Information systems for microfinancial services

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There is a growing awareness of the significance of information to microfinance institutions. Poor information systems have an impact on every aspect of an institution's performance, from operational effectiveness to strategic management. A world-wide survey has been carried out of the information systems currently in use by microfinance institutions, with the aim of discovering whether there were packages available, not yet widely known in the market, which might offer solutions for other institutions.

The results so far tend to confirm a number of weaknesses in the sector. Many institutions do not appear to have a strong understanding of information technology and have relatively poor information systems as a consequence. The market for products aimed specifically at microfinance is generally weak, contributing to the problem. No previously unknown packages have been identified at this stage, though a few products merit further investigation. It is suggested that stakeholders in the sector need to look at mechanisms for strengthening this market as a means of improving information systems in microfinance institutions.

INFORMATION IS ONE of the central problems of microfinance. The provision of financial services on a sustainable basis to the poor requires a radical move away from traditional approaches to finance. Small-scale transactions imply that the fixed costs of transacting acquire a greater relative significance. A significant part of these costs relates to information. Operationally, both credit and savings products demand the running of client accounts. At a more theoretical level credit relies heavily on the information an institution has about its potential clients. Finally, managing an institution depends strongly on the appropriate flow of information to decision-makers at various levels. The issue grows in both significance and complexity as the scale of the institution develops with increasing layers of management.

The use of information technology (IT) is now widespread in the microfinance sector throughout the world. Whilst computers can offer solutions to the information problems of microfinance institutions (MFIs), their use can also pose significant threats.

The greatest danger lies with the software, not the hardware

The greatest danger perhaps lies with the software. Major shifts in the relative significance of hardware and software costs have occurred. Machines with very high processing capacity are now readily available and within the cost reach of many MFIs. Finding the software required to produce a working information system, however, remains rather more difficult. The supply of ready-made packages appropriate for MFIs appears limited whilst the costs (and risks) of attempting in-house development can be very high.

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There have been two pieces of work recently which have made a significant contribution to this whole area. Charles Waterfield reviewed 16 of the leading loan-tracking packages for Women's World Banking (1996). Waterfield and Ramsing (1998) have also written an MIS handbook (for CGAP) which provides a comprehensive and very useful practical guide for MFIs working on information systems.

This report is the first stage of a study commissioned by the UK Department for International Development (DFID). The study aims to look at the actual experiences of microfinance institutions with various approaches to solving information problems. Findings from the preliminary survey of MFIs are presented here. At this stage of the study the primary aim was information collection: to discover which packages are actually in use by MFIs and whether there is good software available which is not yet widely known in the market.

The aim was to discover which packages are used, and if there were any good packages that were not widely known

The survey

The survey was based on a single comprehensive questionnaire. This was posted initially to 476 institutions world-wide. Opportunity Trust contacted all its partner institutions to request information. The survey was publicized in *Small Enterprise Development* journal and via the Internet. Following a slow initial response, a follow-up was posted to those sent a questionnaire who had not responded. In Uganda assistance was received from the Center for Microenterprise Finance (part of PRESTO, a USAID-funded project). Follow-ups by consultants were also made in Kenya and Bangladesh to ensure responses were received from the leading institutions.

At this first report stage 93 responses have been received, 91 of which are from MFIs and 2 from FAO describing the Microbanker loan-tracking system. This low response rate (20 per cent) is not unexpected for a postal questionnaire. In order to draw any strong statistical conclusions a larger number of responses is needed. Waterfield (1996) indicates that Microbanker is probably the most widely used system in the world. Many hundreds of institutions are known to use the Microbanker products, but in the survey only four Microbanker users responded. Quite clearly, in order to provide a comprehensive assessment of Microbanker from the user point of view a much larger number of responses is needed.

Only four Microbanker users responded

The most serious limitation of the survey is its failure to elicit responses from users of some well-known systems. The work by Waterfield and also by Hans Verkoyen (published on the internet at http://www.verkoyen.org) has indicated the existence of a number of packages which are commercially available. To be assured that the survey was comprehensive in its scope responses would have been expected from users of all these systems.

