

Panel: Perspectives on The Future Use of ERP Software

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Abstract

There has been tremendous growth and change in the use of ERP software among various organizations in recent years. This panel provides both industry and academic perspectives on the current and future uses of ERP software in organizations, and discusses the implications and issues related to organizations. Both panelists and audience members will be encouraged to respond to and discuss the implications and issues.

Keywords

Enterprise Systems, Business Applications, Organizational Impacts

INTRODUCTION

In recent years, we have seen tremendous growth and change in the use of Enterprise Resource Planning (ERP) software among organizations world-wide. Originally found in large corporate environments, ERP software is now implemented in organizations of all sizes (Greenbaum, 1999). In fact, the ERP market is predicted to exceed \$66.6 Billion by 2003 (AMR Research, 1999). Despite this growth, there remains significant differences in ERP software implementation and usage in organizations world-wide (Stewart et al., 2000;

Holland et al., 2000). This varies from the implementation of a single module to the integration of entire business applications and beyond.

While many companies are still struggling with the traditional ERP system, others have successfully utilized ERP software to support their operations and now have a need for vertical integration. Meaning they wish to link their ERP system to emerging technologies such as the Data Warehouse, Business Intelligence, and the Internet. In addition, many of these corporations are leveraging their investment in their ERP solution by extending the existing ERP system to support e-commerce (EarthWeb, 1999).

These emerging technologies and customer needs have had tremendous influence on ERP software (Yurong et al., 2000). Many ERP software vendors have responded by shifting their focus to web-based strategies and emerging into the e-commerce arena (Steadman, 1999). They have also extended their ERP software by releasing analytical software with data warehousing support and integrating the back-office to front-office with wider Customer Relationship Management (CRM) capabilities. Another trend in ERP adoption is the integration of software components from various vendors in order to replace legacy systems (e.g. TI instruments) (Thurwachter et al., 2000). As corporations continue to utilize ERP systems on a business-to-business global scale, componentizing ERP software promises to provide a more flexible and economic infrastructure needed for organizations to compete in the e-business arena (Sprott, 2000).

There appears to be a clear shift of ERP software focus, yet the question remains how ERP software will be used in the future. Is ERP software use changing in the industry? Are there emerging technologies that are impacting how industry is integrating their enterprise systems?

This panel will provide both industry and academic perspectives on the current and future uses of ERP software in organizations, and discuss the implications and issues related to organizations. Both panelists and audience members will be encouraged to respond to and discuss the implications and issues.

PANELISTS' POSITION STATEMENTS

Glenn Stewart

Enterprise systems are the business operating system - without this as a backbone, inter-organisational system connections will be sub-optimal. The future of Enterprise Systems lies not just in the incremental improvement of the basic business process models nor in increasing the range of 'vanilla' solutions, making the technical implementation process much easier. The future lies in developing new technologies that will lead to the development of new business models.

These Enterprise Systems and Inter-Enterprise System Implementations are likely to have a profound effect on the way that an organisation functions, the manner in which it affects its employees and the manner in which it interacts with other organisations.

Implementation success is found in modifying the organisational culture to achieve these new modes of interacting - of moving from a functional view, to a process view of the organisation. Achieving business benefit requires the organisation to experiment with new process models, and this requires an orientation towards risk taking, rather than risk avoidance. Each of these aspects requires effective leadership in the management structure, and appropriate involvement and empowerment of the system users. Effective use of inter-organisational systems is similarly constrained by the soft-systems bound in culture.

Part of the solution to overcoming this organisational resistance is through the development of ubiquitous systems, with intuitive interfaces. And we see this already happening in products like SAP workplace and the novel systems supporting the virtual marketplaces. These systems will be coupled with intelligence built into the interfaces and between systems. Intelligent agents will proliferate within the supply chain and within customer relationship management systems. As Klaus-Dieter Grownwald has stated, we are seeing a reflective relationship developing between the social systems and the technology systems. A process of co-evolution of new business forms, and new technologies is occurring, with the rate of adoption, adaption and infusion increasing. The state of infusion is only now occurring as reported by Holland et al.

But, if, as Lesley Willcocks and David Feeney states, the goal is to exploit Information Technology for strategic benefit, then the new forms of extended Enterprise Systems are the current means to achieving this goal. Lack of attention to the soft-system constraints will only delay the uptake of these systems. The organisations that manage these aspects best will become the new generation of market leaders, through their innovations in business models and technology.

