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Application of Business Process Re-engineering and Information Technology to the Re-design of Personal Social Services

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1. INTRODUCTION

Faced with the challenge of simultaneously controlling public expenditure and enhancing the effectiveness and quality of services provided by the State, public sector agencies throughout the world are currently in the throes of restructuring, re-engineering and re-tooling with information technology. Such radical management medicine has hitherto been reserved for commercial industry. However, present politico-economic conditions demand a more efficient approach to public sector activities, creating a need and opportunity to question some of the fundamental principles of public sector organisation. In Ireland, the response to this challenge has included: the implementation of a Government backed Strategic Management Initiative (SMI), a freeze in public sector staffing, and many independent re-organisation efforts within individual Civil Service departments and other State agencies. These activities are far from premature, given the cost escalation of Civil Service administration in recent years, estimated at nearly 3 times the rate of consumer price inflation.

Coupled with the cry for greater efficiency and cost control, is a corresponding need to promote greater effectiveness in the delivery of public services. In this context, service effectiveness can best be measured by:

- the degree to which these services meet overall policy objectives, typically over an extended period of time; and
- the more immediate and tangible assessment of the “service delivery system” (Normann, 1991), in terms of responsiveness, flexibility, cost, or other client centred parameters.

In the advancement of efficiency and effectiveness, one option for governments is the privatisation of poorly performing public agencies, exposing them to the rigours of open competition. In theory, this should lead to better and more efficient use of resources and significant improvements in service effectiveness, consistency and quality. Competition, however, is not relevant for many public sector agencies. While it is an unrealistic option for the central policy functions of government departments and in the delivery of non-traded market services, competition is both possible and already evident in the provision of routine consumer services in areas such as Education and Public Transport.

In public sectors where privatisation is not a viable option de Connick-Smith (1991) suggests the adoption of a "New Business Model", involving *inter alia*: the establishment of a customer orientation, separation of political and operational decisions, and management by results. In effect, the adoption of a business orientation promotes a fundamental behavioural shift from bureaucratic preoccupations of organisational governance to market-oriented concerns for client satisfaction, through the employment of private sector knowledge, expertise and management practices.

The essence of this argument is that government agencies responsible for the provision of non-market services could provide both higher quality services and better value for tax payers' money if they were to adopt certain management techniques from the private sector. The popular ideology promoted by management gurus which now embraces new business models, private-sector management techniques, accountability and service quality themes in the public sector, has become known as "the new managerialism" (*The Economist*, 1995). Some evidence of progress in the deployment of such techniques within the Irish Civil Service is already available, for instance in the: Revenue Commissioners, Social Welfare Services and certain licensing functions of the Dept. of Transport, Energy and Communications.

At the centre of the new managerialism is a belief that the core operational functions of public sector agencies - be it licensing, welfare distribution, policing and compliance, etc.- can be performed more effectively and efficiently given a correctly aligned organisational setting, including appropriate: structures, procedures, work designs, information systems, performance measures and staff training.

Similar concerns over operational performance have been at the forefront of the business management agenda over the past few years, fuelled by ever increasing consumer expectations, a need for cost containment, increasing complexity and diversity of product and service offerings and, finally, the failure of Information Technology (IT) alone to produce significant productivity improvements, especially in the service sector. During the past 5 years, "Business Process Re-engineering" (Hammer, 1990; Davenport and Short, 1990) has become established as a challenging "root and branch" organisational appraisal and improvement approach, based on the complementary re-modelling of organisational structures and work processes made possible through the capabilities of advanced information technology.

But do such techno-structural approaches have a place in the development of Personal Social Services (PSS) ? Or would they contribute to a new automated bureaucracy, with excessive procedural controls over professional-client relationships, removing discretion and dignity from service encounters, without promoting greater service quality ? This paper attempts to address these issues. Introducing the concept of Business Process Re-engineering (BPR), the authors suggest that BPR and the innovative use of IT could promote greater service effectiveness in the delivery of Personal Social

Services, such as Health Care, Welfare Services and Child Welfare. The paper describes and illustrates a methodology for applying BPR in Personal Social Services, and recommends appropriate strategies for the deployment of IT to support the integration and professional integrity of these services.