A further difficulty relates to the essentially self-selecting nature of the sample. This is likely to introduce a number of significant biases into the study sample. One obvious possibility is that those institutions who are currently experiencing difficulties in relation to information systems are more likely to respond than those who are broadly satisfied. For those experiencing problems, a survey of this type offers both a chance to vent frustrations and appears more relevant to the institution's needs of the moment. By contrast those who are broadly satisfied with their systems are less likely to see any immediate value in participating in the survey.

Those who were broadly satisfied with their systems were less likely to respond

An unwillingness to divulge information regarding information systems on the basis that it constitutes part of an organization's competitive advantage may introduce further biases in the sample. This reticence is more likely to apply to those organizations who have achieved the greatest success in solving information problems, and clearly also among those for whom the notion of competition is felt most strongly. There is some anecdotal evidence that this was the case.

Respondents

All those who responded (except FAO) run credit programmes. A range of methodologies were indicated, with many institutions using more than one approach. Classifying the methodologies used broadly, 52 per cent have a village bank-type programme, 62 per cent a group solidarity methodology and 45 per cent an individual credit scheme.

A majority of MFIs offered some sort of savings product

A majority (59 per cent) offer some sort of savings product: 47 per cent had a collateralized savings scheme whilst only 30 per cent had another form of savings scheme (19 per cent offered both types of savings). The respondents show a reasonable distribution by scale, with 40 per cent having fewer than 1000 clients, 40 per cent between 1000 and 10 000, and 20 per cent with 10 000 or more (Figure 1).

Two-thirds of the *credit* programmes surveyed were more than two years old and one-third were more than five years old (noting also that nearly 10 per cent gave no response to the question) (Figure 2). This is important since one would expect that the more interesting results and experiences are likely to be found amongst programmes which have been operating for some time.

The greatest number of responses came from African institutions (48 per cent), followed by 34 per cent from Asia. Only 10 per cent were received from Latin America. This suggests that the survey is somewhat regionally unrepresentative, clearly significantly under-reporting the experiences from Latin America. This is particularly significant since Latin American institutions tend to be older and larger than those in Africa, according to the findings from the survey carried out by the Sustainable Banking with the Poor team at the World Bank (Paxton, 1996).

