The Paisley Pattern: IT and legal practice in Scotland

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Abstract

A number of influential authors such as Susskind and Katsh have highlighted the extent to which information technology (IT) has significantly altered, and will continue to affect, the provision of legal services at a fundamental level. While a number of studies have been carried out on the extent and use to which solicitors make use of IT in their legal practice in England and Wales, little research has been done with Scottish law firms. At a time when Scots lawyers are under increasing pressure to consider IT solutions in legal practice, it is important to know how they are presently using IT in their day-to-day legal practice.

The research described in this article had two main aims, therefore. First, we set out to identify the IT actually in use by solicitors in their day-to-day practice. Second, we wanted to discover how IT is currently changing the role and function of legal practice within our chosen jurisdiction. The different data collection methods we used provided a multi-dimensional case study, the outcomes of which have implications for the education of law students (at both undergraduate and vocational level), as well as the continuing professional development of solicitors.
1 Introduction

With its characteristic swirling teardrop motifs and vivid colours, the Paisley pattern shawl is instantly recognisable. However the distinctive pattern was not invented in the central-Scotland town of Paisley: the designs themselves are said to date back to antiquity, and British textile manufacturers set out to imitate the expensive and fashionable Kashmir shawls imported to Britain from the late eighteenth century onwards.¹ A particular innovation in the production of the shawls was the widespread adoption in the 1840s of the Jacquard loom. The loom's individual pattern cards provided a solution to the problem of weaving complex repeating patterns where, using a series of levers, the holes in the pattern cards could represent 'on' or 'off' indicating which threads should be used. This use of punched cards and binary notation ('off' or 'on', 0 or 1) was adapted by Charles Babbage in his designs for an 'analytical engine' - the forerunner of the modern computer.²

A quarter of a century ago, Colin Tapper made the link between the computer, its knowledge-enhancing potential, and the law:

“The computer will condition every facet of human life in the future, and so far as law is used to regulate that life, it will affect the development of the law.”³

¹ See V. Reilly, Paisley Patterns: a design source book, (Studio Editions, London, 1989); ibid, The Illustrated History of the Paisley Shawl, (Department of Leisure Services, Renfrew District Council, Renfrew, 1996)
Tapper's sentiments are echoed by Richard Susskind's much more recent view that legal systems of the future “... will evolve rapidly under the considerable influence of ever more powerful information technologies”.⁴ Indeed one legal IT consultant Neil Cameron argues that it is

"... now a given that lawyers will use computers, with their own fingers at their own desk, all day. They may not be doing that now but it is accepted that that is going to happen and there is nothing you can do to stop it."⁵

This paper describes what we have called the Paisley Pattern Project, which explores the relationship between the legal profession and information technology (IT). The research was carried out in Paisley, and its pattern reveals the differing attitudes, usage and experiences of solicitors in the Paisley area concerning IT.

2 Background

As part of the increasing interest in solicitors' use of IT there have been a number of surveys and case studies in several jurisdictions. Surveys conducted in Hong Kong, the United States and the UK all indicate an increasing use of IT by the legal profession.⁶ Indeed for large practices in the

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USA, IT is now “ubiquitous in the profession”. Technology has not made such inroads into the profession in the UK, with Onwusah's commentary on the 1996 Robson Rhodes survey highlighting a declining level of money spent on IT by smaller firms (less than 25 partners) along with a lack of internal IT support and expertise. Only 37% of smaller firms (under 25 partners) in the UK have PCs at all partners’ desks compared with 75% in the USA.

In 1995 a postal survey of all lawyers in the UK city of Leeds was carried out. Eighty five percent of all respondents stated IT was important to their work. However 41% said they did not use a computer. For this second group, lack of access was the most important reason for non-use (64%), 17% did not need computers for their particular work, and 7% did not know how to use a computer; other factors including cost were cited by 11% of respondents. Solicitors' use of IT was surprisingly similar across all sizes of firms (25-30%) except for the 6-10 partner cohort with only


7 Shiels, op.cit., 539

16%. Rather than firm size, the IT usage varied with legal specialisation. For example word processing was used by 91% of firms in the information technology/intellectual property cohort compared with 34% for family law.

There has been little empirical work carried out regarding the use of IT by solicitors in Scotland. One of the few sources is McMorrow and Doswell's survey of IT in Scottish legal practices in the mid-1980’s. The adoption of IT was “quite slow” with a “mixed and only patchy take-up of computer-based equipment beyond word processing”.11 Their generally pessimistic picture is supported by a contemporary view that, in the 1980’s at least, the profession “seem to be slow to grasp these new opportunities”.12

In their survey of the market for conveyancing services in Scotland, Paterson and Stephen touched briefly on the use of IT by Scottish firms. Technology was seen as “another avenue for addressing the challenge of increasing competition”.13 Based on their telephone survey of 334 solicitors firms in Scotland (82% of their total sample), the survey supports work in other jurisdictions with word processing and accounting software being the most common applications of IT. More recently Duncan argued that Scottish practices adopt a range of attitudes towards the use of IT and firms may be approaching a ‘critical mass’ of hardware/software, and perhaps more importantly

experience of the use and management of technology.\textsuperscript{14} Additionally there have been a number of recent case studies reporting IT use in particular firms.\textsuperscript{15}

Taken together, the empirical work presents a picture of widespread and increasingly sophisticated use of IT by the legal profession. However there is still a dearth of research regarding the use of IT by the legal profession in Scotland - for example there is no Scottish equivalent of the Robson Rhodes Legal IT surveys.

3 Methodology

The aims of the Paisley Pattern Project (PP Project) were to:

1. identify the general profile of current IT usage across the firms in the proposed area.
2. determine the shift in work practices as a result of IT implementation.
3. identify factors acting as ‘drivers’ or ‘blockers’ to the adoption of IT within the firm.
4. identify the current and future training needs of lawyers.
5. provide information for the development of IT in legal curricula.


The Paisley Pattern Project used multiple methods of data collection methods to enable the strengths of one design or method to counteract the weaknesses of another.\textsuperscript{16} This process, called triangulation, is akin to a mountaineer taking several compass bearings to obtain a ‘fix’ on a particular location. Triangulation has received considerable support in both management and information systems literatures.\textsuperscript{17}

The first data collection method used was a postal survey. The sample area covers 48 legal practices within the jurisdiction of the Paisley Sheriff Court. Part of the Greater Glasgow conurbation, Paisley is twenty minutes drive to the south-west of Glasgow town centre, and close to Glasgow Airport. Firms in the jurisdiction range in size and legal speciality, and include both urban (Paisley) and more rural practices (clustered around much smaller centres of Renfrew, Johnstone and Giffnock).