2. PRIVATE SECTOR MANAGEMENT IN PUBLIC SERVICE DELIVERY

The new managerial emphasis had its high profile première in the United States, with the establishment of the National Performance Review under the vice-president Al Gore, in March 1993. A year later it presented its report "From Red Tape to Results: Creating a government that works better and costs less" which was heavily influenced by public management advocates, including Osborne and Gaebler (1992). Having viewed its 800 recommendations, President Clinton is reported to have observed 'government is broken'. While some have been critical of its focus (for example, Davenport, 1994) it has been acclaimed as one of the few successes of the Clinton Administration to-date.

In Britain, as a consequence of the New Public Management Initiative, the White Paper on Civil Service (Cm 2627, 1994) and Citizen's Charter, public servants are coming to terms with performance measures, benchmarking and customer-service standards. The Australian and New Zealand Civil Service are both well advanced in the application of private sector management practices (IPA, 1995). The Danish and Canadian Governments are also following suit, requiring their civil servants to adopt customer-friendly techniques adopted from the private sector. Although these initiatives are separate and distinct, they are representative of the "practical face of the new public management" (Gray and Jenkins, 1995).

Adoption of modern private sector management techniques within Irish public administration has been advocated in many earlier papers in this journal, including McKevitt (1993) in relation to performance measurement. Perhaps the most encouraging sign of Irish public sector reform in recent years has been the government's commitment to its Strategic Management Initiative (SMI), first launched by the Taoiseach in March 1994, and since promoted by successive governments. While the initial focus of this initiative was on the production of *strategic* plans, the implementation of these directives is now giving rise to operational performance reviews.

The government's Health Strategy, as outlined by the then Minister for Health, Brendan Howlin, is indicative of the changes in public service management, specifically in relation to Personal Social Services. The three principles of this strategy are *equity, quality of service* and *accountability*. Outlined in *Shaping a Healthier Future* (Dept. of Health, 1994), the Minister announced "now more than ever, there is a need to demonstrate effectiveness and value for money for the taxpayer". The strategy emphasises the importance of the pursuit of quality at all levels of service, as well as the

measurement and evaluation of performance standards. It purports to firmly place the customer first and promotes improved participation in the planning and evaluation of services.

Many public service organisations, including those in the Health sector (see, for example, Haigh, 1993; Dunbar, 1994; Ferguson, 1993), have begun to experiment with Business Process Re-engineering (BPR) as a radical approach to securing major improvements in specific performance areas over relatively short timeframes, while simultaneously supporting the development of longer term organisational capability. The aim of BPR initiatives in the public sector is usually to achieve an effective and quality service that is: customer friendly, run at an acceptable cost, and aims to ensure its activities add value to the customer.

Information Technology (IT) is also becoming a force for rapid change within the public sector, and the Irish Civil Service is by no means deficient in planning and expediting IT based organisational improvement. A number of studies and reports illustrate the level of IT strategic planning within Civil Service agencies. These include Cline et alia (1993) and the Revenue Commissioners, (1995). Examples of effective deployment of IT include implementations in: the Revenue Commissioners, the Companies Office, Social Welfare Services, with more recent developments within the Geological Survey and Land Registry Offices.

3. BUSINESS PROCESS RE-ENGINEERING AND INFORMATION TECHNOLOGY IN PUBLIC SERVICE DELIVERY

Business Process Re-engineering, or Process Redesign, emerged in the early 1990's as a radical approach to business performance improvement, and is centred on the philosophy that the primary concern of business is the creation of customer perceived value. For the most part, the design of modern business organisations is still based on Scientific Management principles of governance and operational control. Consequently, more organisational energy is often expended on internal command and co-ordination than upon the support of external customer satisfaction. Application of advanced information technologies to the automation of such organisational models, throughout the 1980's, had not contributed to significant productivity improvements. This provided even greater motivation for a more radical re-think of the interaction between organisation design and advanced IT solutions (see, for instance Scott-Morton, 1991).

Business Process Re-engineering attempts to realign the organisational infrastructure to focus on the few **core business processes** which create and deliver products and services to meet customer expectations. Business processes can be thought of as the arrangement of "logically linked activities which coalesce to create tangible value for a customer" [Lyons, 1995]. Business processes, then, focus the organisation's energies on the horizontal, cross-

functional chain of activities through which any customer transaction must pass in fulfilling a service or product need. Once identified and streamlined through a re-engineering effort, these core processes provide for a more transparent, measurable and cross-functional view of organisation structure, and overcome many of the inadequacies associated with functional specialisation. Furthermore, application of IT to these rationalised processes can unlock the hitherto latent potential of communication and computer technologies, and dramatic improvements in performance have been observed (Hammer, 1990; Davenport, 1993)

A more recent advance on the internal, "four walls", view of BPR is the extension of the business process concept to the wider value chain, embracing suppliers, manufacturers, distributors, service providers, and the customer domains. In this way, the *supply chain* can be thought of as a set of inter-organisational core processes, all focused on delivering customer value (Venkatraman, 1994).

