Building the Adaptive Enterprise

Information Strategies for Successful Management of Complex, Global Corporations in Times of Change

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Executive Summary

The Adaptive Enterprise can capitalise on opportunities and react to global events faster than the competition because an integrated approach to information management gives the board superior visibility of all aspects of business performance while at the same time not restricting global or local flexibility. Investors, in particular, demand no less from the stewards of their investments.

Board executives of global businesses today need fast access to timely accurate information on any aspect of the business at any level from any perspective no matter how much or how often it changes. At the same time they need to keep this high visibility across the entire organisation through major changes in the internal and external environment.

Information is a corporate asset as important as any other kind. The ability to find and analyse the required quality global management information, even as the business and market changes, quickly and cost-effectively will be one of the critical competencies of successful corporations in the 21st century.

Organisations need Visibility and Flexibility. Visibility, in this case, means the ability to have multiple views of the business at a global level. The board can explore performance information extracted from disparate systems and view it from any perspective and at any level of detail – e.g. global, regional, local, product, and customer. It can compare and model different sets of data to gain new insights into business performance and strategies, view the impact of past decisions and model new ones simultaneously.

Flexibility, in this instance, means being able to remain flexible globally and locally as the organisation changes. The rigid structure of the organisation makes it difficult for it to respond quickly to internal and external changes. This, in turn, means the up-to-date, relevant information is extremely hard to gather together globally and regionally because each unit operates in its own distinct way.

Typically global businesses fall into two main categories – the Standardised Enterprise and the Decentralised Enterprise. The former has great visibility and little flexibility and the latter the converse. The Standardised Enterprise, where the central IT function is typically very strong, has decided to take the time to create a unified technology environment. In the Decentralised Enterprise the business imperatives hold sway and the emphasis is on flexibility. They do not have the time to become Standardised.

Internal and external forces tend to pull global organisations between these two states as they seek to achieve both visibility and flexibility. Standardised Enterprises do not have the systems in place to accommodate change; while Decentralised Enterprises can respond quickly to change but not necessarily informed since there is no fast, cost-effective way of gaining the right data from all around the disparate information systems. Neither is satisfactory.

The Adaptive Enterprise is the optimal way between the two, an ideal but attainable state. Boards can gain the information they need at the speed at which the market moves, through any internal or external changes. They can respond to change quickly and informed. Moreover the information is of high enough quality and detail to model new scenarios ahead of market events. The Adaptive Enterprise is one to which global organisations can aspire with the right strategy and appropriate investment in processes and technology.

The challenge facing boards is to recognise that it is the information within the systems, not the systems themselves, that is important. The starting place is to think big, start small and evolve from there. If an organisation can find a key strategic problem with which to start exercising this approach then it can establish a knowledge base and build out its expertise across the whole corporation.

1 Flying Blind in a World of Change

The media and other commentators often criticise boards of global companies for being too rash or too slow in their decision-making process and that they have failed to capitalise on opportunities or recognise deteriorating market conditions. Paralysis caused by indecisiveness is seen to demonstrate management weakness.

Many CEOs tell another story. They know the decisions they want to make and are prepared to make them, however they have no way of accessing the quality of information they need fast enough to make the critical strategic decisions they need to drive the business forward.

The following is a typical scenario facing a global business. Despite lots of new accounts, sales are up by less that half a per cent. The CEO knows it is bleeding somewhere, but where? He, or she, wants to find out where the problem is and fix it, but the standard reports received give him no insight into where it lies. He demands an analysis across products, customers and geographic regions – as fast as possible. Yet all the information is spread across different, disparate systems spread across multiple business units. Customers and products have been defined and grouped in all sorts of ways across different business units and regions. Everywhere there are information inconsistencies – he doesn't know if he is comparing apples with apples. Despite a re-allocation of resources there is no way the information required can be gathered and sifted on time.

Then there's another common scenario. The lessons from experiences like those above have been learnt. All information across the organisation is standardised and stored in one central data warehouse based on software from a major vendor. All sales people must use this information system and work the way the system works. They all have to define their customers in the same way and describe products and offerings in pre-agreed formats. Salespeople around the organisation start to complain that the system does not allow them to capture important information they consider critical to their customer relationship. So they set up their own parallel systems at a local level to track this information and put the bare minimum of information into the corporate system. The problems become even more acute when a new sales division is added – for example, through an acquisition.