Surveys are the predominant method of data collection concerning IT in legal practice.\textsuperscript{18} However by themselves surveys seldom provide insight into the underlying reasons why particular firms or solicitors use IT (or not), the processes by which decisions are made regarding IT, and the


\textsuperscript{17} See, for example, C. Robson, \textit{Real World Research: A Resource for Social Scientists and Practitioner-Researchers}, (Basil Blackwell, 1993); Gable, \textit{op.cit.}


consequences of these decisions. In attempting to provide a deeper understanding of solicitors' attitudes towards IT the project adopted in part a phenomenographical approach to our subjects. Marton and Booth summarise this approach well: phenomenography is concerned with "a way of experiencing something … and the object of the research is the variation in ways of experiencing phenomena. At the root of phenomenography lies an interest in describing the phenomena in the world as others see them, and in revealing and describing the variation therein".\(^{19}\)

Following on the survey data, therefore, two further data collection methods were used: focus groups and semi-structured individual interviews. Focus groups are a method for collecting qualitative data involving "group interaction on a topic determined by the researcher".\(^{20}\) The defining characteristic of focus groups is that they provide "data and insights that would be less accessible without the interaction found in a group".\(^{21}\) They thus enable the researchers to observe a large number of interactions in a limited time period, and can be seen as "structured eavesdropping", enabling comparatively natural talk within a structured setting.\(^{22}\) The interviews were conducted with individual solicitors. Whereas focus groups depend on the interactions within

\(^{19}\) F. Marton and S. Booth, *Learning and Awareness*, The Educational Psychology Series, (Lawrence Erlbaum Associates, New Jersey, 1997), 111


a group, face-to-face interviews allowed us to explore in more detail the experiences of individual practitioners regarding IT.

The three forms of data collection were planned so as to allow us to elicit more elaborate and finer-grained information (Table 1). The postal survey gave us essential data on IT use and attitudes towards IT at firm level and also at fee-earner level. The focus group discussion allowed us to explore with participants in more depth their perceptions of IT and the issues involved both at firm and individual levels, and we were able to base this discussion on our analysis of the postal survey. The results obtained from the focus group discussions were further discussed in the interviews with individual fee-earners, which formed the third and final phase of data collection. The process of data collection was thus cumulative, with later phases augmenting and clarifying the results of earlier phases.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Data Collection Method</th>
<th>Time Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>Postal survey</td>
<td>Mid-February-April 1999</td>
</tr>
<tr>
<td>Phase II</td>
<td>Focus group</td>
<td>25 March 1999</td>
</tr>
<tr>
<td>Phase III</td>
<td>Individual interviews</td>
<td>April-May 1999</td>
</tr>
</tbody>
</table>

**Table 1** Paisley Pattern Project: data collection methods

The rest of this paper presents the results from the differing phases of data collection and analyses them. The following section describes the instruments and data collection methods used (Section 4). Results from the Firm and Fee-earner surveys are described and analysed in Sections 5 and 6 respectively, followed by findings from the more qualitative data of the focus group and individual
interviews (Section 7). Finally, Section 8 draws some cautious conclusions on the current status of IT use by solicitors in the sample area, and attempts some generalisations on the basis of these.

4 Survey: Instruments and Data Collection

In mid-February 1999 each practice in the jurisdiction of Paisley Sheriff Court was sent the survey instruments. Two types of questionnaire were used. Firstly, a single Firm questionnaire containing questions about the firm in general (size, services provided etc), and its use of IT in particular; and secondly a Fee-earner questionnaire which focused on an individual fee-earner's use of IT. The number of Fee-earner questionnaires enclosed was based on the number of practitioners listed in the 1998 edition of the Scottish Law Directory (SLD) plus several extra copies to allow for trainees or para-legals who, though fee-earners, would not be included in the SLD.

The initial sample based on the SLD list and the Law Society of Scotland Web site (URL: <http://www.lawscot.org.uk/>) was refined as fieldwork progressed. For example firms had withdrawn from practice, solicitors moved between firms and so on. With these more up-to-date developments taken into account, the final sample size was 48 firms. The number of fee-earners in the sample was based on the partners, associates, assistants and consultants listed in the SLD. The sample size is approximate as there was imperfect knowledge regarding numbers of trainees and paralegals, as well as possible up-to-the-minute changes in a solicitor's place of work -- our informed estimate was a total of 150 fee-earners.
Responses were received from 23 firms (48% response rate) and 70 fee-earners (47% response rate). This response rate compares favourably with previous surveys of legal practices such as Wall and Johnstone (35% response rate) and the 1996 Robson Rhodes legal IT survey (31%). The data received was analysed using the statistical application SPSS for Windows version 8.0.

5 Survey Results: Firm Questionnaire

5.1 General demographics

The Paisley jurisdiction closely follows the pattern of firms by number of partners for Scotland as a whole; though in the absence of the large Glasgow and Edinburgh based practices firms with five or more partners are underrepresented. The profile of respondents to the Firm questionnaire is broadly in line with the demographics of size of practice in Scotland as a whole (Table 2). Firms are typically small-scale with almost half the respondents describing themselves as sole practitioners. Reflecting the proportion of sole practitioners, seventy percent of firms had only one office, though one firm had five.

<table>
<thead>
<tr>
<th></th>
<th>Sole Practitioner</th>
<th>2-4 Partners</th>
<th>5 Partners or over</th>
<th>Total</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland (JLSS 1997)</td>
<td>44%</td>
<td>40%</td>
<td>16%</td>
<td>100%</td>
<td>1245</td>
</tr>
<tr>
<td>Paisley jurisdiction (SLD 1998)</td>
<td>44%</td>
<td>46%</td>
<td>10%</td>
<td>100%</td>
<td>48</td>
</tr>
<tr>
<td>Paisley Pattern</td>
<td>48%</td>
<td>35%</td>
<td>17%</td>
<td>100%</td>
<td>23</td>
</tr>
</tbody>
</table>
Table 2  Demographics of legal practices in Scotland, Paisley and survey returns

Respondents were asked to rank a list of legal services according to the contribution each service made to the turnover of their firm.\textsuperscript{23} The services ranked 'Number 1' are shown in Figure 1. As might be expected, domestic conveyancing and criminal work were the most important services provided.

