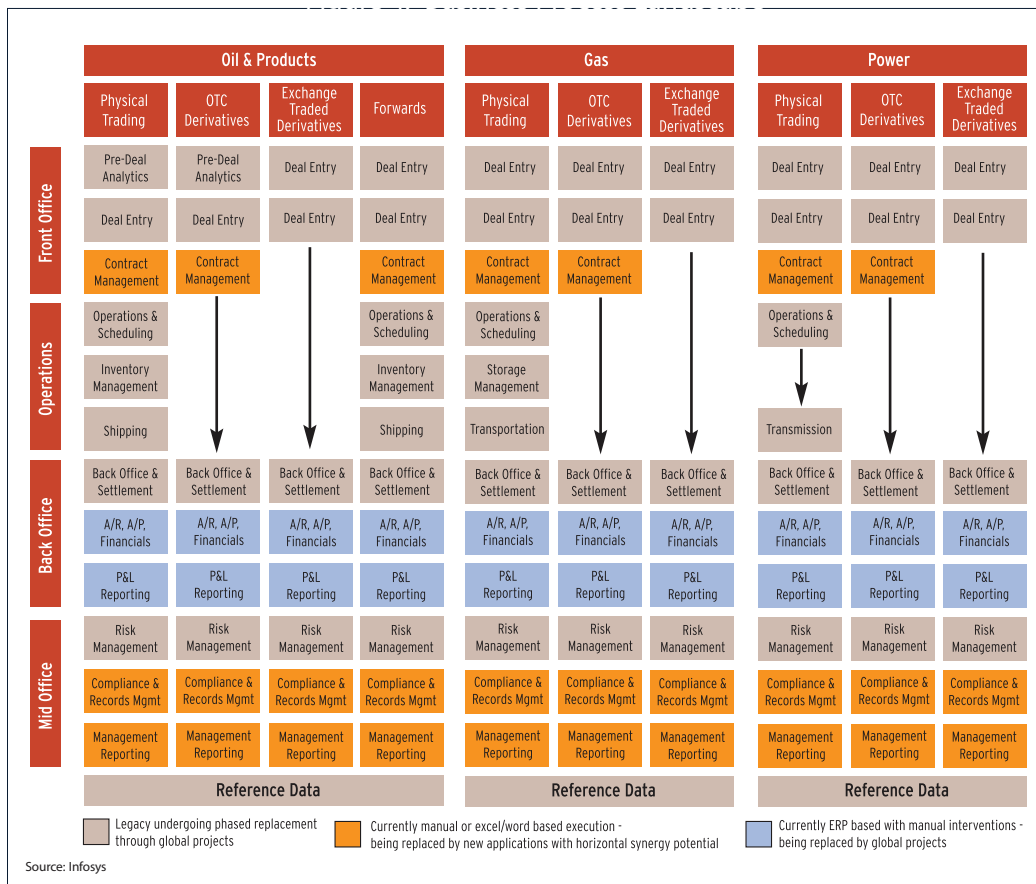


Figure 4. Business Process Landscape

gas, power and their derivatives — OTC as well as exchange traded. It also depicts a deconstructed scenario for these business processes and the underlying IT applications. Adopting this approach enables decision makers to view processes and IT as flexible, transparent and evolving structures, as opposed to black boxes, monoliths or disconnected pieces. It facilitates a better understanding of each module's role, importance, criticality, relative position and relationship to other modules and subsystems, and the interfaces by which they interact.