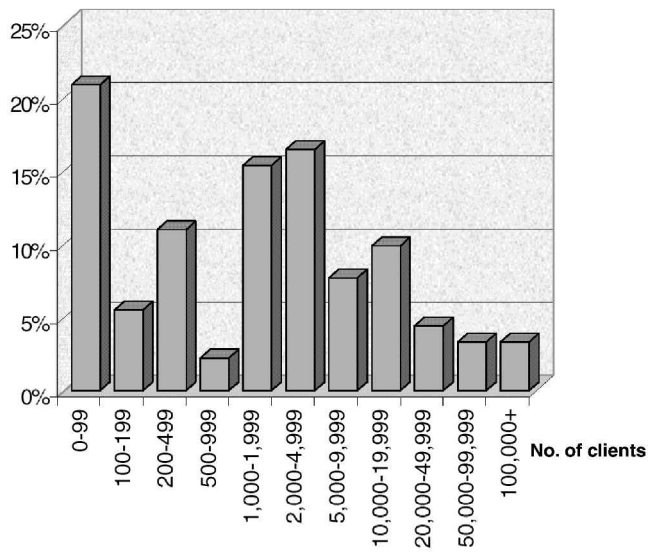

Figure 1: *No. of clients in credit programme*

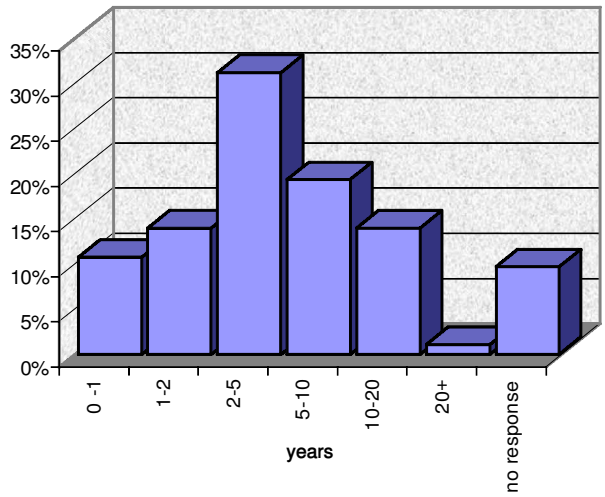

Figure 2: *Age of credit programme*

Systems in use

A major aim of the survey was to discover how institutions around the world are presently tackling information problems. For those MFIs who are using IT-based solutions, a key question is how the software is produced for the system. The debate is between opting for an off-the-shelf standard system, a fully customized solution or some hybrid between the two. Standard packages can offer significant cost advantages in terms of both development and support since these costs can be recovered from a number of users. Few organizations would opt to develop their own word-processor programmes with very sophisticated standard packages available in the market for a few hundred dollars. However the market for software for microfinance is clearly limited and there are significant differences between institutions and methodologies used. In order to achieve the functionality required there might be little alternative but to undertake the development of fully tailored 'bespoke' software. Many large-scale formal sector financial institutions have opted for this route, and have seen it as a means of generating competitive advantage.

Developing information systems is a complex task demanding a range of skills. Many small institutions will be unlikely to have these skills available within the organization. Even determining what information is needed and by whom in an organization — the information problem definition — may require the use of expertise external to the organization. The use of external support to develop systems is clearly a relevant factor in understanding how MFIs go about solving information problems.

Basis of system

The majority of the respondents indicated the use of a mixed manual and computerized system (Figure 3). Such mixed systems may arise where one or more functions (such as accounting or loan tracking) remain paper based, or where the functions are completed with a degree of information processing by hand. A common example of the latter is where loan officers maintain detailed client account records using paper ledgers and a computer system only takes the summary information. Roughly a third relied on an entirely manual system.

A third of respondents relied on an entirely manual system

Only 10 per cent reported using a fully computerized system in which all aspects of the information requirements are met by use of computer. The level of integration is not fully captured by the question and requires further investigation. In the search for systems that provide comprehensive solutions to information problems, the logical starting point is with fully integrated systems. Examining the responses from those indicating full computerization shows that four of the nine register less than complete satisfaction with the extent to which the system supports either current products or services, or the extent to which it will continue to support them in the future.

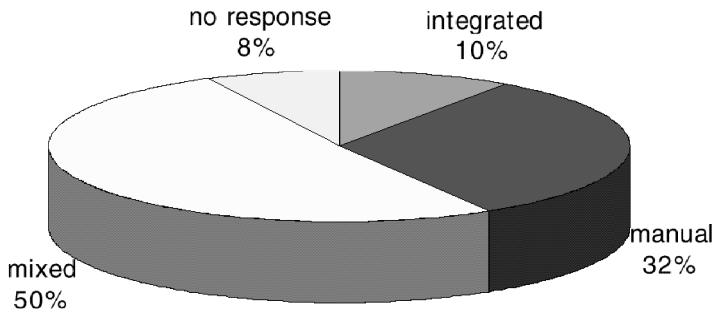

Figure 3: *Basis of overall information system*

Integration

Full integration implies that data need only be captured once within the system and are then fed through automatically to all other areas of the system. Transactions at the client level thus ultimately feed directly through into aggregate figures within financial statements and other management reports. Integration, if effective, should offer a number of benefits to the institution. Where data are captured once only, errors produced at the input stage should be reduced. The costs of data capture are reduced. Reports produced from the system are necessarily consistent. Institutions with multiple systems frequently suffer from inconsistent reporting — most especially between finance and operations departments. An integrated system forces the organization to work with common data. Reporting should be speedier within an integrated system since the need to attempt to reconcile various reports is eliminated.

One potential downside of an integrated approach is that it *can* leave the institution more vulnerable to fraud. A single 'rogue' entry will not necessarily be detected as readily in an integrated system. In a dual system an inconsistency in reports from two departments (say operations and finance) can give rise to an investigation which leads to the discovery of fraudulent activity. Furthermore the understanding of the underlying systems in an organization may be reduced where there is reliance on a single automated system. Whilst an integrated system is often perceived as the obvious goal, it is not clear that this will always be the case.