While BPR has evolved in response to market forces and IT challenges facing commercial business organisations, there is now evidence of its successful application in the analysis and re-design of public services. Indeed, the authors have used the approach in the examination of both Civil Service and educational administration areas during the past few years. Published evidence of BPR application in public services includes: Davenport, (1993;1994), Mukherjee and Braganza (1994), Government Centre for Information Systems [UK](1994), Libbey (1994), and James and Schulte (1994).

Although BPR initiatives in the public sector are more concerned with service quality and effectiveness than with financial targets, the essential features of process re-design remain the same. These include:

1. a preoccupation with real customer needs and sharply focused service objectives;
2. an organisational focus on the cross-functional (or cross-organisational) core processes which create customer value;
3. measurement of service quality based on the effectiveness of the service delivery processes, rather than upon performance of functional units ;
4. implementation of IT to support the integration of business processes, rather than the automation of separate functions.

The primary re-design criterion is the minimisation of service (or product) delivery *cycle time*, based on the understanding that long cycle-time processes conceal much by way of non value-added activity, unnecessary delays, conflicting inter-organisational goals, poor procedure and systems design, poor integration of related activities, poor staff skills and training, and a host of other organisational maladies. In essence, long cycle-time processes with significant amounts of non value-added activity suggest "broken processes", which absorb unnecessary resources and invariably fail to meet effective service standards. In short, the longer the service delivery time, and the

greater the number of organisational "hand-offs", the higher the likelihood of a failure.

In the authors' consulting and research experience, few service sector business processes, upon first analysis, exhibit more than 1% value-added activity, as a proportion of the total elapsed service delivery time. In fact, most of the time accumulated in the start-to-end process cycle time is squandered upon inter-activity delays. While, a specific performance evaluation of individual social services delivery is beyond the scope of this paper, these observations, from other service organisations, suggest a significant potential for improvement.

While information technology is now central to the modernisation of virtually every sector of advanced economies, there is compelling evidence to suggest that IT, *on its own*, has not resulted in significant improvements in productivity, or other measures of business performance (see, for example, Davenport, 1993; Venkatraman, 1994; Venkatraman and Short, 1992; Strassman, 1990). In the public sector, the situation may even be more pronounced. Several writers (for example, Bellamy and Taylor, 1994; Keen, 1994; Willcocks, 1994; Muid, 1994) argue that government agencies continue to overlay systems upon traditional structures and information flows leading to ever-more discrete and horizontally incompatible operations.

Use of IT to simply automate existing ways of working lacks any strategic perspective or utilisation of the transformational abilities of IT. However, coupled with both the crystal clear service objectives and *business process* focus of BPR, it is possible to achieve significant improvements in measurable performance areas, and to redefine the organisational boundaries, to create fast, efficient and effective service delivery mechanisms.

4. A BUSINESS PROCESS APPROACH TO PERSONAL SOCIAL SERVICES

Characteristics of Personal Social Services

Unlike the transaction intensive "back-office" processes, commonly found in banking, insurance, billing, and other market-traded services, Personal Social Services have a number of special characteristics which might render them less amenable to a BPR type analysis. These include:

- an emphasis on professional intervention rather than upon routine administrative processing;
- an ethical requirement for discretion, integrity and sensitivity;
- a relatively small volume of transactions for many of these services;
- a relatively high proportion of non-routine cases;
- the fragmentation of processes over a number of different agencies, often compounded by geographic dispersal; and
- unclear or fragmented accountabilities for the service outcome and service delivery activities.

The challenge, then, is to extend the deployment of BPR and IT beyond their conventional areas of application, where the operating environment is characterised by a high volume of routine transactions, usually processed in centralised offices. It is clear that Personal Social Services do not fit this model of work.

In designing high quality service organisations, Normann draws the important distinction between:

1. the effectiveness of service delivery mechanisms, i.e. the "service delivery system"; and
2. the professionalism of those involved in the final social act of service provision, at the point of contact with the client, i.e. Normann's "moment of truth" (1991).

