

Structured Support for S-M-E-Business

Frank Wilson, Interaction Design Ltd, UK. fwilson@i-d.co.uk

Tony Swash, London Borough of Islington, UK

Armando Pardo, Islington Enterprise Agency, UK

Monica Crump, National Microelectronics Application Centre, Ireland

Abstract.

Effective human interaction with information systems depends on the access methods, and suitability and form of content. Decision support systems assisting e-business advisors must integrate e-business knowledge with traditional business advisory sources in a suitable way. This paper briefly summarises progress and issues faced in developing such a system.

Key words: SME; e-Business; Advisory Practice; Decision-Support; Knowledge.

1. Introduction.

As electronic business practices become more established the risk of exclusion from electronic supply chains, networks, and customer-facing practices is increasing for small and medium sized enterprise (SME). Measures addressing this scenario in Europe include education and awareness aimed directly at smaller business operators. However, many SMEs are dependent on local support networks of advisory practice including bodies such as Regional Development Agencies (RDAs), Chambers of Commerce, and Enterprise Agencies whose collective 'front line' is the 'business advisor'. Our examination shows that business advisors possess a wide range of skills in advising on traditional business practice, but feel challenged by lack of awareness, understanding and expertise necessary to advise on aspects of e-business for investment and operational planning, human resource issues, and extended business process. The USHER initiative is supported by the CEC 'IST' programme, and sets out to develop a 'support package' aimed at advisors and designed to provide awareness, training and on-tap information in forms defined by advisors as suitable for enhancement of competence in new ways of business (e-business). In five European regions, RDAs have defined the regional 'baseline' of advisory practice and a local strategy to better accommodate e-business advisory needs. These requirements define the USHER package.

2. Background to the problem.

European SMEs account for both independent business operations and significant participation in supply chains, but emergence of e-business poses numerous threats.

Marginalisation

As supply chains become increasingly dependent on e-business practice, smaller players must either adopt such practices or face exclusion (1). Different supply chains implement different practices and so the problems for small business are greater and more complex than for larger enterprises who 'determine' their operating environment (coercive).

Competition in B-B

Large companies have established 'preferred' providers for certain services and supplies, and preference may be based on regional or historical parameters. Stability is challenged since remote SMEs may now operate more easily, and larger players can compete using local 'virtual presence' to tailor e-services and e-supplies in areas once dominated by local SMEs.

Competition in B-C

Many retail operations have been able to stand against 'chain store' operations in the past, but feel increased pressure from e-business enabled operations whose reach is extended, and whose cost basis is enhanced by e-business practices.

Timing

Delayed entry to e-business may cause SMEs to face a more complex scenario in future, or the reverse may be true, and e-business may stabilise or standardise so that engagement in e-supply chains becomes simpler - a difficult bet to make?

To address the shifts in competition, business advisors must now be able to recruit new knowledge, awareness and expertise concerning e-business.

3. Human issues addressed in developing the USHER package

• What does a business advisor actually do?

Our study (2) shows the business advisor (BA) is an access point and support for entrants to, or problem owners in, a complex domain of discourse. The advisor has procedures for problem articulation and solving, but their knowledge is often hard to access, and there is no complete manual of BA practice. They utilise knowledge concerning Finance Planning, Accounting, Fiscal and Regulatory practice, Marketing, Human Resource Management (HRM), Customer Relationship Management (CRM), Public Relations & Communications, and basic IT usage (among others in an impressive list). The knowledge domain also includes a wealth of information, rules and heuristics concerning the subtle inter-relationship of sub-elements in each of the key areas. The business advisor exposes and operationalises such relationships, and guides problem solving where interactions have implications for business success. The business advisor is a repository of a complex web of information gained through actual business experience (personal), received information (e.g. published sources), and observational learning (vicarious) gained through advisory practice. Workshops and interviews for knowledge elicitation support design definition for USHER.

• How can e-business knowledge integrate with advisory practice?

If the value of existing business support networks is to be maintained by extension of practice, then the e-Business Advisor must recruit coverage of e-marketing, e-tailing, e-procurement, e-supply-chains, and other emerging topics. Advisors must understand the consequences of transformation to a digital economy for traditional business advisory concepts and knowledge elements. This implies extension and reinterpretation of standard business practice, and includes critical new topics such as cross-border regulatory and taxation issues. The key is to ensure desired impact in the Advisor-SME relationship.