Figure 1  Legal Service Ranked 1\textsuperscript{st} (Contribution to turnover)

5.2  Hardware

Stand-alone personal computers (PCs) were the main hardware platform, used by 80\% of firms. The hardware options available to firms are not mutually exclusive. A quarter of the firms (26\%) had at least some of the PCs networked and two firms mentioned the use of laptops. Server and dumb terminals were combined with standalone PCs in four firms and with a PC network in another two.

\textsuperscript{23} This was based on Wall, 1998, \textit{op.cit.}
5.3 Software

Turning to software, respondents were asked what IT applications the firm used. They were invited to consider three categories of user: partners, other fee-earners or support staff. Support staff were defined as secretaries, personal assistants, cash room staff, receptionists, telephonists and other similar non-fee-earners.

Perhaps reflecting the limited resources of the predominantly small firms in the sample, of the 23 responses eight firms had no other fee-earners and three had no support staff at all. Table 3 indicates the percentage of firms who made use of each application across the three categories of user. Figures reflect the percentage of firms using an application (eg partners in 70% of firms used word processing), they do not imply that over the whole sample 70% of partners used word processing. Actual use by individual fee-earners was considered by the Fee-earner questionnaire. The IT applications are listed in order of their greatest use by partners. In addition to the list given to respondents the CD-ROM version of the Scots Law Times was used in four firms.
<table>
<thead>
<tr>
<th>IT APPLICATION</th>
<th>CATEGORY OF USER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Partners</td>
</tr>
<tr>
<td></td>
<td>Fee-earners</td>
</tr>
<tr>
<td>Word processing</td>
<td>70%</td>
</tr>
<tr>
<td>Client Database</td>
<td>52%</td>
</tr>
<tr>
<td>Cash Accounting</td>
<td>43%</td>
</tr>
<tr>
<td>Electronic Mail</td>
<td>43%</td>
</tr>
<tr>
<td>Client Feeing</td>
<td>43%</td>
</tr>
<tr>
<td>Web Browser (eg Netscape)</td>
<td>43%</td>
</tr>
<tr>
<td>Financial Analysis (eg spreadsheets)</td>
<td>39%</td>
</tr>
<tr>
<td>Administrative Database</td>
<td>35%</td>
</tr>
<tr>
<td>Electronic Diary/Scheduler</td>
<td>26%</td>
</tr>
<tr>
<td>Voice Recognition</td>
<td>26%</td>
</tr>
<tr>
<td>Document Assembly</td>
<td>17%</td>
</tr>
<tr>
<td>Time Recording</td>
<td>17%</td>
</tr>
<tr>
<td>Electronic versions of Standard Forms</td>
<td>13%</td>
</tr>
<tr>
<td>Integrated Practice Management Software</td>
<td>13%</td>
</tr>
<tr>
<td>Computer Fax (ie via PC)</td>
<td>13%</td>
</tr>
<tr>
<td>Voice Mail</td>
<td>4%</td>
</tr>
<tr>
<td>Presentations (eg PowerPoint)</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 3  Firm use of IT across a number of applications
Word processing is the most significant IT tool introduced in the profession. Confiming other surveys, word processing was used by support staff in 95% of firms, as well as partners (70%) and other fee-earners (73%). Software to detail client fees and databases for accessing client information was also widely used. At the lower end of the table, computer fax, voice mail and presentation software were little used. In the middle ground are a number of applications such as web browsers, voice recognition and document assembly which have made significant inroads but are not yet ubiquitous.

As an important practice management tool cash accounting is typically the first IT application to be introduced into the practice. Cash accounting software was used by partners in 43% of firms, and 60% of support staff. Other fee-earners made less use of this application (33%). The high percentage of use of word processing applications could be attributed to its less specialised, more generic nature. The comparatively lower use by other fee-earners may reflect the tasks involved: data entry and preparation of fee notes by support staff, and access to client/firm accounts for partners. Both these tasks are less likely to be carried out by other fee-earners. This pattern of more limited use of IT by other fee-earners compared to partners and support staff is repeated for a number of applications: client and administrative databases, client feeing and document assembly. Information technology is seen as having either a supporting role or acting as a personal productivity tool for partners, but is of limited benefit (from the firm’s point of view) when available to (in general) younger more recently qualified solicitors. Yet it could be said that these


25 Duncan, op.cit.
fee-earners are likely to have more knowledge and experience concerning IT than their partners – is this potential source of expertise going untapped?

Four firms had their own site on the World Wide Web ('the Web'). There is an increasingly wide range of legal information available via the Web, and in 43% of firms partners 'surfed the net' using web browsing software such as Netscape.\textsuperscript{26} This however was the prerogative of partners rather than members of staff (27% for other fee-earners and 5% of support staff). Partners in a similar number of firms (43%) used electronic mail (e-mail) but an increased number of fee-earners (33%) and support staff (15%) compared to the Web. Whereas the Web has primarily an external focus, e-mail can be used for both internal and external communication; perhaps the greater uptake in the non-partner categories reflects the use of e-mail as a means of streamlining the flow of internal communications?

Voice recognition software, so its advocates would argue, enables fee-earners with comparatively limited keyboard and IT skills to produce effective and timely documents. Only recently becoming widely available, voice recognition perhaps gives an indication of the penetration of more sophisticated uses of IT in legal practice. Partners in around a quarter of firms (26%), and a small number of other fee-earners (7%) used voice recognition. Support staff did not use it at all. As a personal productivity tool for partners with limited keyboard skills voice recognition may be a high-status, high-value tool. However as Susskind and many others have noted, the ability to use a keyboard is only part of the skill set required to be a productive IT user.

\textsuperscript{26} For a useful introduction see N. Holmes and D. Venables, \textit{Researching the Legal Web}, (Butterworths, London, 1997) AND FULLARTON’S BOOK TOO.
5.4 Use of Consultants

Just over half the respondents (52%) used consultants to assist in developing the firm’s IT capability. Installation of hardware and software were the most common reasons for using consultants (Figure 2). Training was also important. Consultants were not used for the design of bespoke systems. However there were several respondents who wished to see more ‘tailor-made’ applications for the legal profession.

Figure 2 Use of consultants for various activities
6 Survey Results: Fee-earner Questionnaire

Section 5 took a firm-wide perspective of the use of IT; this section considers the use of IT by individual fee-earners.