These inter-linked aspects of service provision are present in all personal service organisations, whether market-traded or social services.

The rôle of BPR in service re-design is uniquely concerned with the re-modelling of the *service delivery system*. In the provision of professional services, in particular, it is the delivery system that is frequently found to be deficient, constraining the ability of service professionals to provide greater effectiveness. Indeed, criticisms of Personal Social Services in Ireland have repeatedly addressed the blame at system failures, rather than at any inadequacies of the service professionals involved. Thus, a core process view of these services attempts to explore the service delivery *system* alone, and does not evaluate the individual service provider. In principal, the effectiveness of social service workers can only be improved through the more effective marshalling of their combined skills and resources in a well integrated service delivery system.

Methodology

The BPR perspective outlined here illustrates a step-by-step approach to the analysis and design of process based service delivery systems and supporting organisations. The proposed BPR framework includes the:

1. Establishment of client-centred service objectives;
2. Development of process-based measures of service effectiveness;
3. Realignment of organisation structure;
4. Extension of process design to the wider service supply chain;
5. Implementation of process-based information systems.

The following discussion draws on the authors' work in Child Care service delivery to illustrate the application of this methodology. The final component of this framework, on IT implementation, is discussed separately in Section 5.

1. Client-centred service objectives:

There is little evidence to suggest that professionals think about their rôles in terms of a product or measurable service. Consequently, attempts to redefine

public services (e.g.: education, health care) in a business process framework are frequently resisted, and charged with being "reductionist and technocratic". Nonetheless, putting professional self-esteem aside, it is both possible and necessary to re-frame professional service work in this way, if the inadequacies of functional specialisation and restrictive organisational structures are to be overcome.

A first step in our methodology, then, is to clearly identify the portfolio of services provided, as well as a means of objectively and routinely assessing the effectiveness of the related service delivery processes.

In our illustrative case example, the principal services, and associated *core processes*, of Child Welfare may be deduced from the primary Child Care responsibilities of Health Boards, as prescribed in the 1991 Child Care Act. Health Boards are required to provide for:

- Child Protection;
- Child Welfare Promotion;
- Children in Care and Fostering; and
- Adoption Services.

Table 1 attempts to summarise these services, along with their principal core processes, service performance attributes, and service providers involved.

This is intended to illustrate the clarity of focus which a BPR approach brings to the analysis and design of personal social services, rather than being prescriptive. In addition to the key performance attributes highlighted, all of these services are likely to share a need for cost-efficiency and customer satisfaction.

2. Measuring service effectiveness:

The difficulty in measuring benefits of services to customers, especially for personal social services -- many of which are directed at ongoing support -- are well recognised (see for instance the Government's Health Strategy, Dept. of Health, 1994). Nonetheless, public service providers are now required to develop more structured arrangements for routine measurement of service delivery, taking both costs and outcomes into account.

A specific difficulty for performance measurement in many Personal Social Services is the fragmented nature of the service delivery system. In a process based environment, service measures are based upon *process outcomes* (judged against agreed service objectives), rather than upon any internal judgements of functional performance. Thus, in a process-based organisation, service effectiveness and outcome measures are more readily available.

It should be noted that the emphasis here is on measurement of the *service delivery system* alone. This must be complemented by a longer term evaluation of the policy objectives set for relevant services. For the core Child Care service delivery processes, identified in Table 1, such delivery system outcome measures might include :

- speed of identification of children-at-risk;
- speed of referral;
- recurrence of incidents;
- outcome of investigation;
- operational cost and efficiency.

Table 1. Client-centred service objectives, core processes and performance attributes. Example: Child Welfare services.