Ed Watson

First, let me start by begging for your permission to take Thomas Davenport's advice and replace the antiquated term "ERP" with a more appropriate name like "Enterprise Systems" [Harvard Business Review, July-August 2000]. Furthermore, let me suggest that we focus on what Enterprise Systems stands for more generally, and not just what ERP was in the 1990s. That is, we should focus on business process integration and process-centering. Hence, the Internet has encouraged, and perhaps enabled, the "expansion" of the enterprise system to support inter-organizational business processes and hence B2B. This expansion is provided in new functionality such as customer relationship management, supply chain optimization, B2B procurement, e-commerce, strategic enterprise management, and knowledge management.

As a result, the use of enterprise systems is absolutely changing. Or, should I say, just like the product, it is evolving. This was really brought to my attention when Klaus-Dieter Gronwald pointed out that the half-life of information in business and engineering is getting smaller and smaller. It is no longer enough to learn what and how to learn, but we must also learn how to forget, that which is no longer relevant. With enterprise systems changing so rapidly, this becomes a challenge. So, we need to think of enterprise systems solutions as business enablers and knowledge managers (like the Shadow Partner concept) instead of transaction processors.

Now, let me suggest that much of what we did in the 1990s (standardize processes, impose discipline, break down barriers, share data, focus on the customer, educate the workforce) is what we must continue to focus on for the next 5 years. Organizations are still struggling with implementing integrated systems, creating business processes, realizing real value and educating their workforce. The e-business world is upon us and organizations, now realizing that putting a front end on a broken process only exposes the broken process, are struggling to get through the 1990s. As suggested by science fiction writer William Gibson [Davenport, Mission Critical] "The future is already here -- it's just unevenly distributed."

We used to have a fear that ERP, once implemented, would restrict our continuous improvement and reengineering [Vandelay Industries, Harvard Business School Publishing Case Study]. Now we realize that our enterprise system is pulling us along, dragging and screaming. Now the question of integration versus best-of-breed is upon us. My view is that

integration will win. And companies like SAP, those that offer a truly integrated solution, will again "rule". It also seems clear that these types of systems will make the white-collar worker, as we know it, obsolete. These systems are changing the rules so fast and this results in profound change to how we do business, that we will not recognize "positions" from two years back. So, the focus perhaps shouldn't be so much on "The Future of ERP Software" but instead with an emphasis on preparing the organization for life in the fast lane, or "The Future of Enterprise Systems Enabled Business".

Rob Clark

Mincom specialises in software development for capital intensive industries, and for the delivery of whole of enterprise solutions for Asset Management in the Mining, Utilities, Transportation and Defense & Government sectors. As such, Mincom is a player in the EAM (Enterprise Asset Management) market as distinct from the Enterprise Resource Planning market. Our clients insist on solutions that are "state of the art", cost effective and provide them with a competitive edge. Current initiatives being sought include e-business, web-based applications, support for outsourcing, business performance management. The latest trends in EAM and ERP and supporting technologies will be discussed.

Chris Turnbull

I believe that the future of ERP systems is bound up in the rate of change discussions about the industry in general. If ERPs are to be relevant in the future then the trade-off between the delay time of implementation caused by the massive complexity of large scale ERPs and the realisation of the large-scale organisational benefits that are required for sustained investment in such systems must be addressed. At a time when e-business developments are being measured in months to market then the easy segmentation of ERP solutions into quick return outcomes must be a paramount.

PANELISTS

Yvonne Lederer-Antonucci (Chair) is an Associate Professor of Management Information Systems in the School of Business Administration at Widener University. She is the MIS Program Coordinator and the coordinator of Widener's alliance with SAP. To this end, she has actively enhanced the business curriculum with ERP in both the graduate and undergraduate programs, and recently won the top curriculum award from SAP America for the development of inter-organizational business processes between the US and Germany. Dr. Antonucci also serves as an advisor to SAP America's High School Pilot Program. Dr. Antonucci's research interests revolve around the integration of information technology with business strategy and processes, with specific interest in the development and use of workflow systems in business-to-business environments.

Rob Clark BE Mech (Uni of Queensland), Grad Dip Business (Deakin), CPEng. MESA. Rob is currently the Product Manager for Mincom's Ellipse Enterprise Asset Management software. Mincom Ltd, Brisbane, Qld. He has 5 years experience as a Business Consultant supporting the implementation of MIMS software in Mining and Utilities Industries, 4 years of experience as an Operations Superintendent at Hamersley Iron Power Division, Dampier, WA, and 12 years experience as a Maintenance and Operations Engineering at QEC, Gladstone Power Station, Qld.