6.1 Demographics of sample

Of the 70 fee-earners returning the questionnaire (a 47% response rate), 62% were partners (including sole practitioners) and 13% were associates (Table 4). Fee-earners from 35 separate firms/offices are represented, with three of the larger firms in the sample providing 31% of responses. Approximately two-thirds of respondents were male.

<table>
<thead>
<tr>
<th>POSITION OF RESPONDENT</th>
<th>Percentage of overall sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sole Practitioner</td>
<td>16%</td>
</tr>
<tr>
<td>Partner</td>
<td>46%</td>
</tr>
<tr>
<td>Associate</td>
<td>13%</td>
</tr>
<tr>
<td>Assistant</td>
<td>11%</td>
</tr>
<tr>
<td>Trainee</td>
<td>9%</td>
</tr>
<tr>
<td>Paralegal</td>
<td>6%</td>
</tr>
<tr>
<td>N=70</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4  Demographics of responses to Fee-earner Questionnaire
6.2 General IT use

Over two-thirds of respondents used IT as part of their work, in some cases even where the fee-earner did not have direct access to IT at their desk (Figure 3).

Figure 3 Fee-earner Questionnaire: general IT use

As might be expected, in general, the younger the fee-earners the more likely they were to use IT as part of their work. The use of IT fell from around 73% for 22-40 year olds to 50% for the over 60s. Given the comparatively recent advent of IT in legal practice, however, 50% is still a surprisingly high figure for individuals who would have commenced practice long before the advent of PCs and the Internet.

The use of IT was similar across sole practitioners, partners and paralegals (around 73%) and slightly higher for trainees (83%). The middle ground of associates and assistants (the main group
of 'other fee-earners' in the Firm questionnaire) again showed a significantly lower use of IT (Table 5).

<table>
<thead>
<tr>
<th>POSITION OF RESPONDENT</th>
<th>Percentage of fee-earners using IT as part of their work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sole Practitioner</td>
<td>73%</td>
</tr>
<tr>
<td>Partner</td>
<td>72%</td>
</tr>
<tr>
<td>Associate</td>
<td>56%</td>
</tr>
<tr>
<td>Assistant</td>
<td>50%</td>
</tr>
<tr>
<td>Trainee</td>
<td>83%</td>
</tr>
<tr>
<td>Paralegal</td>
<td>75%</td>
</tr>
<tr>
<td>N=48</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 Fee-earner questionnaire: IT use by position in firm

6.3 Fee-earner use of specific applications

Respondents were asked which areas of law they practised and which IT applications they used for each area. Summary figures are given for 15 major IT applications used by fee-earners (Table 6). The areas of law depicted are those which were practised by at least ten fee-earners, they include the major areas of law identified by the Firm questionnaire. (For ease of comparison the table has been sorted with IT use in descending order based on the first area of law, civil litigation.)
<table>
<thead>
<tr>
<th>AREA OF LAW</th>
<th>IT APPLICATION</th>
<th>Civil litigation</th>
<th>Commercial Litigation</th>
<th>Criminal Litigation</th>
<th>Domestic Conveyancing</th>
<th>Family Law</th>
<th>Wills, trusts and executries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Feeing</td>
<td>56%</td>
<td>83%</td>
<td>50%</td>
<td>76%</td>
<td>56%</td>
<td>82%</td>
<td></td>
</tr>
<tr>
<td>Word Processing</td>
<td>50%</td>
<td>67%</td>
<td>67%</td>
<td>62%</td>
<td>56%</td>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Client Database</td>
<td>50%</td>
<td>50%</td>
<td>67%</td>
<td>55%</td>
<td>50%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Cash Accounting</td>
<td>38%</td>
<td>75%</td>
<td>17%</td>
<td>69%</td>
<td>39%</td>
<td>76%</td>
<td></td>
</tr>
<tr>
<td>Electronic versions of Standard Forms</td>
<td>31%</td>
<td>50%</td>
<td>8%</td>
<td>31%</td>
<td>17%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Administrative Database</td>
<td>25%</td>
<td>33%</td>
<td>42%</td>
<td>41%</td>
<td>28%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>Electronic Mail</td>
<td>25%</td>
<td>17%</td>
<td>25%</td>
<td>21%</td>
<td>17%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Voice Recognition</td>
<td>25%</td>
<td>17%</td>
<td>33%</td>
<td>7%</td>
<td>17%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Time Recording</td>
<td>25%</td>
<td>17%</td>
<td>33%</td>
<td>17%</td>
<td>22%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Financial Analysis</td>
<td>19%</td>
<td>25%</td>
<td>8%</td>
<td>21%</td>
<td>0%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Electronic Diary/Scheduler</td>
<td>19%</td>
<td>8%</td>
<td>25%</td>
<td>10%</td>
<td>17%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Document Assembly</td>
<td>19%</td>
<td>0%</td>
<td>17%</td>
<td>14%</td>
<td>22%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Web Browser</td>
<td>19%</td>
<td>8%</td>
<td>33%</td>
<td>14%</td>
<td>17%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Voice Mail</td>
<td>13%</td>
<td>0%</td>
<td>8%</td>
<td>3%</td>
<td>17%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Integrated Practice Management Software</td>
<td>6%</td>
<td>8%</td>
<td>0%</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Computer Fax</td>
<td>0%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Presentation software</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

Respondents could practice in more than one area of law

Table 6  IT use by fee-earners across different areas of law
The IT applications can be divided into three main areas: substantial use (client feeing to administrative database), moderate use (electronic mail to web browser) and low use (voice mail to presentation software).

Supporting the findings of the Firm questionnaire, key applications for fee-earners across all areas of law included word processing, cash accounting, client feeing and the use of databases. However there was significant variation between the areas of law. For example cash accounting was used around 70% of fee-earners or more in commercial, domestic conveyancing and executry work, but only 17% in criminal work. Alternatively client databases saw greater use in criminal work (67%) than other areas.

Word processing and client databases were used by at least 50% of fee-earners in a particular area. Client feeing was also well used across all areas of law. Like cash accounting, client feeing is a necessary part of the financial management of the firm and so likely to be an early use of IT within the firm. Criminal work saw lower use of these applications (only 17% for cash accounting) which may reflect a more repetitive, linear mode of work as well as less need for sophisticated systems to, for example, account for monies received from clients. Electronic versions of standard forms are now widely available for commercial work, and were used by 50% of fee-earners in that area. Again, criminal work saw the lowest use (8%). Criminal practitioners’ work would mainly involve letters and legal aid forms, and though standard forms are available, these are only now becoming available in electronic form.