Looking at the mixed manual and computerized approaches, only 2 ut of the 32 who expressed a clear opinion gave a strong indication of satisfaction (measured again in terms of the extent to which the system will support current *and* future products or services).

Examining the 27 using a wholly manual approach, no institution indicated its total satisfaction with its information systems. A significant number are clearly preparing for computerization and have not done so yet due to a variety of mainly resource constraints. Only one organization indicated satisfaction with a largely manual system (using computers only for word-processing and collation of figures). There was no indication as to whether there are plans for this organization to computerize in the future.

Those organizations using wholly manual systems were mainly small

Those using wholly manual systems (excluding one very large organization) are primarily relatively small. The average number of clients for these institutions (excluding the one large and null responses) is just over 2000. Only 6 out of the 27 had more than 5000 clients. The average number of clients per institution for the whole survey was 37 000. For those using a mixed system, the average number of clients is nearly 60 000 but for integrated systems, it is only 17 500. The clear implication is that there is a relation between scale and the move away from purely manual systems.

Use of computers. The most common use for computers is in loan tracking (Figure 4), with over 60 per cent of those responding indicating that computers are used for this function. The next most common is for accounting, closely followed by management information. Only 24 per cent of those surveyed use computers comprehensively for all four major information functions. Discounting savings (since not all MFIs will have a savings programme), the figure rises to just under 30 per cent.

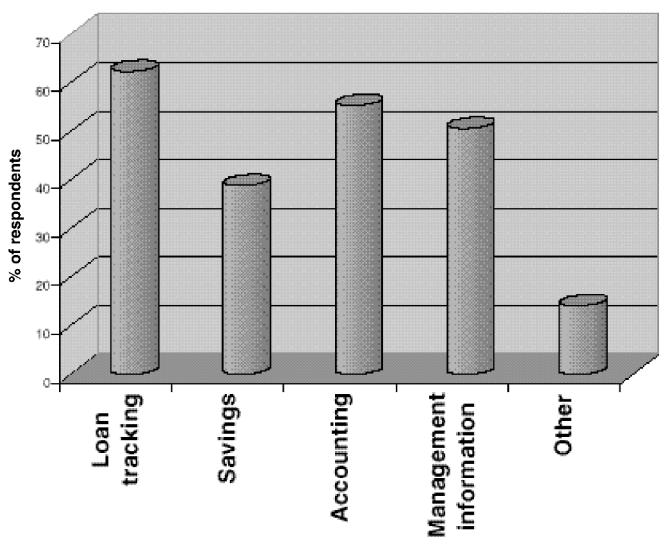

Figure 4: *Use of computers*

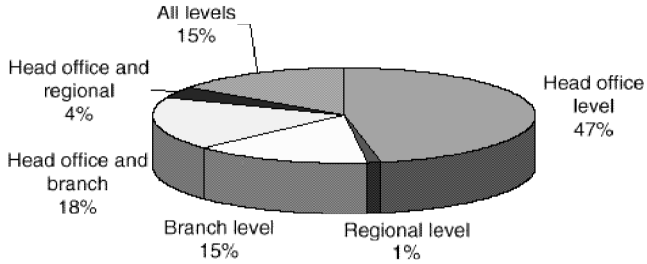

Figure 5: *Levels of operation*

Most large MFIs use computers for loan tracking

Of the larger programmes, loan tracking by computer is the clear preference. Over 75 per cent of those with 5000 or more clients use computers for this function.

It is interesting, however, to note the existence of a programme at a very large-scale that does not use computers for portfolio tracking. This institution indicated in its assessment that the information systems did not fully support the current products, and this is anticipated to worsen in the future. The current system was said to be: 'time consuming, error prone, and having difficulty in managing the current volume of operations'. It was clearly stated that the systems would not meet the needs of the anticipated future scale. The institution is in the process of developing an IT-based system relying primarily on external resources.

Amongst those using manual loan-tracking systems, comments on their system were: 'Our current information system lacks flexibility and does not provide room for a wide scale of operations' and 'Erratic and inaccurate results'. One institution indicated, however, that 'there are no difficulties, because the system is very simple'. This institution however only has 200 clients.