Organisations are stuck between these two worlds. They either suffer from lack of visibility across the enterprise or force common practices in order to increase visibility but then quickly find themselves suffering from rigidity or information invisibility when things change. The best of both worlds, rarely achieved with existing enterprise information systems, is increasingly becoming a business-critical requirement for the creation of, what many industry experts now call, the Adaptive Enterprise. Such an enterprise has a clear global view of both its internal and external environment and can act with agility based on that clear view, while at the same time be able to quickly adapt to change.

Market forces require constant strategy re-alignment, re-structuring, acquisitions and divestment. New regulations require new, robust reporting techniques, and rapid market downturns demand consolidation of business and product portfolios. Management has no time to lose if it wants to capitalise on a new opportunity or survive a market maelstrom. By the end of the quarter investors want accurate, positive data. They want a global view but one compiled from quality information throughout the value chain and from the very bottom of the organisation.

In today's global competitive environment, executives need fast access to timely accurate information on any aspect of the business at any level from any perspective no matter how much or how often it changes. They also need the ability to keep this high visibility across the entire organisation through major changes of the internal and external environment. Executives in an Adaptive Enterprise are able to do exactly this.

2. What stops an Enterprise from being Adaptive?

Few global companies can currently claim to be Adaptive Enterprises largely because there are a number of barriers to achieving true visibility and flexibility in corporate information systems.

Firstly, as previously mentioned, there has been an accumulation of disparate information systems over the years, exacerbated by ceaseless mergers and acquisitions and the wholesale uptake of enterprise information systems. The race to become technologically advanced; e-business initiatives; business process re-engineering; enterprise resource planning (ERP); customer relationship management (CRM); supplier relationship management (SCM); and knowledge management are just some of the trends that have led to federated, disconnected information systems. Not only is different information represented with different data in different pieces across different business units and functions, but it is also duplicated in many areas, and errors are lurking everywhere. This lack of visibility has a negative effect on key business metrics such as sales, customer satisfaction and profitability.

Secondly the degree of flexibility within local operating units can have a significant effect on the quality of information received by management. Whether the organisation adheres to a decentralised or centralised strategy, flexibility is an issue. If a decentralised approach is chosen then local business units will only gather the data they find useful in the formats they choose. They will come to rely on regional or global resources to take on the burden of data harmonisation. If the cost is pushed back to them lengthy, time-wasting arguments and debates on cost allocation will often ensue. Moreover any requests for change will invariably be reluctantly and sluggishly responded to or, at worst, rejected. The business will remain highly flexible at a local level but visibility of information at a global or regional level will be poor.

If the centralised model is chosen then all business units have to work the same way. This can improve visibility of data at a global level but can reduce flexibility. Dell Computer spent two years and US$200m trying to standardise on one enterprise software package to add to its fulfilment systems and gave up as it found the software too 'monolithic'. Instead they opted for a 'best-of-breed' software strategy – more expensive to integrate but easier to work with once installed.

Thomas Davenport[1] comments on the example of an industrial products manufacturer which has built its strategy around extraordinary customer service and its ability to deliver parts to customers 25% faster than competitors. With the installation of an ERP system and a more rational, less flexible process for filling in orders it had better quality data but slower response times. It lost its competitive edge.

Thirdly the impact of change can hamper an organisation's ability to view key business metrics at a global level whatever the chosen IT strategy. The relationship between each piece of data breaks down once an assumption that links them together e.g. business unit and product, is invalidated. For this reason many multi-nationals have tried, mainly unsuccessfully, to build their own proprietary data warehouses using their own business rules. Unfortunately the prediction of change is extremely complex and few are able to deliver return-on-investment within the allocated budgets and timescales.

On top of all these, the advent of the extended enterprise has made access to quality, up-to-date information even more challenging. Data now resides not just across multiple business units but across customers, partners and suppliers as well.

The challenge is to harness and formulate all this information fast and flexibly enough to make the right decisions before the competition.

[1]Davenport, T. "Putting the Enterprise into the Enterprise System," Harvard Business Review, July-August 1998.

3. The Adaptive Enterprise

Information is an asset just like cash, buildings, people and plants. Organisations increasingly see the preparation and management of information as a core part, not a by-product, of doing business. The avoidance of Garbage In, Garbage Out (GIGO) is a critical success factor in business intelligence projects particularly when preparing for the 'next phase' of business intelligence where analytic software is used to assess information drawn from multiple data silos.