27 See Duncan, op.cit for treatment of this
Electronic mail (e-mail) was used more modestly, by a quarter of fee-earners in civil litigation and criminal work, and not at all by those involved in wills, trusts and executries. Contrary to what might be expected, commercial practitioners do not appear to be coming under pressure from clients to use e-mail. Alternatively, it may seem strange that criminal practitioners do make use of e-mail. A possible reason for this is that the Paisley Sheriff Court clerk will now e-mail the court list to practitioners the night before, giving the practitioners the opportunity to better plan their work.

Voice recognition saw a range of use, from 25% or more in civil litigation and criminal work to only 6-7% for wills and domestic conveyancing. It may be that fee-earners involved in domestic conveyancing regard the production of large standardised documents as more easily accomplished in the traditional way (dictation) or through the use of standard documents.

Time recording and the use of an electronic diary saw moderate use across all areas of law, with criminal practitioners again the highest (25% and 33% respectively). The use of time recording could be to comply with Scottish Legal Aid Board (SLAB) rules, and the electronic diary the result of a need to organise time spent in both the office and at court. The use of an electronic diary by commercial fee-earners was surprisingly low, but perhaps reflects fewer court diets than criminal work. Likewise the use of financial analysis software such as spreadsheets ranged from zero in one area (family law) to 25% (criminal law). Confirming the Firm questionnaire’s results, fee-earners made relatively little use of document assembly software, and it was not used by fee-earners involved in commercial work at all. It could be that although commercial work deals with a number of forms, as each situation is unique, document assembly is not perceived to be useful.
Fee-earners’ use of browser software to access the World Wide Web is still in its infancy, though again criminal practitioners currently have the proportion of users within their cohort. This could reflect the availability of up-to-date decisions available on, for example, the Scottish Courts Web Site (http://www.scotcourts.gov.uk/).

Fee-earners in civil litigation and family law made the most use of voice mail (13% and 17% respectively). Surprisingly, more criminal practitioners did not use voice mail despite a pattern of work that would typically require them to spend a high proportion of their day (compared to other fee-earners) out of the office at court or visiting clients. The last three applications in the list (integrated practice management software, computer fax and presentation software) saw very low use by fee-earners.

Away from the more traditional uses of IT (roughly the first six applications from word processing to administrative database), criminal practitioners were the most sophisticated users of IT with the greatest use of electronic diaries, voice recognition, web browser and time recording software. This finding was mentioned in the focus group discussion, where it was suggested that criminal work was a “young person's game” resulting in perhaps a greater willingness to consider, or familiarity with, technology. The survey data also showed the cohort of criminal practitioners to be largely sole practitioners with few or no support staff, leaving the fee-earners with little alternative but to use IT themselves, if at all.

Wall provides what he calls a use of applications consistency co-efficient across a number of areas of legal practice. The coefficient is calculated by averaging the percentage use of applications across the list of all applications for a particular legal specialisation; the figure 1.00 would represent use of all applications. Table 7 presents three coefficients. The first figure is based on the 17
applications considered by this study; the second only the eight applications considered by Wall (Table 2, 1998, p 6); and thirdly (by way of comparison) Wall's coefficients for the equivalent areas of law.\(^{28}\)

<table>
<thead>
<tr>
<th>PAISLEY PATTERN AREA OF LAW</th>
<th>Civil litigation</th>
<th>Commercial</th>
<th>Criminal</th>
<th>Domestic conveyancing</th>
<th>Family</th>
<th>Wills, trusts and executries</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP Project co-efficient of use (17 applications)</td>
<td>0.25</td>
<td>0.27</td>
<td>0.25</td>
<td>0.26</td>
<td>0.23</td>
<td>0.24</td>
</tr>
<tr>
<td>PP Project co-efficient of use (Wall’s 8 applications)</td>
<td>0.27</td>
<td>0.31</td>
<td>0.30</td>
<td>0.30</td>
<td>0.23</td>
<td>0.26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WALL'S AREA OF LAW</th>
<th>Litigation</th>
<th>Company/ Commercial</th>
<th>Criminal</th>
<th>N/A</th>
<th>Family</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall’s co-efficient of use</td>
<td>0.23</td>
<td>0.31</td>
<td>0.17</td>
<td>N/A</td>
<td>0.15</td>
<td>N/A</td>
</tr>
</tbody>
</table>

| Table 7  Applications consistency co-efficient by legal specialisation |

Across the 17 main applications considered by this study there was little variation between the areas of law: commercial law saw slightly more use on average and family law slightly less. Differences are more marked when Wall's group of eight applications is considered. Family law still has the lowest coefficient but commercial, criminal and domestic conveyancing obtained higher ratings. Comparing Wall's study with the similar figures for the current study, the coefficients are considerably higher for the Paisley fee-earners, particularly for criminal and family

\(^{28}\) See Wall, *op.cit.*, 3, Table 3
law practitioners. One possible reason for the higher ratios could be an increased uptake of IT in the legal profession in general since Wall's data was collected in 1995.

6.4 Benefits of IT

Fee-earners were asked to rate their agreement with a number of potential benefits of IT (Table 8). There was agreement or strong agreement from over 50% of respondents that IT allows reuse of work, increases quality, saves time and significantly reduces costs. As expected, few respondents thought the use of IT increased the number of errors.

<table>
<thead>
<tr>
<th>“USING IT …”</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significantly reduces costs</td>
<td>2%</td>
<td>8%</td>
<td>40%</td>
<td>40%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>Saves time</td>
<td>2%</td>
<td>2%</td>
<td>10%</td>
<td>54%</td>
<td>31%</td>
<td>100%</td>
</tr>
<tr>
<td>Increases quality</td>
<td>4%</td>
<td>4%</td>
<td>33%</td>
<td>33%</td>
<td>25%</td>
<td>100%</td>
</tr>
<tr>
<td>Increases the number of errors</td>
<td>31%</td>
<td>50%</td>
<td>13%</td>
<td>4%</td>
<td>2%</td>
<td>100%</td>
</tr>
<tr>
<td>Allows reuse of work</td>
<td>10%</td>
<td>6%</td>
<td>25%</td>
<td>40%</td>
<td>19%</td>
<td>100%</td>
</tr>
</tbody>
</table>

N=48

Figures are rounded to nearest percent

Table 8 Perceived benefits from using IT
Respondents were asked ‘What would encourage you to make more use of IT in your work?’