The implication from the survey is that MFIs across the world *do* tend to see at least some IT as being appropriate once a significant size of portfolio has been reached. However the suggestion that a fully integrated computerized system is an essential to managing a large portfolio is *not* supported. Only further research will show why the larger institutions have not moved more clearly in this direction. Possible answers include the lack of appropriate software, high costs of development, high operating costs or lack of benefits for such a move.

A fully integrated computerized system is not essential for managing a large portfolio

Levels of operations. The majority of those responding (63 per cent) indicated that the information systems in use were based at a single level of operation (branch, regional or head office), with the remainder at two or more of these levels. Of these, approximately one-third had no branches, providing an obvious explanation for the use of only a single level. Of those responding, 47 per cent based systems solely at the head office level, 1 per cent solely at the regional level and 15 per cent solely at the branch level (Figure 5). In addition, 50 per cent of respondents indicated that information systems were capable of producing consolidations automatically; however, this appears to be inconsistent with the figure of 63 per cent indicating that they work at a single level. The implication is that some respondents misunderstood the question.

Since information is generally required at all levels in the organization, the supposition from these responses is again that few institutions have a system which meets all information requirements. Amongst those using a computerized loan-tracking system, not surprisingly the major use is for either individual lending to clients or individual loans to clients within groups (Figure 6).

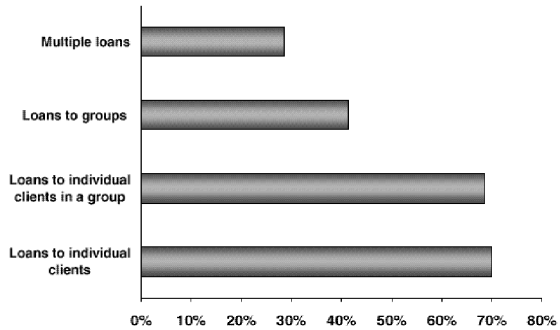

Figure 6: *Loan-tracking use*

The information processing for individual lending is greater than when a single loan is made to a group

The information processing burden for an individual lending methodology is in general far greater than that for a group where a single loan is made to the group.

Management information. Management information is commonly found to be an area of weakness in MFIs. Timely and appropriate information is essential to the management function. Although nearly 50 per cent of respondents indicated that their systems were producing management information, only 11 per cent produced indicators for profitability and operational efficiency. These are basic indicators for a finance institution and an effective information system should produce these routinely. Out of the respondents, 18 per cent of the systems produced some trends analysis, but only 12 per cent offered a graphical presentation, and 28 per cent enabled some monitoring of performance against budget (Figure 7). Only one institution (1 per cent) in the whole sample possessed a system which carried out all these basic functions. The findings confirm a general deficiency in information systems. They also suggest that few of the standard packages on the market have seriously addressed this area.

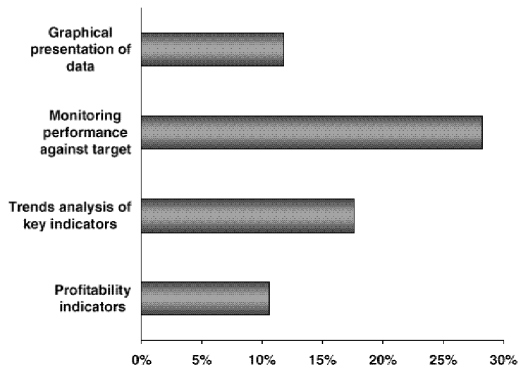

Figure 7: *Use of IT to support financial management*

Financial management is an area where the information systems were not very helpful

The neglect of management information may occur for a number of reasons. Operationally, management information does not have the obvious urgency of other types of information. Although a lending programme can *operate* month to month without knowing the trend in its operational profitability, it must know when a repayment is due from a client. Ultimately, however, it is very hard for an institution to manage its development towards self-sufficiency without adequate management information. As institutions increase in scale the need for better information becomes more urgent. Liquidity, treasury management and regulatory reporting all demand good information.