The success of any business today depends on its information awareness and its ability to adapt to rapid change internally and externally. Research by Mendelson and Ziegler[2] demonstrates that the profitability of an organisation depends highly on its organisational IQ, which, in turn, is driven by its information awareness and internal knowledge dissemination. Employees need to understand the information that is important to the organisation as a whole and be prepared to gather the appropriate information. The organisation, in turn, needs to be structured, and have the infrastructure, to share that information effectively and efficiently. The appropriate information technology is critical – giving executives the ability to have a global up-to-date, change-ready view of the organisation from any perspective while not being constrained by any monolithic, inflexible information systems. The alignment of adaptive well-informed decision-making and strategy with flexible and integrated information systems are key ingredients for creating what we call the Adaptive Enterprise.

Visibility and Flexibility

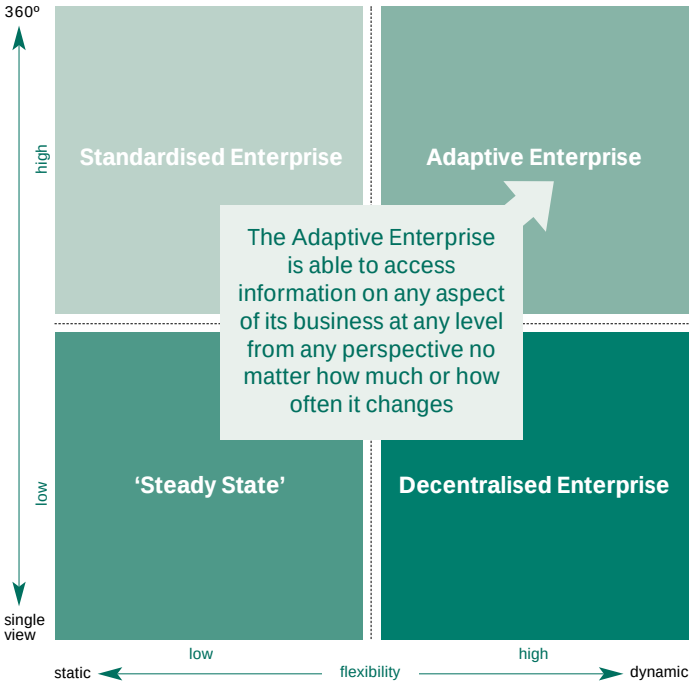
Global boards of enterprises need to maximise two key elements of their management information systems – Visibility and Flexibility. They need the visibility to drill down and across the organisation, at global, regional and local levels, to view high quality information they require at any of the levels. They want to be able to pull apart and manipulate the data that would otherwise be 'hard-wired' in business unit reports with a limited set of pre-set 'views' of the business. For example they may wish to understand sales of a particular product in their retail chains and pull all this information together to understand the global profitability of their relationship with that supplier.

They also need to be flexible as an organisation in order to capitalise on opportunities and react to positive or negative changes. They need flexibility in terms of IT policy across the organization: different units typically have different information processes and needs. When a business runs itself on a matrix basis and is undertaking significant merger and acquisition activity then this flexibility becomes of paramount importance as management needs to be able to view multiple new business structures and models before it implements them. Once implemented, they also need to demonstrate to investors that the decision was justified so they need the ability to show the 'before' and 'after' performance of the new business.

The requirement to achieve both Visibility and Flexibility often pulls the organisation in different directions and many organisations achieve excellence in one only at the expense of the other.

The diagram on this page (Figure 1) describes four generic types of organisation and their current information technology infrastructure. Visibility on the vertical axis shows the number of views of management information an organisation can have ranging from a single perspective to multiple – global/regional, customer, product. Flexibility on the horizontal axis ranges from static, where there is little ability to react to business change, to dynamic where change is a constant factor and managing it is possible.

Figure 1



[2]Mendelson, H., and Ziegler, J., "Survival of the smartest: managing information for rapid action and world-class performance," John Wiley & Sons, 1999.

The bottom left quadrant (Figure 2) contains businesses that experience little change and therefore require little agility. They are different from businesses in the other three quadrants in that they see no requirement for a structure or supporting systems that change over time. They also tend to have proprietary information systems, or, if not, systems that are not large monolithic or integrated ones. Privately-owned businesses with monopolies and public sector organisations are typical examples of these. We call these 'Steady State' businesses. For these businesses they only need one view of the business and they have little requirement to be flexible as their markets and competitors rarely change, if they exist at all. Generally they have very little need to change.