There were responses from 39 fee-earners; replies were coded and are presented in Table 9. Although 63% of respondents had received some form of IT training, further training (15 mentions) was seen as the most important factor in encouraging more use of IT. The user-friendliness of computers was mentioned seven times; appropriate training could perhaps overcome the perception of IT as ‘unfriendly’? As one fee-earner puts it:

“I am not computer literate. I had no training at school. I understand that computers will dominate the administration of all offices with greater and greater reliance being placed on electronic mailing and the general conduct of business in the future. The problem is ‘education’.”

<table>
<thead>
<tr>
<th>FACTORS ENCOURAGING MORE USE OF IT</th>
<th>Number of mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>15</td>
</tr>
<tr>
<td>Suitable hardware/software for needs</td>
<td>11</td>
</tr>
<tr>
<td>Cost issues</td>
<td>7</td>
</tr>
<tr>
<td>Greater user friendliness</td>
<td>7</td>
</tr>
<tr>
<td>Access to a PC/computer</td>
<td>5</td>
</tr>
<tr>
<td>IT support/delegation of work</td>
<td>3</td>
</tr>
<tr>
<td>Miscellaneous (one comment each)</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
</tr>
</tbody>
</table>

*Respondents could mention more than one factor*

**Table 9** Factors encouraging more use of IT
6.5 Conclusions from the survey data

Taking both the firm and fee-earner questionnaires together, firms and fee-earners are embracing new technology, and the profession has clearly moved on from the pessimistic view described by McMorrow and Doswell. Fee-earners now recognise that “IT plays a major part in my daily work … although additional applications could prove useful, save time and be cost effective”. Looking to the future, one commented that IT is “… going to be a crucial tool in the developing legal profession, which no firm can afford to be without.”

However this general view is further illuminated, and moderated, by additional comments made by respondents. As illustrated in Table 8, many fee-earners were ambivalent about IT significantly reducing costs: 40% agreed with the statement that it did, but 40% neither agreed nor disagreed. Could it be that small practices (the bulk of the sample) regard cost and return on investment from IT as particularly important? Small firms are resource-poor in terms of both finances and IT expertise and certainly cost was very much in the mind of the fee-earner who stated “[s]ome of the software applications which would be helpful such as case management programs are prohibitively expensive for a small practice unit.”

Moreover there may be “… pressure to use IT immediately as [a] quick fix without understanding its full potential”. On balance, there seems to be a significant minority view that although IT can garner considerable benefit, once the costs are considered then the overall business case may be, for now, not proven.

The survey results provide an important benchmark of IT use by solicitors in Scotland as of early 1999. Postal surveys are limited in that to be successful they must balance the potential volume

29 For treatment of IT and small firm resources, see Duncan, op.cit.
and complexity of data collected against the likelihood of completion and return of the instrument(s). In particular the use of structured, closed questions to establish what IT is used and facilitate statistical analysis, is usually at the expense of a rich description of how and why solicitors actually use IT. An analogy could be with car ownership – knowing the make and model does not describe what the car was used for, or how it was driven. Yet Proudlock et al argue “[n]o research (with the exception of that limited to identifying levels of IT and general computer use) has been undertaken in either profession [architecture and law]”.\textsuperscript{30} Taking this into account, the Paisley Pattern Project augmented the survey results with a focus group along with a number of interviews to elicit the experiences of practitioners.

7 Qualitative Data Results

The main themes to emerge from our qualitative data were as follows:

1. Motivation for IT implementation
2. Advantages of using IT in legal work
3. Apprehensions about IT implementation
4. Changing work practices as a result of IT implementation

We shall examine each of these in turn below.\textsuperscript{31}


\textsuperscript{31} Analysis of the considerable body of information obtained from the focus group discussion and interviews was
7.1 Motivation for IT implementation

Unsurprisingly, the most frequently expressed reason for investing in technology was to maximise the efficiency of working time: “… there’s a lot of time-saving to be gained with the proper use of technology”. However, lawyers who were aware of the capacity of IT to do this were often uncertain how to achieve this end. There was a general consensus that “[…] the status quo is not going to work […] you have no alternative but to change”. An extension of this view was the expected outcome for many firms of reducing staff costs by transferring the “tedious repetitive stuff” to IT systems. A minority of firms worked with no support staff, or are in the process of significantly reducing the number of support staff in the firm. In the latter cases the solicitors’ work practices were significantly changed through extensive personal use of technology. This situation was not restricted to sole practitioners where it may have been expected.

Several members of the focus group noted a distinct upturn in the use of e-mail in recent months. There was speculation that this was due to the advent of free e-mail services over that period, eg Freeserve and Tesco. This increasing use by clients and prospective clients was clearly a motivating factor for IT investment in a firm:

carried out using a coding frame. Transcriptions of the focus group and interviews were analysed to identify units of meaning. These units were then clustered and key themes identified from the clusters. This methodology is an adaptation of phenomenographic methods of data analysis. In a number of respects our focus group discussion and interviews were designed to elicit the participants’ understanding of the process of IT implementation and use, along the lines of the project aims. In our discussion of the data here we have space to present only some of our findings.
“If we can do it [e-mail] and somebody else can’t then is that just a way of keeping business or attracting business? If that’s the way people want to work, you have to work that way.”

Another focus group participant, commenting that e-mail had ‘snowballed incredibly’, drew the parallel with fax:

“I can remember agonising about whether we should get a fax machine and to begin with it would sit there without being much used except maybe to fax our wives or something. But within the year we were wondering about maybe another fax [machine].”

Other motivating factors which influenced investment in IT included competition (specifically from what were perceived as ‘cut-price conveyancers’), and the self-image and marketing of a firm’s ‘credibility’.32

7.2 Advantages of using IT in legal work

All participants were enthusiastic about the improved access to information, which was seen as the most significant advantage to be gained through implementation of IT. In particular, technology removed the practical inconveniences of retrieving files or information physically from elsewhere in a firm:

32 The extent to which a web site is designed to be interactive with clients, or exists merely as passive advertising to the world is currently being studied by McKellar, Barton, Duncan and Ruiz-Nieto.
“I would spend half my day looking for telephone numbers, addresses and running upstairs to the cash dept if I didn’t have IT. The potential for saving more time is there.”