Glenn Stewart Associate Director, Information Systems Management Research Centre, Executive Officer of the Australasian mySAP.com University Application Hosting Centre, Course Coordinator and Subject Area Leader in Enterprise Systems, School of Information

Systems, Faculty of Information Technology, Queensland University of Technology, Brisbane, Australia. Glenn has been researching organisational barriers to the exploitation of Enterprise Systems. In addition, he has led the team developing curriculum using Enterprise Systems as the practical basis for large Information Systems, and is currently the executive officer of a SAP bureau providing access to SAP R/3, mySAP.com and New Dimension Products to 15 universities in Australia and New Zealand.

Ed Watson is an Associate Professor of Information Systems and Decision Sciences in the E. J. Ourso College of Business Administration at Louisiana State University. He holds the Marjory B. Ourso Center for Excellence in Teaching Professorship and was recently awarded the Erich Sternberg Foundation Award for Excellence in Teaching (1998-1999) and the Dean's Award for Service (1998-1999). He serves as the Associate Director of the Center for Virtual Organization and Commerce and, to this end, is responsible for content development and coordination for this research and education repository. Dr. Watson has also been serving as the program coordinator for Louisiana State's SAP Alliance. Dr. Watson's interests revolve around studying and developing new forms of e-Business, e-Government, and e-Learning with particular interest in enterprise-wide information systems, supply chain management, and systemic performance analysis.

Chris Turnbull Executive Director Office of Financial Management Queensland Government. Chris joined the Queensland Treasury in 1987 and has since held a number of positions in the areas of fiscal policy, financial reform, and financial management. Chris currently is responsible for the Office of Financial Management and is working towards developing a performance oriented and continually improving Queensland public sector, which includes the practical and pragmatic implementation of technology. Before joining Treasury, Chris worked, both regionally and in Brisbane, with the Queensland National Parks and Wildlife Service where he had first hand experience in the delivery of Government services.

REFERENCES

- AMR Research. "AMR Research Predicts ERP Market will Reach \$66.6 Billion by 2003", May 18, 1999. <http://www.amrresearch.com/press/files/99823.asp>
- Cameron, K.S. and Quinn, R.E. *Diagnosing and Changing Organisation Culture Based on the Competing Values Framework* Addison-Wesley 1999
- EarthWeb. (1999). "ERP, componentization, and e-commerce", October 1999, EarthWeb, http://erphub.earthweb.com/scalability_991005.html
- Greenbaum, Joshua. (1999). "The Origin and Future of ERP Outsourcing", <http://www.erpoutsourcing.com/main.htm>.
- Holland, C. P.; Light, B.; Beck, P.; Berdugo, Y.; Millar, R.; Press, N.; and Setlevad, M. (2000) "An International Analysis of the Maturity of Enterprise Resource Planning (ERP) Systems Use", *Proceedings of the 2000 Americas Conference on Information Systems*, Long Beach, CA USA, August, 992-997.
- Krasner, H. (2000) "Ensuring E-Business Success by Learning from ERP Failures", *IT Pro*, January/February, 22-27.
- Kumar, K. and van Jillegersberg, J. (2000) "ERP Experiences and Evolution", *Communications of the ACM*, April, 43 (4), 23-36.

- Meier, M; Fullerborn, A.; and Mertens, P. (2000) "Vertical Integration of Business News from the Internet within the Scope of SAP Strategic Enterprise management (SAP SEM)TM ", *Proceedings of the 2000 Americas Conference on Information Systems*, Long Beach, CA USA, August, 663-668.
- Sprott, D. (2000) "Componentizing the Enterprise Application Packages, *Communications of the ACM*, April, 43 (4),63-69.
- Stedman, C. (July 19, 1999) "ERP Guide: Vendor Strategies, Future Plans", *Computerworld*, 33 (29), 22.
- Stewart, G.; Milford, M.; Jewels, T.; Hunter, T.; and Hunter, B. (2000) "Organisational Readiness for ERP Implementation", *Proceedings of the 2000 Americas Conference on Information Systems*, Long Beach, CA USA, August, 966-971.
- Thurwachter, W.A, and Rich, D. B. (2000) "Making Global ERP a Reality", *Supply Chain Management Review: Global Supplement*, Winter 2000, 13-17.
- Yurong, Y. and Houcun, H. (2000) "Data Warehousing and th Internet's Impact on ERP", *IT Pro*, March/April, 37-41.
- Willcocks, L., Feeny, D. and Islei, G. (1997) *Managing IT as a Strategic Resource* McGraw Hill London

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