The businesses in the top-left and bottom-right quadrants generally want to change in order to manage their businesses better, usually with an objective of achieving the visibility and flexibility of the Adaptive Enterprise.

The bottom right quadrant (Figure 3) – the Decentralised Enterprise – for whom time and speed in all business operations is of the essence. This category features businesses who have a great deal of flexibility in terms of their ability to view and manipulate information at a business unit or local level but who have very limited visibility of the business from a 'global' perspective whether that means geography, global customer or suppliers or product/brand portfolio. These businesses can react to changes in the marketplace fast, but not necessarily informed, through changes and additions of local units.

Generally these businesses have installed best-of-breed software for each application – ERP, CRM, SCM – and typically have systems from different vendors in different geographic locations or units. This best-of-breed strategy may have been chosen, but more likely it has been thrust upon them as a consequence of acquiring companies with disparate IT systems. In all probability they would like to move to the Standardised Enterprise model in the top-left quadrant in order to achieve greater visibility of their business performance. However, in most cases, the cost and time required to design and install the system; to make all business units conform; and risk sub-optimal performance while the change occurs, makes such a move prohibitively expensive.

Figure 2

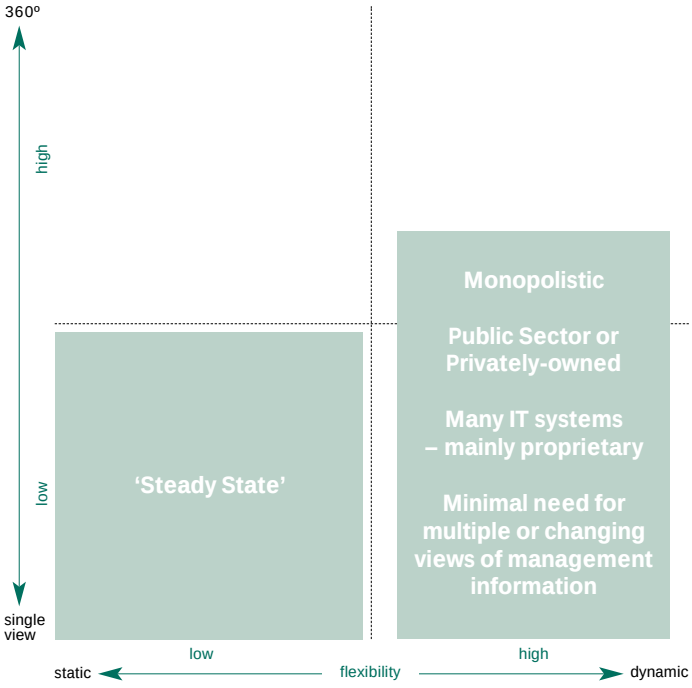
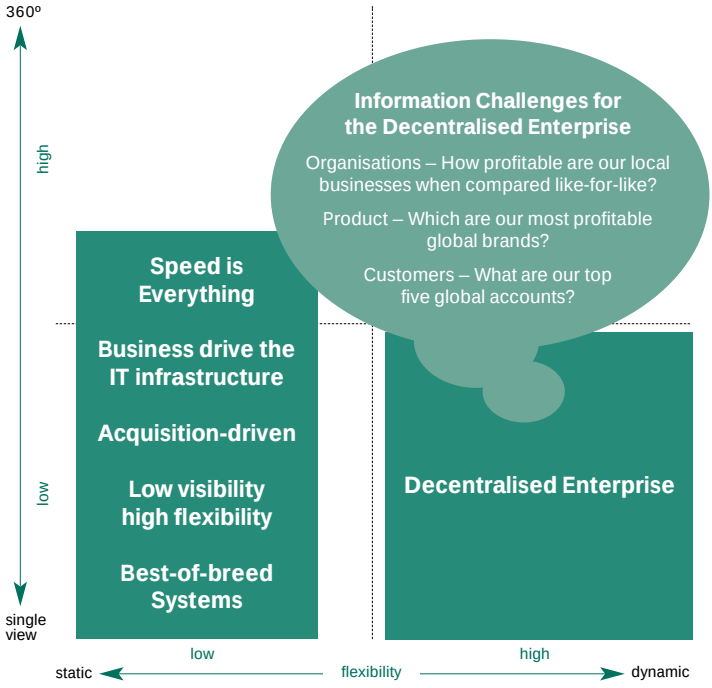


Figure 3



The top left quadrant (Figure 4) – the Standardised Enterprise – encompasses businesses that have a very good view of their business from all perspectives, i.e. geographic, customer or product, but who have very little flexibility either because they don't need it or can't achieve it. These organisations generally have a very strong central IT function that is backed by the board to create one unified structure for IT. They, typically, will have invested in enterprise software from one vendor, such as ERP and data warehouse, and will have implemented it globally. Businesses typically found in this space include those that have grown organically and those that have such a defined offering worldwide that strict process conformity throughout the value chain is critical to business success.