Managing portfolio quality is fundamental to the success of any credit programme. Again, however, it is found that few of the information systems appear to provide significant function in this area. Only 26 per cent of respondents indicated that the systems produced even aged arrears reports; 19 per cent permitted some correlation to be made between loan losses and other variables. Again, this is a fundamental area for attempting to understand and manage better the quality of a portfolio. Its absence suggests that the information systems in use are generally limited in scope.

Origin of software

Broadly, software used can be bought as a standard package and used unmodified (off-the-shelf), modified somewhat according to specific requirements, or wholly purpose designed (bespoke or fully customized). Relatively few of the institutions are using standard off-the-shelf packages – only 15 per cent of those who responded (Figure 8). The packages used are typically generic accounting, spreadsheet and word-processing software. With one exception (which is using a database that is likely to have been at least partially modified) the organizations using the off-the-shelf software are relatively small. Furthermore, many of these appear dissatisfied with their information systems.

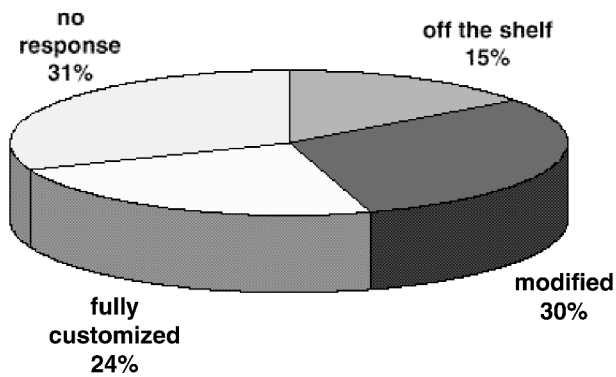

Figure 8: *Origin of software in use*

A majority is using either partially or fully customized systems

A clear majority is using either partially or fully customized systems. Typically, partially customizing a system entails extending a standard system built around a database. Where a standard software package is written in a well-known database language, additional queries can be written to meet the specific needs of the institutions. FAO's Microbanker, for example, is written in Clipper. Customization can be achieved by writing queries of the underlying database (in any language compatible with the database) which is created and maintained by Microbanker. Full customization entails writing all the code for the system from scratch – clearly a major undertaking. The obvious implication of the use of custom or semi-custom systems is that amongst those surveyed there was felt to be no off-the-shelf package appropriate to their requirements. However, when asked about the overall success of their approach, a majority of institutions were ambivalent about the results. The implication is that developing fully customized systems may not always work out as planned.

The motivation for the approach taken did not vary significantly with the origin of the software in use. The most common factor cited was

operational functionality, followed by flexibility. Interestingly, the capital cost of the system does not appear to figure significantly in the decision.

The market for information systems remains underdeveloped

These results tend to support the contention that the market for information systems for microfinance remains underdeveloped. Price will not be a major issue if the functionality cannot be met. The modification or customization route may be taken simply because no viable alternative can be found. A large-scale programme in Latin America, with more than 25 000 clients, opted to develop its own software employing four software development professionals to do so. One reason it cited for choosing this route was the 'lack of existing software for solidarity lending'. Interestingly it also saw the development of its own software as being a source of competitive advantage by 'conserving know-how'.

Development of systems

If institutions do opt to become significantly involved in the development of systems then the obvious next question is how they go about this. The use of external support in systems development follows the expected pattern. The majority of respondents (68 per cent) indicated the use of no external support at the information problem definition stage. However for the coding areas – software production and modification – a majority (70 per cent) did use at least some external support. This is not surprising since highly specific technical skills are demanded for coding and are therefore less likely to be available in-house. Information problem definition and systems specification are both less clearly technically demanding and involve a greater understanding of the business needs of the organization.

The average size of IT departments is two to three professionals

Looking at internal capacity, 58 per cent of the institutions queried had permanent IT staff. Of these 93 per cent were tasked with the *development* of future systems in addition simply to supporting a system. However the average size of the IT department is between two and three professionals, and it seems unlikely that institutions with departments of this average size will have the capacity to develop relatively complex software products required.