It was clear that participants saw easy access to information as an essential component in supporting their business: “I couldn’t go back to the era of not having the information at my desk”. Other significant advantages related to automation of processes leading to increased speed and efficiency, and the reduction of errors. As one participant observed, it was pleasurable to have “no bits of paper lying around your desk”. However, as we shall see, participants’ understanding of the role of IT in communication processes was not wholly positive.

7.3 Apprehensions about IT implementation

Cost was a significant concern. Both initial and ongoing costs of investing in IT were dwelt upon by participants as important inhibitors to IT take-up within firms. Although some participants’ firms were willing to make an initial financial investment in IT, it was clear they also realised that “things progress at an incredible speed and that’s one of the slightly depressing things about spending money on a system”. While they accepted the need for upgrading, some participants had experienced the situation where large investments in IT were effectively written off through systems obsolescence:

“Suddenly the thing [on which] we spent thirty or forty grand seven years ago seems like a dinosaur. […] we can’t even re-use the wiring […] everything goes out the window.”

_____________________

33 In the context in which it was used, the phrase ‘bits of paper’ referred to phone messages, memos, excerpts from accounts and the like, rather than important documents such as dispositions or initial writs.
The main solution to this for most firms was, as one participant put it, “to tackle the problem piecemeal”, a solution which, while viable, required fairly long-term strategic planning and management of IT resources.

Another apprehension was that IT, and specifically the use of e-mail, would significantly increase the pressure on solicitors. There was a belief that the potential for error is greater with e-mail and that there is an expectation of a quicker response over traditional mail and even fax. There was also a concern that e-mail would allow fee-earners to wait until the last deadline in communications with each other, thus adding, as one participant put it, to the “stress and pressure” of the job. The absence of a tangible document in the form of a letter caused some anxiety: as one observed, “I don’t think we’ll lose our fondness for letters”.

7.4 Changing work practices

Changes in work practices as a result of the introduction of IT have already been identified in this paper. The focus group discussion and interviews gave us insights into participants’ understanding of the process of this change. What emerged was a fascinating description of practitioners’ ‘internal negotiations’ with IT. These negotiations occurred on a number of levels. There was the subjective, and endlessly changing, space of negotiation in which practitioners, by working with IT, were able to negotiate its intrusion into their settled working practices. There was also the more overt negotiation within firms as to hardware, software, and the introduction of this into working practices, all within the envelope of financial restraints. Thirdly there was the negotiation between the individual fee-earner’s understanding of IT within his or her changing work practices, and the changing practices of the firm as a whole.
There were many examples of this negotiation in the focus group discussion and interviews. One participant described a meticulous paper-based ‘To do’ list based upon much the same information structures as personal organisers. Another described the office system in which e-mails, arriving on one PC, would be distributed by paper throughout the office. Electronic mail would also be sent out from this PC. The system worked well for the office, and it was clear that it provided a safe if temporary zone for staff between traditional, paper-based office procedures and the innovative and unsettling procedures of electronic media. Yet another gave an example of how the almost instantaneous transmission of electronic messages and the ability to send one message to multiple recipients enabled the fee-earner to organise his time more efficiently as a court practitioner:

“The Sheriff clerk […] e-mail[s] the court list to you the night before the first calling. Absolutely marvellous […] you can see the night before where you’re going to be […].”

All three examples above are instances of IT changing work practices. Practitioners are learning to manage change in their own individual response to IT, and also as part of an organisation seeking to negotiate the strengths and weaknesses of IT within its own perceptions of these, and its own fiscal constraints.

The participants themselves recognised this, though they did not term the process a negotiation. More often, they recognised that introduction of IT of itself was not sufficient to provide the business returns they wanted, and that the advantages of investment in IT were inextricably linked to business management strategy. They were interested to discuss how it was possible to produce and turn around high volume standardised documents and at the same time retain quality. Achieving this balance of quality and efficiency was an important issue for all participants, but it
was particularly pressing for small firms. As one participant put it, “that’s the problem with small firms because how can you possibly spend as much time as you ought to in running things and also have clients”.

If negotiation was a striking feature of the relationship between practitioners and IT, it was also a central issue for trainees. Many trainees now enter firms with a reasonable grasp of a range of applications, and knowledge of the communicative power of the Internet – they have an understanding of the facilitative power of IT. They also enter firms with the intention of learning what the firm can teach them of the practice of law, and some may find that there is a dissonance in the inevitable negotiation that goes on between their experience of academic law and IT, and their learning of practice law, that there is a dissonance. Regarding this, one participant observed that it is “very difficult as a trainee going into a firm which has an established way of doing business”.

8 Conclusions

Technology is almost a synonym for change. It was so for those manuscript copyists and printers working in the early years of the fifteenth century, in the two-generational shift that revolutionised European culture and history; it was so for the handloom weavers and manufacturers of the early nineteenth century; and it is so now for the professions in the last decade of the millennium. In an article which dwelt on the likely effects of electronic conveyancing for solicitors in England and Wales, one solicitor described the change thus: “It’s the industrial revolution for conveyancing. We are working on handlooms but now someone is introducing the spinning jenny”.  

Our research bears out the synonymous relationship, but reveals that there are no simple winners and losers in the process. Instead, there is a complex nexus of change development over the survey area, proceeding at many different stages, and in a variety of forms. The range of responses to email as a communicative medium is an example of this. Revisiting Neil Cameron’s quote from the introduction, it appears that in the Paisley jurisdiction at least, the day when “it is now a given that lawyers will use computers, with their own fingers at their own desk, all day” is still some way off, for provincial practices at least. Given the pattern of legal practice across the jurisdiction, this is scarcely surprising.

Our research also reveals the deep relationships that exist between communication and information technologies (C&IT), work practices, and knowledge, in what might be termed 'knowledge-intensive firms' (KIFs). These are firms in which knowledge assumes greater importance than other inputs into a production process, such as labour or capital. Knowledge can be held by individuals or in capital such as plant, equipment (eg IT) or financial instruments; routines and cultures; or professional cultures. Knowledge is therefore different from information: it is a “stock of expertise, not a flow of information”, and activities which rely on knowledge can “draw

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35 In the absence of data it is dangerous to speculate, but we would assume that there are significant differences in the pattern of C&IT adoption and use within metropolitan-based law practices in Glasgow and Edinburgh, (particularly in the larger practices such as Bird Semple, Shepherd & Wedderburn), and practices in centres such as Paisley, Ayr, Elgin, and the like. This claim would, of course, require further research in the metropolitan areas to substantiate it.