The Standardised Enterprise is a very strong model for a global consumer-facing business where the service element is a strong part of the brand. Performance of all business units at all levels can be compared easily and quickly. As long as the internal structure of the business or external environment does not change markedly then the system can provide solid performance management information to the board. However such stability is far from being realistic, and the disadvantage with this approach is that these enterprises cannot change, acquire or merge businesses without time-consuming software re-writes.

The Adaptive Enterprise is to be found in the top right hand corner (Figure 5). These attain the benefits of the Standardised Enterprise in terms of Visibility and the Decentralised Enterprise in terms of Flexibility. These businesses are able to access fast, available information on any aspect of the business at any level. This can be achieved from any perspective no matter how often it changes and, at the same time, be flexible, whilst keeping this visibility across the entire organisation through major changes of the internal and external environment. This approach both enables the business to become highly federated, devolving flexibility and responsibility to those at the business 'coalface', and enables the management to retain overall insight into the way the business and market is developing on a real-time basis at all levels. In this way the business remains both agile and informed both at a global and local level.

The Adaptive Enterprise has made a crucial strategic decision about its information technology architecture - that it will integrate the information within the systems rather than the systems themselves. They are able to change their data models synchronised with their business models.

Figure 4

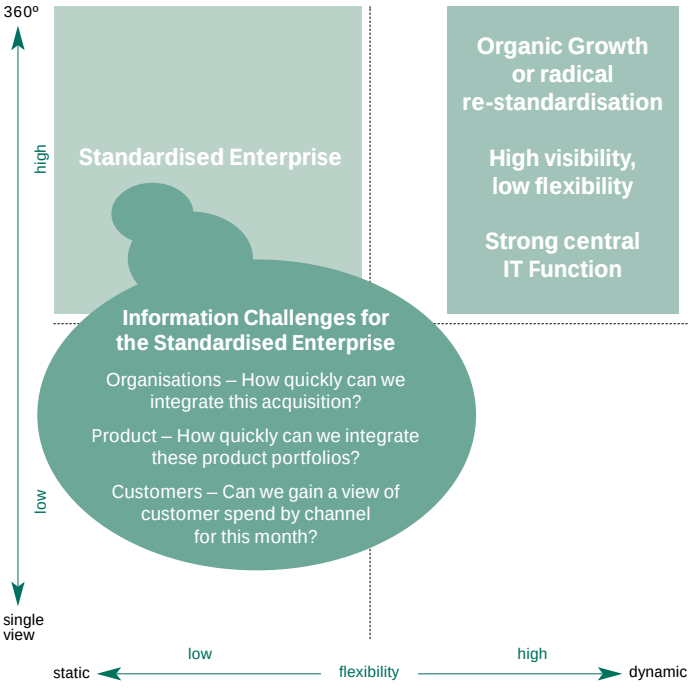
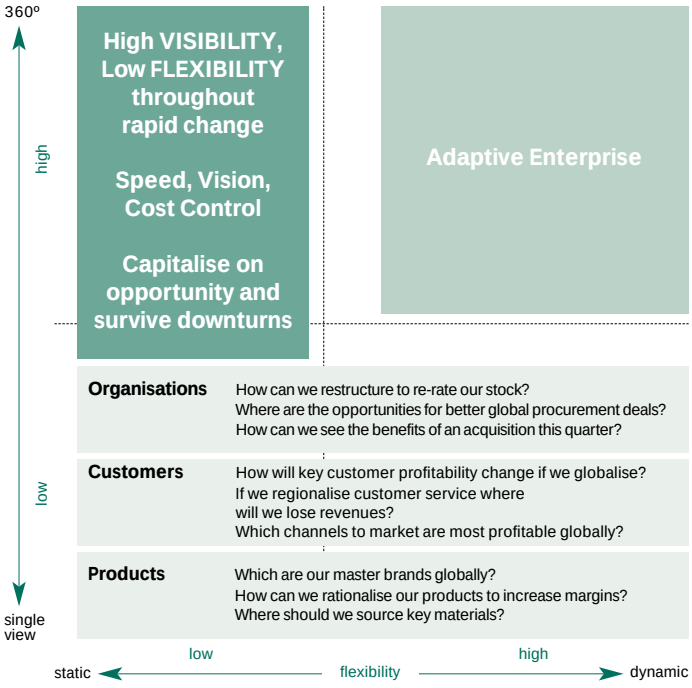