- **What e-business knowledge is immediately required (BA learning and operation)**

We have elicited two strong groups of knowledge requirements.

- e-Business practice**

The requirement for explicit models of e-business (business models) includes taxonomic treatments (e.g. shop model vs. portal), process models (e.g. value chains vs. value networks) and architectural models (e.g. relationship of product, service, information, actors, roles, benefits and revenues). We identify a requirement for illustration of these as case studies of good and bad experiences to support operational understanding. The latter must include arguments for/against specific options/operations to expose consideration of key issues in decision-making (decision support). Advisors also want to understand the likely evolution of e-business to support forecasting.

- Business advisory practice**

Advisors identify that European SME advisory practice is not well defined and takes different forms across regions. They want to understand advisory process and problem solving methods/approaches from different regions and business sectors. This is addressed in part by organisations such as IBA (Institute of Business Advisors), but such organisations are not common in Europe. In some regions business support networks are ‘organic’ (opportunistic and based on historic relationships of experts). Advisors want to understand Europe-wide practice and to add e-business knowledge.

- **How should e-business knowledge be presented? (access and usage)**

Advisors state that the form and expression of models and cases must be usable by them. There is a wealth of existing material aimed at the e-expert, technologist, or manager of large company developments. But the format, level and type of detail do not always expose the value proposition in terms relevant to BAs. They need a rich narrative in ‘business’ terms, plus technical detail (hooks) to support further learning and investigation. Based on our advisor task model, the interaction must support a user of only standard office applications, and the procedures and processes in the interaction must reflect their problem solving approach which is part procedural (structured), and part opportunistic (dipping into knowledge sources looking for matches). This argues for a mixed model at the interface.

4. USHER progress and future work.

USHER targets natural links from RDA to Business Advisor (regional support strategy), and from Business Advisor to SME (local demand fulfilment). Five regions have been studied to record the baseline of current provision and practice, and in each region the demand for improved e-business advice has been analysed, and the ‘knowledge’ requirements and presentation style defined. This information defines our ‘package’ of support measures.

- A rich narrative on current e-business practice (3):
 - Business Models and Cases from different regions and business sectors.
 - Value propositions and strategic perspectives.
 - Evolution scenarios and forecasts addressing technology and practice.

- A handbook of advisory practice for e-business (4):
 - Business advisory process.
 - E-Business process and guidelines.

- Decision support tools (5):
 - 'Online Advisor Assistant' (decision support system for problem solving).

At present each element is defined as an outline design and implementation has been achieved to a draft status for testing with users. Models and cases have been collected and provided to business advisors to test their relevance, content and presentations style. The handbook content and structure is defined, and draft sections produced to allow advisors to 'review' the outline and to identify gaps in content, issues in style and presentation. The decision support toolkit has been defined and knowledge harvesting initiated. An initial corpus is now included in a pilot system where a subset of intended features is implemented to allow advisors to evaluate those and provide feedback. Content is organised around 'e-business assertions' (truth-statement plus supporting causal relations) derived and interpreted from acknowledged and published sources of expertise.

Testing with small user groups in each participating region has started in September 2001, and the deployment of a first draft package is scheduled in the first quarter 2002. This phase will see widespread use by user groups in five regions, and access will be opened to all regions. A range of human factors studies relating to mixed-media knowledge sources offered in different formats and styles will be addressed by a structured evaluation approach and reported in further publications. Promotion of this significant economic opportunity for convergence of telecommunications and business processes (s-m-e-business) will be carried out in parallel via a planned dissemination programme.

5. References

- (1) Selby, C. and Wilson, F., 2000 - "Guidelines for Internet Trading : Small Business", Web Trader Workshop, London, July 1999.
- (2) CEC IST KAI project USHER, June 2001, report D2 "Status and Requirements".
- (3) CEC IST KAI project USHER, July 2001, report I3.1 "Business Cases".
- (4) CEC IST KAI project USHER, August 2001, report I6.1-2 "Business Counselling Draft Materials Index".
- (5) CEC IST KAI project USHER, September 2001, report I4.1, "Decision Support Toolkit for Testing".

Advisor networks can register at <http://www.usherproject.org.uk> for access to online tools and information about USHER events.