37 Ibid., 718-19
on extensive knowledge without processing large amounts of current information”.

Whereas ‘information’ is data (raw facts) given “meaning attribution” in relation to a specific context, ‘knowledge’ is a much broader concept comprising both explicit and tacit dimensions and combining experience, complexity, judgement, heuristics, values and beliefs.

Key characteristics of knowledge are orientation towards action and constant change.

Throughout this body of research, clear-cut distinctions between data, information and knowledge are problematic. Nevertheless, it can be said that what has been culturally important for a KIF such as a law firm is not the flow of information, but the preservation and enhancement of the stock of expertise and the relationship of that expertise to the administrative base and the client base of the firm. The e-mail example above illustrates the prominence of this thinking, where information flow is subservient to pre-determined communication patterns that have served the firm’s knowledge base well in the past. Of course, this example is, like all our research here, a snapshot of an ongoing development. As cultures change and if the pressure from clients grows for the firm to develop e-mail, this situation will change.

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38 Ibid., 716


40 See Davenport and Prusak, and Sveiby, op.cit.

41 See Checkland and Howell, op.cit., 94
There are two general conclusions we can draw from both the qualitative and the quantitative data. First, the sophisticated personal responses that practitioners held vis-à-vis C&IT showed that fee-earners appeared to recognise the potential benefits of technology, but were often uncomfortably aware of their limited knowledge and expertise in the area. Their perception of the role of IT in their own legal work was especially interesting. In the focus group discussion and interviews, for example it was clear that a number of them viewed the communicational potential of the internet as an enormous – if largely still a future – benefit for legal practice in terms of corporate presence, marketing and interactivity with clients. Others were wary that e-mail’s seemingly instantaneous communication could dangerously speed up the communicative process, and pressurise fee-earners to react to information without taking time to construct a measured response. The transmission of electronic ‘virtual’ documents was contrasted as a polar opposite to the perceived reality of letters and faxes. Others adopted a mid-way position, acknowledging the benefits of networked lawyering, and preferring to use technology in a way that would streamline existing work practices. Throughout, there was a sophisticated awareness on the part of solicitors of the blockers and drivers to the process of technology uptake and use. For example, those solicitors who wanted to use electronic communications throughout transactions with institutions were aware that it was – as yet – unrealistic to set out on this path, precisely because the transactions with banks, building societies, and the like often required letters rather than electronic documents.

What we have here is a process of complex negotiation between the acknowledgement that, on the one hand, IT resources shape activity, but on the other, that there was a necessity for goal-directed activity to dictate the choice and use of those resources. If that were all there was to it, the

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42 This is paralleled by the most recent Robson Rhodes survey, where 89% of firms surveyed were aware that they could “exploit their existing technology better” (Blasdale, *op.cit.*, p 25).
negotiation would be a simple matter. But it clearly is not for solicitors. Their knowledge
construction of C&IT arises from the context of their work, it is situationally specific, and hence
the negotiation that occurs is carried out amidst a clamour of voices: ease of use, the way things
have been done in the past (by the solicitor, or by the office), need for documentation trails, safe
versus unsafe systems of work, the threat of professional negligence, the thought of what
competitors are doing, the pressures of high-volume communications, and so on. We shall be
examining what might be termed the social epistemics of this negotiation elsewhere; but for now it
is important to draw attention to it as a relatively under-researched and under-theorised aspect of
C&IT in the legal office.

The second main point arose when we asked questions regarding blockers and drivers of change.
When asked what would encourage fee-earners to make more use of IT in their work the common
plea was for ‘more training’. As one fee-earner wrote in the postal survey (quoted in full above, p.
X), ‘The problem is “education”.’

The education generally seen to be relevant was not that of keyboard training, nor general IT
training, but a more sophisticated education in the relationships between IT and business
management. This took two forms. First, fee-earners wanted education in the role that C&IT could
play within the existing legal and business structure of the fee-earners’ firms, and the potential for
C&IT to change these structures. Second, they wanted education that would explain their own
changing roles within the broader changes that would soon be effected within the office. This
reflects a line of research into IT and business education. According to Attwell, and Cohen and
Levinthal, the knowledge and learning of individuals and their collective organisations are
important precursors to the adoption and refinement of technological change.\textsuperscript{43} Although beyond the scope of this article, the literatures on technology diffusion and organisational learning and cognition provide insights into these issues, and how best to deal with them. Such interventions would require multi-disciplinary endeavours. Universities could have a part to play in the development of such multi-disciplinary, possibly even multi-partner training.\textsuperscript{44} Certainly, in initial legal education, there will need to be significant changes made to the curricula of law schools at undergraduate and postgraduate levels to foreground these issues for the practitioners of the future.\textsuperscript{45}

Meanwhile, the Paisley Pattern Project provides a significant extension and update to the sparse research concerning C&IT use within Scots law firms. As well as providing a benchmark for provincial practices, the different phases of data collection have given some insight into fee-earners’ attitudes towards technology in the law office. Practitioners are aware that a time of change can be exploited to shape the future of their practice. One focus group participant, speaking for many of our respondents and participants, observed that solicitors are in a profession


\textsuperscript{44} In a survey by the Law Society for England and Wales in 1997, 54\% of solicitors in firms with 11 or more partners were of the opinion that their Law Society should “leave the development of [legal profession IT packages] to the commercial market place”. J. Jenkins, ‘Put IT into Practice’, (1997) 94, 22, June, \textit{Law Society Gazette}, 22, 24 at 24. Solicitors’ views on the place of universities in legal education were not elicited.

\textsuperscript{45} A review of legal education in the \textit{Law Society’s Gazette} in 1997 pointed this out, quoting a manager of legal education training in the College of Law: “The presumption we would have is that trainees should understand the importance and practical use of IT in all aspects of their professional activity”. N. Murray, ‘Lessons in Law’, (1997) 94, 36, September, \textit{Law Society’s Gazette}, 26,28, 32 and 34, at 34
“… looking with one eye to the past […] and starting to look at the future, and looking at the opportunities. I think it’s a fascinating time to be a solicitor, you’re sort of between two eras […]”

Returning in twelve months’ time to revisit firms and fee-earners could reveal a significantly different Paisley pattern.