Figure 5



4. Key Issues for Board Decision-makers

The Adaptive Enterprise concept – in terms of management information strategy, processes and technology – is the state to which both Standardised and Decentralised Enterprises should aspire. The conformity required to analyse information at a global level is achieved without the need to change the way local operations work. The enterprise has the capability to accommodate radical change so that business reports on key performance indicators are still relevant even if there are internal or external changes. As a consequence boards of matrixed organisations can view their key information on businesses, products, brands, customers and suppliers from any viewpoint or perspective.

In today's volatile environment, with high speed changes and opportunities appearing and disappearing quickly, adapting to new customer needs and exploiting new markets requires high information awareness and, at the same time, high flexibility. The Adaptive Enterprise, for example, can create in real-time targeted bundles of products depending on very current, potentially very ephemeral, demand. For example, on 14th January 1999, the day after Michael Jordan's retirement, eBay created a brand new storefront totally devoted entirely to Jordan's memorabilia – in effect creating a new version of itself[3].

For larger, more complex global corporations the creation of the Adaptive Enterprise is a greater challenge. Here the Adaptive Enterprise also needs to have the capability to view possible scenarios at a global and regional level without hindering the day-to-day activities of the geographic, product and customer business units. They can view company, product and customer information in 'as was', 'as is' and 'as if' scenarios so that the past and potential success of strategic decisions can be accessed and new strategic options analysed.

For any global decision-maker there are three generic aspects of the business where they need visibility of critical information and the flexibility to keep track of this critical information throughout major changes – organisation, product and customer. The board of an Adaptive Enterprise can handle all these scenarios and questions quickly and cost-effectively.

Here are just a few examples of the challenges facing boards in each case.

Organisation

Global organisational structures are highly complex with matrix management the norm rather than the exception. Global businesses such as those in the telecommunications sector are managed by company, product group and customer account simultaneously. Management needs to be able to view business performance from any of these perspectives. If they re-structure the business so that, for example, P&L's are driven by global product groups rather than country business units they need to be able to assess business performance by product group with sub-sets such as sales team, customer, channel and country. Recently the head of one multi-national remarked to analysts that sub-optimal performance in some parts of the business was a direct consequence of his inability to gain the right quality and format of management information quickly enough.

Moreover organisations need to be able to integrate and manage acquisitions fast. Well-integrated acquisitions can drive above average business growth. McKinsey studied companies in the hi-tech sector since 1989 and found that the top-performing companies undertake twice as many acquisitions as their competitors[4]. However effective post-acquisition integration is very hard to execute. A study by Southern Methodist University in the US of 193 mergers over $100m between 1990 and 1997 found that only 36% maintained revenue growth in the following quarter[5].

[3]Sawhney 2001

[4]McKinsey 2002

[5]McKinsey Quarterly 2001 Number 4

Global decision-makers need to have fast and regular access to information such as:

- How could I restructure my business to achieve a stock-re-rating?
- What impact has a raw material price rise had on each country business unit and what impact will a further rise have?
- What are the revenues and profits of a newly-merged business?
- What would the impact on revenues be if we bought out our joint-venture partners?
- Who are our top global suppliers and with whom could we obtain greater purchasing power?

Product

Many global corporations are undertaking radical surgery with their brand portfolios today. Many successful consumer brands are global brands with a core brand essence and promise but tailored to local markets. Such brands require huge resources to maintain and grow so the selection of and focus on potential winners is a high-risk business.