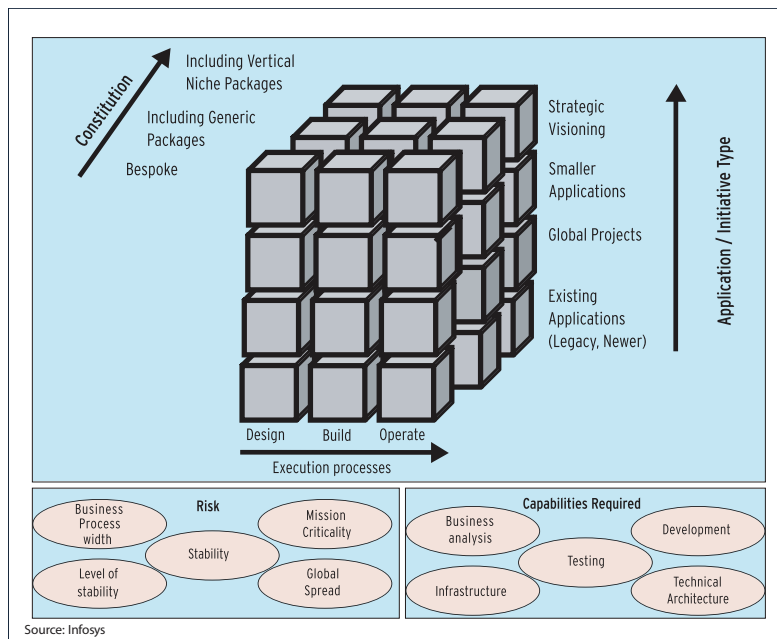


Figure 5. Modularization

The next step is to convert the enterprise business process and application view into a set of work packets mapped on multiple dimensions like associated costs, risks and priorities, which in turn enables more informed, best-of breed sourcing decisions that are competency-driven to reflect the appropriate retain, outsource, off shore and transition choices. Figure 5. shows one view of modularization across relevant work packets.

Finally, there is a need to map the modules or work packets identified on the basis of risks versus value derived through global sourcing. Risks encapsulate factors like technology availability, mission-criticality, width in the overall value chain, team structure, documentation, governance complexities, etc. Global sourcing value encapsulates the value derived from domain expertise, cross-industry best practices, economies of scale, cutting-edge technology frameworks, quality, processes, ability to attract and retain talent, etc. A component of value is also the client need for scalability in particular areas.

Figure 6. shows the mapping on the multiple work packets identified earlier on the risk-value matrix. This figure explains the phasing of the modules for global sourcing. Let us examine some of these more closely:

## Module 1

Module 1 comprises work packets where global sourcing vendors have moved down the learning curve and have the scale and expertise to support the ETRM industry.

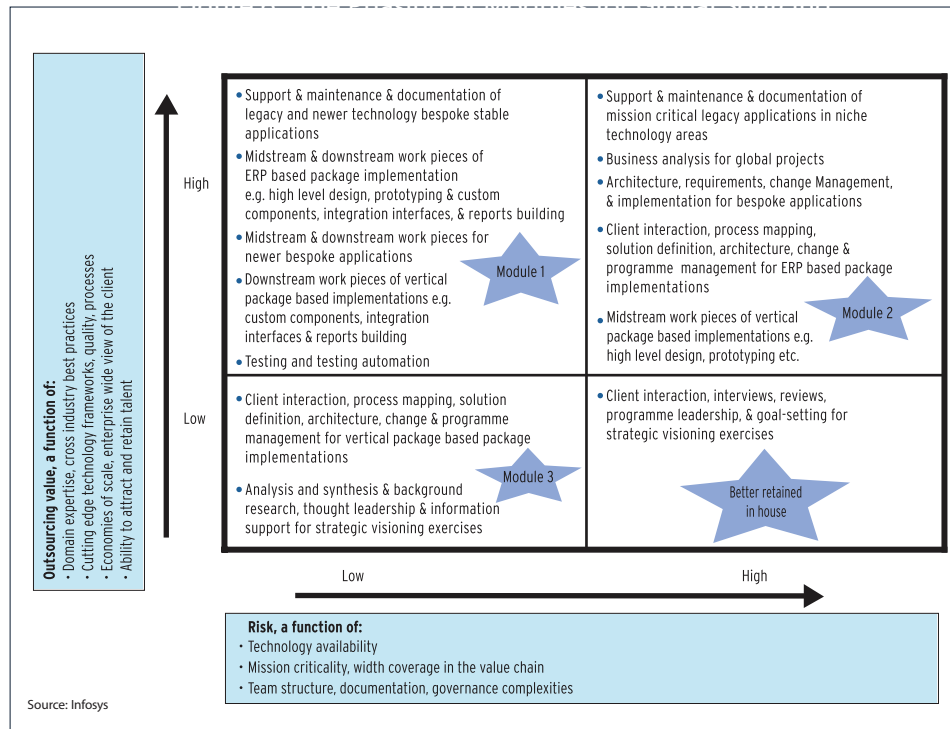
- a. Support and maintenance for the existing stack of applications can be the lowest risk and highest value stack to start with, unless there are niche technologies involved where the global sourcing vendors do not have adequate skills. Global sourcing of these would help in multiple ways:
  - i. These applications store vast amounts of business knowledge but are not very well documented. Hence, in the event of them being replaced, it is important to scale up to document and extract the business knowledge of these applications so as to enable seamless replacement and also educate or seed the newer projects replacing these applications.
  - ii. Given the fact that these are legacy technologies, the staff as well as the market resource pool working on these technologies have ambitions to move onto later technologies. This creates an element of risk in terms of depletion of skills in the market.
  - iii. When the process of replacement starts, it will not be 'big bang' and hence would require multiple changes to these applications as well to enable coexistence while doing modular replacement. These changes require substantial bandwidth.
- b. Global projects involving bespoke applications or generic ERP packages like SAP are the areas where global sourcing vendors have moved down the learning curve in terms of quality, processes, tools, templates, etc., thus

providing high value to ETRM players. The midstream and downstream packets of work in these projects are relatively lower risk, thus making them ideal candidates for the first module.