Software packages

Since a number of institutions are known to have invested heavily in the development of software, the survey sought to discover whether any of these had reached a state where they could be used by other institutions. It should be noted that only one supplier institution, FAO, was specifically contacted. FAO is the developer of Microbanker, probably the best known and most widely used package in microfinance. Respondents were asked to indicate whether they already have a system on the market or have plans to bring a system to market. Only nine respondents indicated that they had systems in the marketplace at the current time. One of these, Microbanker is very well known and is in use by four of the institutions responding to the questionnaire.

The acid test for the seriousness of any product marketed is the support provided to institutions buying the system. Only one, FAO, seems to indicate categorically that on-going support will be provided. A further five imply that further support *may* be forthcoming.

Where a system has been developed by a microfinance institution with that institution's products and methodologies in mind, adaptability is a key issue. Whilst one system may work well for one institution, it may not for another, unless it is readily adaptable. The general picture is that adaptations are relatively difficult to make. Five areas were considered, in

Information systems should not act as a major restraint on product design

order of importance: products, reports, MIS queries, information and user interface. Appropriate financial products are critical for many institutions in achieving their missions in terms of both outreach and sustainability. It is common to find institutions needing to make both minor and major alterations and introducing additional products. However only three systems – Microbanker, a Microbanker derivative and one from Proshika – indicated that changes to the system can be achieved by a general user or systems administrator. Running a sophisticated IT-based information system is likely to require a systems administrator, but far fewer institutions are likely to have programmers. It is not uncommon to find MFIs adapting product design around systems. This is a classic case of the 'tail wagging the dog'. Whilst an understandable decision for individual institutions, it tends to suggest a weakness in the software systems which are currently available in the market.

Looking at the other two key areas – the ability to adapt the reports produced by the system and generate new management information queries – the picture is also not especially encouraging. None of the three systems which permit ready implementation of new products have the same adaptability with respect to these two areas.

The ultimate adaptability of the system depends on its basis. To permit data to be used flexibly in the future it is essential that the system is based around a relational database and interrogated using industry standard approaches (such as SQL). Documentation should include the full database definition *as a minimum* so that adaptations are feasible in the future. Even where the program source code is not provided to customers, it is important that documented copies of the code and full system design do exist. A major problem with the development of systems on a small-scale is that documentation is neglected. The result is that essential understanding of system design can be vested with a few individuals in the developer organization. Without these key individuals the system can become totally impossible to maintain. Documentation should be of such a standard that *any* appropriately qualified IT professionals can modify the system, correct errors and develop upgrades if required.

Microbanker is the most obvious choice for an off-the-shelf purchase

Four of the systems do not clearly indicate conformance with the minimum standards indicated here. Both Microbanker and Proshika's systems do meet these criteria. With the emphasis here on support and adaptability, these two appear to be the most promising systems currently available. Microbanker is clearly the most obvious choice for an off-the-shelf purchase. This is no surprise, as it was designed as a generic system.

Microbanker has many clear strengths, which can explain its widespread use. By 1997 it was in use in over 900 offices of financial intermediaries in more than 20 countries in Asia, Africa, Latin America and the Caribbean, Eastern Europe and the former Soviet Union. The package is sold at a comparatively low price, and it is still based on a DOS platform which involves only a modest hardware requirement. This renders the system a relatively low-cost approach which is affordable by many smaller institutions. Having been developed over 10 years, users can have a strong degree of confidence that major errors have been eliminated from the system. FAO has also recognized the importance of back-up, and there is a significant degree of support available world-wide.

However, examining Microbanker more closely suggests that it may not offer the *simple* off-the-shelf solution to many MFI information problems. One medium-sized MFI pointed to a number of weaknesses in Microbanker. The comments are of particular interest given the unusually strong IT department in this particular institution. Regarding problems in

use the comment was: 'The core system [Microbanker] is poorly designed. Data entry is difficult, reporting is non-existent: 95 per cent of our reports are internally written'. Serious difficulties were encountered in development: 'It was very difficult to write proper reports out of Microbanker because the database is defined and documented poorly. When Microbanker is upgraded, I have no idea whether my add-ins will still work'. Regarding future developments, it was reluctantly conceded that Microbanker will continue to form the basis of the system: 'It is all we have at the moment. I would rather have a different system not based on Microbanker.'