Many global organisations struggle to gain quality, up-to-date information on their brand portfolio performance. Disparities in packaging, ingredients, pricing, channel strategy and brand hierarchy mean that like-for-like data is expensive and time-consuming to obtain. Moreover any internal restructure can make the data model obsolete overnight. Local managers are also negatively impacted by the lack of global information. Sawhney[6] discusses the example of Procter & Gamble (P&G) where local brand managers would be forced to create their own advertising campaign from scratch because they couldn't gain access to previous similar campaigns undertaken elsewhere around the world. In 1994, P&G solved the problem with a central, global ad-serving system that enabled managers to input the product category, market conditions, competitive context and audience demographic and find the closest advertisement to their needs.

Increasingly global marketing directors need access to information such as:

- What are our master brands globally, how are they performing and which sub-brands should receive investment?
- How profitable are each of our major brands by channel?
- What impact would various options for brand portfolio restructuring have on the bottom line?

Customers

The examples of customer-related problems arising because of lack of integrated information visibility are endless, ranging from difficulties in being able to assess the profitability of a customer served across multiple business units through having different parts of the company sometimes competing for the same customers without even knowing it, to challenges in terms of gaining the right customer information in order to design and target new offerings.

Many global companies require their suppliers to treat them as a global customer which means the supplier must organise its resources so that the customer receives a similar offering, price and experience no matter where in the world it contacts the supplier. The advent of e-commerce has only served to accelerate this requirement. Moreover it has exacerbated the problem, as there is no time to 'fix' a global proposition when trading on the web.

Thomson Financial in the US provides an example of this problem in action. Before they synchronised their customer-related information across the business sales people had to sort through information from 37 different systems and 23 different data sets (Sawhney 2001). This made customer response extremely slow and their ability to identify opportunities for product-bundling to cross-sell limited. Sawhney also quotes the example of 3M in the US where each business unit had maintained its own customer database resulting to 40% of the customer records in 3M's various US databases having invalid addresses.

Boards today want and need to know metrics about many aspects of their customer relationships – for example:

- How their global customer accounts are performing and where the opportunities are?
- Potential shortfalls on customer service if business units were consolidated or sold off?
- Revenues and profitability of each channel-to-market on a global basis?

[6]Sawhney, M., "Don't homogenize, synchronize," Harvard Business Review, pp. 101-108, July-August 2001.

5. Where to Start

If an organisation wishes to answer some of the questions above and become an Adaptive Enterprise then top-level management commitment is a pre-requisite. Wixom and Watson stress that for the success of a data warehousing project, the CEO and his team need to invest their time and funds over a sustained period[7]. In our view this is even more applicable for the creation of an Adaptive Enterprise.

Like all investment decisions, fast return-on-investment (ROI) is critical. For this reason, most companies wishing to evolve into an Adaptive Enterprise start with a strategic project with which to apply the Adaptive Enterprise principles. This could be in the form of core financial reporting issues or externally-facing requirements such as global customer account management or supply chain management. Typically the project revolves around an event or a pressing strategic need.

If an organisation starts pragmatically by addressing a strategic project, then it has the opportunity to investigate the potential of this approach while minimising the risk. If the project is successful the business principles and processes can then be applied to other projects in the enterprise. Once a series of projects has been completed successfully, then the organisation will be in a position to apply the processes, and accompanying technologies, to the overall organisation. In short, to become an Adaptive Enterprise.

Information integration for global visibility, while keeping local flexibility, is a big challenge. It is only now that robust information technology has become available which can manage both change and complexity. It is well documented by research[8] that the net benefits of 'forced' data integration (i.e. all departments agree to share a particular data representation and organisation) are not always positive. Such unification is often foiled by the need for locally unique or flexible action by business units as well as the ability to design and implement systems with integrated data from these units. With technology that provides fast and easy 'automatic' data integration, these problems can both be surmounted and the path to becoming an Adaptive Enterprise fully supported by information technology.

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[7]Wixom, B., and Watson, H., "An empirical investigation of the factors affecting data warehousing success," MIS Quarterly, Vol. 25 No. 1, pp 17-41, March 2001.

[8]Goodhue, D., Wybo, M., Kirsch, L.

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Kalido Group of Companies provides information integration software to support enterprise management of complex change such as mergers, acquisitions, reorganization and globalization. The KALIDO Dynamic Information Warehouse™ software is used in over 90 countries with multi-nationals such as Royal Dutch/Shell Group of Companies (Shell), Unilever and Philips. Originally founded by Shell, Kalido Group of Companies has worldwide operations in US and Europe, providing sales, high-level consulting, technical support and training. Kalido Group works closely with large system integrators for the deployment of global projects. The Kalido Group's website is at http://www.kalido.com.

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