I carried out an analysis of 100 journal articles which had been published during 2003 (33 articles), 2004 (35 articles), 2005 (28 articles) and early 2006 (4 articles) and which studied small and medium enterprises (SMEs) in the context of e-business. The articles identified primarily came from journals accessible in full-text using such online research databases as Emerald, Science Direct and EBSCOHost via Deakin University’s library. In addition to JECO, journals publishing SME-e-business research included Journal of Small Business & Enterprise Development, Electronic Markets, European Journal of Information Systems, Information & Management just to name a few of the 41 journals identified. While the journals analysed did not constitute a complete list of articles on SME-e-business research published worldwide, there were a sufficient number among those analysed to identify broad research trends and future research opportunities for the e-business academic community. It should be noted that given the long publication cycle of many journals (typically between 6 to 24 months) that this analysis reflects published research, not the most recent research which would still be filtering through the journal publication process.

About 47 of the articles analysed could be categorised as focused on identifying what e-business applications had or had not been adopted by SMEs and/or what benefits and problems SMEs had encountered. Of these articles 34 also identified an extensive list of factors which acted as drivers or barriers to SME e-business adoption and use. A further 36 articles could also be categorised as adoption factor studies, but they were more focused. For example, some studies examined factors which impacted on specific aspects of e-business use such as the levels of integration (eg, Daniel, 2003; Egan et al., 2003; Kettinger & Hack Barth, 2004), and others looked at a subset of factors and their interrelationships (Burke, 2005; Levenburg, 2005). This means that approximately 80% of the articles analysed were largely descriptive studies of e-business adoption and use by SMEs, in which they explored a range of adoption factors or a subset of factors.

While such adoption/use studies are useful, Wymer & Regan (2005) show that the adoption factors are largely all identified (albeit with inconsistent terminology
and groupings). The authors provide a particularly useful summary of the range of SME-e-business adoption factors identified in previous research, so that future researchers can avoid duplication of effort. This consolidation work by Wymer and Regan suggests that the primary value which is likely to come from future studies focused on identifying SME adoption factors are those which examine new, atypical e-business applications. For example, Clear & Dickson (2005) looked at SME teleworking practices, Fisher & Craig (2005) examined regional portals for SMEs, and Wong & Aspinwall (2005) studied SME knowledge management adoption factors. These three studies identified different adoption factors due to the unique attributes of their respective e-business domain when compared to the more typical and prominent email, Web site and Internet adoption and use studies in the SME literature.

The research approaches employed by SME-e-business investigators included 45 quantitative postal/email or Web site surveys, 32 qualitative studies (case studies, semi-structured interviews or action research), 16 papers combining quantitative and qualitative approaches (typically post/email surveys and semi-structured interviews) and seven conceptual articles. The combination of quantitative and qualitative approaches enabled researchers to counteract the limitations of both types of studies.

Few authors had conducted longitudinal research, with exceptions including one case study (Tucker & Lafferty, 2004), one postal and email survey (Auger, 2005), one Web site survey (Alonso Mendo & Fitzgerald, 2005), two action research studies (Ihlstrom & Nilsson, 2003; McGovern & Hicks, 2004), and two studies combining postal and email surveys and semi-structured interviews (Fisher & Craig, 2005; Warren, 2004). This suggests there is an opportunity for both quantitative and qualitative studies which examine e-business use over time in order to understand the temporal issues affecting SMEs use of e-business.

Another issue emerging from this analysis of research approaches illustrates that the SME-e-business articles analysed primarily observe e-business use and adoption among SMEs. There are comparatively few examples in which the primary objective of researchers is to investigate interventions which they themselves or other external parties make to improve the perceived and actual relative advantage SMEs can gain from e-business. Some notable exceptions included two action research studies in which the researchers assisted SMEs with e-business projects and knowledge development (Ihlstrom & Nilsson, 2003; McGovern & Hicks, 2004), Hari et al’s (2005) knowledge management education CD development for the construction industry, Matlay & Addis’ (2003) study of the impact of higher-education-based consultancy on SME adoption of e-business, and Simpson & Doherty’s (2004) study concerning the role of government-funded not-for-profit e-business advisors in improving SME uptake of e-business. There is opportunity and need, therefore, for further research into the supply side of e-business innovation in the context of SMEs, in addition to the current SME-e-business research which focuses only on the SMEs themselves. This might include, for instance, more extensive research into the role and effectiveness of vendors and consultants (eg, de Guinea et al., 2005) and of educational programmes and approaches (eg, Ihlstrom & Nilsson, 2003), in terms of how they address the knowledge barriers SMEs often face when they consider the potential benefits of e-business solutions.

The analysis of the articles also suggests that the majority of the SME-e-business research looks at single countries and, predominantly, SMEs in the United Kingdom, USA, Australia, Canada, New Zealand,
Ireland, Scotland, Sweden and Italy. This suggests that there is considerable opportunity and need for SME-e-business research in developing and/or non-native English speaking countries. In addition, only seven of the articles analysed included cross-country comparisons which also suggests a future research opportunity.

REFERENCES


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