- c. Testing and automation of testing require huge bandwidth and these, again, are areas where global sourcing vendors have achieved strong expertise — thus making them strong candidates for Module 1.

## Module 2

Module 2 comprises higher risk and highvalue work packets. Smooth execution of Module 1 work packets enables learnings for the client IT organisation, higher acceptability of global sourcing at the grassroots level, and better knowledge within the sourcing partner about the lay of the land. By this time, unknowns would have been discovered and possible initial issues like connectivity, setting up remote environments, licensing costs, setting up the target operating model in terms of code and configuration management, optimal communication plan, etc., have been wellthought through. Thus, by the time Module 1 is midway interms of execution, a fresh risk assessment of these packetsenables them to move into the low-risk-high-value quadrant. The following packets can then be taken up:



- a. Business analysis for multiple projects and existing applications is one of the key bottlenecks in terms of scalability. Given the knowledge management capabilities of sourcing vendors, resources can be brought up to speed fairly quickly to fill in the shoes of business analysts.
- b. Support, documentation and maintenance of legacy applications with rare technology skills can also be taken as part of Module 2 with a strong focus on capability building on the technology by the sourcing partner. Once again, the knowledge management, 'learnability' culture and the experience of having ramped-up on multiple technologies earlier is brought to bear: this provides remediation to the same challenges mentioned earlier in terms of scalability requirements in a legacy support organisation.
- c. Upstream work packets like architecture, process modelling, etc., for the bespoke and ERP based implementation scan also be taken up given the experience of the sourcing partners with the midstream and downstream work in similar projects.
- d. Finally, midstream work packets of vertical package based implementations e.g. high level design, prototyping can be looked at. The projects involving third party niche package vendors are complex from the solution definition, architecture definition, and change and programme management perspective. Hence these pieces of the project are higher risk candidates from the global sourcing perspective. However, these projects also have a current need of

scale and skills. Hence, certain pieces of these, e.g. bespoke components, integration interfaces, reports building, testing, training documentation, etc., can be taken up in the first stage. While this will remediate the immediate scale requirements to some extent, it will also enable the offshore partner to start ramping-up on the knowledge and skills related to the package and the underlying business process — thus strengthening scalingup capabilities.

## Module 3

Module 3 comprises low risk and low value work packets.

- a. Client interaction, process mapping, solution definition, architecture, change and programme management for vertical package-based package implementations fall in this category. For these work packages, while the experience and competency issue might have been worked around during the Module 1 & 2 execution, the key value comes from the control of the code of the package and the ability to tweak that around to meet the client requirements and also templates and reusable components residing with the third party vendor. Hence, leveraging global sourcing for these requires a strong tripartite governance model driven by the client and trust between the global SI partner and the package vendor. Unless these two are achieved, this step should be taken up only from the scale necessity perspective.
- b. Analysis and synthesis and background research, thought leadership, and information support for strategic visioning exercises have a strategic non-disclosure component. Given the fact that a large relationship with the global sourcing partner is driven on trust and relationship, these are good packets to outsource at this higher relationship maturity stage.

## Module 4 — better kept in-house

Module 4 comprises strategic visioning exercises that require strong in-house business and organisational understanding. While, based on requirements and skill availability, the global sourcing partners can provide inputs and resources, these activities are better performed in-house.

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*To meet the challenge of scale ... [ETRM] needs to embrace global sourcing wholeheartedly*

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## Conclusion

These are exciting and challenging times for the ETRM sector. To meet the challenge of scale, it needs to embrace global sourcing wholeheartedly. However, this needs to be done in a modular fashion. The CIOs needs to collaborate with the business and the sourcing partners to take a strategic holistic approach rather than a piecemeal approach. While this would provide a strong focus and top management bandwidth from the vendors, it will also enable formation of a common governance model. The modular approach will force an enterprise-wide business-IT alignment and set the platform for bringing in synergies across the board. It also reduces the risks associated with the transition to a different delivery model in this mission-critical sector

### Footnotes

1. ETRM - Top 5 IT Imperatives, Rahul Shah, Commodities Now, March 2005, [www.infosys.com/industries/energy/whitepapers/commodities\\_article.pdf](http://www.infosys.com/industries/energy/whitepapers/commodities_article.pdf)
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