SERVICE	CLIENT(S)	CORE PROCESS(ES)	PERFORMANCE ATTRIBUTES	SERVICE PROVIDER(S)
Protection	Child at risk	<ul style="list-style-type: none"> • Identification • Referral • Investigation • Intervention 	<ul style="list-style-type: none"> • Speed • Appropriateness of outcome 	Inter-agency, e.g.: Gardaí, medical, social workers
Welfare	<ol style="list-style-type: none"> 1. Child 2. Family 	<ul style="list-style-type: none"> • Same as A. on a micro scale. • Education on a macro scale 	<ul style="list-style-type: none"> • Same as A. on a micro scale. • Client knowledge on a macro scale 	Inter-agency, e.g.: Health Promotion, public health nurses
Fostering and Children in-Care	<ol style="list-style-type: none"> 1. Child 2. Carers 3. Parents 	<ul style="list-style-type: none"> • Matching to carers • Identification of suitable carers • Feedback 	<ul style="list-style-type: none"> • Appropriateness of care • Outcome of placements • Satisfaction 	Social Work Inter-agency clearance Social Work
Adoption	<ol style="list-style-type: none"> 1. Child 2. Adoptive Parents 3. Birth Parents 	<ul style="list-style-type: none"> • Matching to parents • Matching to child • Feedback 	<ul style="list-style-type: none"> • Outcome • Outcome • Satisfaction 	Social Work Inter-agency clearance Social Work

In a recent paper on the management of government, Mintzberg (1996) cautions about the over-reliance on a “Performance - Control” model in public service management, and in particular upon the clinical application of discrete performance metrics. When used in a functional organisation, these might well promote opposition between agencies, or stakeholders, directly involved in similar services. For example, Social Workers and the Gardaí may be motivated by two partially conflicting performance measures in relation to Child Protection: immediate removal of the child from risk, on the one hand, and successful conviction of the *abuser*, on the other. Similarly, in the Adoption service, performance measures must take account of, and balance, the quite different interests of the birth and adoptive parents involved.

Misaligned performance measures can thus cultivate behaviours which undermine co-operation and integrated service effectiveness. In a process-

based service delivery organisation, measures are designed to resolve such inter-agency conflict. Joint agreement upon service objectives and end-to-end process measures, together with on-the-ground professionalism and pragmatism, help to remove the tensions created by such unavoidable ambiguities.

3. Core processes and structure:

As business processes are cross-functional in nature, focusing on the ultimate service objectives rather than upon internal functional concerns, they provide organisations with *structures for action*. A business process definition of Child Welfare services, for example, thus identifies the inter-connected activities which collectively fulfil the specific service objective, for example: activities involved in the identification, referral, investigation and intervention in child protection cases. The service, and appropriate organisation design, are thus defined along the process *activity chain*, in order to optimise service effectiveness.

In our Child Welfare illustration, no one professional department (within the Community Care organisation) or agency is able to independently deliver an integrated service. The integrated service, or *process*, is the sum of related activities within various professional functions, in addition to the Health Boards as a whole, and a range of outside agencies. Figure 1 illustrates the current structural difficulties in achieving process integration of these diverse activities and agencies in the Child Welfare area.

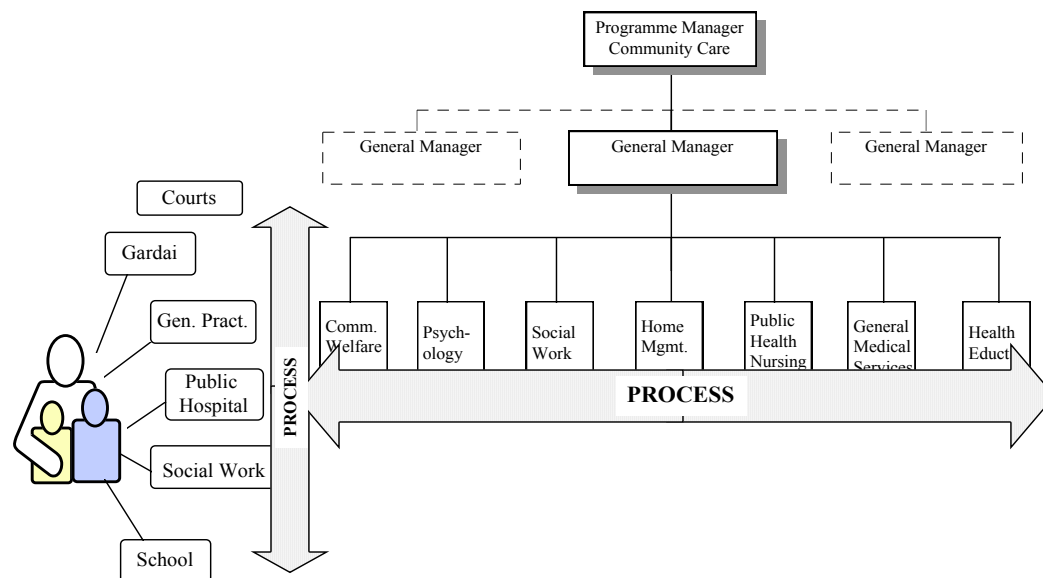


Figure 1. Process based services, but functional organisation structure.