Another institution using Microbanker also indicated difficulties: 'Major problems are in reporting. The standard systems are not in line with .. [our] . . . reports'. Considerable difficulties were experienced in development, with problems implementing the interest rate policy of the institution.

A relatively large number (25) of the respondents indicated plans to bring systems to the market. Although these are currently only potentially marketable systems, it is discouraging to note that only two of them would allow ready incorporation of new products. Similar weaknesses appear regarding the robustness of design in terms of the database and documentation.

Conclusions

The survey has tended to confirm a widely held belief that information remains a difficult area for many MFIs. It has highlighted two critical areas of weakness afflicting the sector: first, a lack of understanding of information problems and possible solutions and second, the absence of software packages appropriate to the sector.

Some institutions clearly had difficulty completing the questionnaire

The weakness in understanding is perhaps most clearly conveyed by the difficulty some institutions evidently found in completing the questionnaire. This lack of understanding is not surprising given the scale of some of the smaller institutions. Despite the ubiquity of information technology in administration it remains a highly specialized area often demanding specific skills.

The problem of a weakness in understanding is compounded by the weakness in the software market for products aimed at microfinance institutions. Looking at other areas of software as an example, even a relatively inexperienced computer users can probably select a word-processor programme which will meet most of his or her requirements. Many of the best-known products in the market are well developed and supported in most of the key areas. Essentially the user does not need to know very much about software to be able to get a good system. This is not the case when it comes to buying a portfolio-tracking system for a microfinance institution. In order for the user to get what she or he wants from the system then a great deal more responsibility for the selection and implementation falls on the user. This survey was only able to identify a single package, Microbanker, which clearly came close to good software industry standards for an off-the-shelf product. (This conclusion agrees with Charles Waterfield in his review of 16 standard packages for Women's World Banking, 1996.) This is not to say that some other packages may not be appropriate for certain institutions. The point is that given the state of these systems (and the market) the user will have to undertake a very careful, informed assessment of any software in order to be assured of a reasonable chance of success. Many MFIs will simply not be capable of such an assessment.

A small number of systems have been identified that might have potential for a wider market

This survey has not immediately uncovered any hitherto unknown 'gems' in the market – systems which could immediately be used by other institutions. A small number of products have been identified which might have potential for a wider market. However the indications are that none is likely to be immediately ready for market. Successful IT systems are not just based on 'code' – the software. Good design, documentation, adaptability, maintenance, support and training are critical aspects of a good system. Theses are not mere add-ons, but at the core of an information problem solution. It is likely that these issues will need to be addressed if some of the more promising packages identified are to become realistic options.

Generally, the route of full custom development should remain one of last resort

The weakness in the software market has, unsurprisingly, led many institutions to develop their own systems. Again the survey results tend to confirm the belief that this is often a difficult route which can produce disappointing outcomes both in terms of cost and system performance. Software development is a complex exercise, the difficulty of which is frequently underestimated by MFIs. For many MFIs, the route of full custom development should remain one of last resort. Custom development is only likely to be appropriate for very large institutions with the resources required for effective development and the economies of scale to recover the benefits.

The option of modifying a standard package is, in principle, more appropriate to a much larger number of institutions. Obviously a far lower level of resources is required for modification as compared with full system development. For many MFIs, it is important that systems are adapted to the detailed aspects of a methodology. The development of credit programmes frequently involves context-specific changes in methodology which improve the control of risk or operating costs. However, the viability of modifying standard packages depends strongly on the nature of the standard package and whether it has been designed, documented and supported to permit adjustments to be made.

The value of the investment which has already been made in the numerous modifications, fixes and fully customized systems developed across the world is probably vast. Despite this investment there would appear to be a near total absence of high-quality standard packages in the market. Given both the degree of functional commonality between many MFIs and the number of such institutions around the world, this should be a cause for concern. There is a case for the major stakeholders in the sector urgently to explore ways in which investment can be directed more effectively to rectify this situation. Ultimately microfinance institutions should concentrate on the business of microfinance not software. The preferred solution should be market-based and utilize the capacity of existing commercial software developers. Perhaps the start of the solution lies in recognizing both the cost and value of information.

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