Similar structural difficulties can be observed in the wider Health Care and Social Welfare sectors, where different participating functions, professionals and agencies conform to expectations and objectives set within their narrowly defined spheres of influence, rather than in terms of their partnership rôle in client-centred processes.

Almost invariably, BPR involves the structural re-alignment of service organisations, as existing reporting lines and functional division serve to inhibit the easy flow of accountability and information across the newly defined business processes. As indicated earlier, BPR is both radical and disruptive to current organisational infrastructure. However, re-organisation around service objectives and business processes, as opposed to functions or specialisations, provides significantly greater strategic focus and clarity of accountability. It also lessens rôle ambiguity, and provides service workers with clear objectives and end-to-end process control. Organisation structure, then, can be viewed as one of the principal design levers available in the implementation of process based organisations.

4. Integrated service supply chain:

As stressed throughout this paper, many Personal Social Services operate on an inter-agency basis. Health Board disciplines must liaise with other public, professional and voluntary agencies in the provision of services, for instance. The effectiveness of any Health Care or Child Welfare process thus relies on the quality of integration between this network of agencies, each observing potentially different objectives and priorities. Similarly, in the delivery of Social Welfare services, Government department staff must work seamlessly with third party providers and distributors, such as An Post.

The BPR perspective can be extended to view Personal Social Service processes (such as the Child Welfare services illustrated) as the full client-to-client sequence of activities required to complete each distinct service, embracing all of the internal and external agencies involved. While the flow of accountabilities and information can be mapped successfully, the implementation of inter-agency processes is more challenging, given the misalignment of different agency rôles, objectives, measures, structures and systems. Nonetheless, *integrated supply chains*, involving constellations of widely different suppliers, manufacturers, and distributors are now commonly found in the business world. These inter-company processes recognise the tight inter-dependencies along the supply chain required to meet customer demands, and re-organise their contractual arrangements in a *partnership* model of collaboration.

Key features of such successful collaborations are:

- a common understanding of the process objectives, activities, flows and accountabilities;
- process based measures which support integration along the supply chain;
- compatible organisation structures and information systems.

Based on the authors' consulting experience, development of inter-agency processes is best achieved through the engagement of all the process participants (i.e. the service providers involved) in the BPR initiative. The following team based methodology should stimulate the organisational

change and collaboration required, as well as identifying the critical infrastructural needs, of the re-designed service delivery processes (table 2).

Table 2. An approach to the development of inter-agency service processes.

Phase 1	Establish an inter-agency design team to map and diagnose the current flow of information and accountabilities in all core processes.
Phase 2	Identify the key internal and inter-agency weaknesses in these processes, and highlight the root cause organisational factors underlying these problem areas.
Phase 3	Develop, map and agree new designs for inter-agency core processes.
Phase 4	Agree core process objectives, activities, flows and accountabilities.
Phase 5	Agree process based measures for the total activity chain, and for each agency's segment of the process.
Phase 6	Develop supporting organisational infrastructure and, in particular: <ul style="list-style-type: none"> • appropriate structures; • implementable inter-agency procedures or "contracts"; • process based IT systems.

Given the lack of single agency control and accountability for Child Care processes, for instance, structural re-design alone cannot streamline these services. Development of unifying objectives, verifiable procedures and seamless information systems will thus be of critical importance. Information Technology can play an important rôle in the implementation of such procedures and systems, to aid multi-disciplinary action.

5. APPLICATION OF I.T. TO SUPPORT INTEGRATED SERVICE PROCESSES

Research on the implementation of IT in Personal Social Services observes that traditional computerisation is frequently viewed as mechanising the fragile service provider - client relationship (Auslander and Cohen, 1992; Fabricant, 1985). Consequently, IT is often resisted for defensible reasons, associated with the "moment of truth" aspect of the service, and fails to address the essential rôle of IT in streamlining the service delivery processes. Another barrier to IT implementation in social services has been the view that systems are designed more for management control than for the enhancement of service provision. Cahill and Feldman (1993) found, for instance, that social workers spent 60% of their time doing paperwork required for management control, and that this was the most persistent source of frustration for workers. Finally, many tasks of social service professionals are semi-structured or unstructured, and the information needs of the worker often are not well defined. The work may not, then, lend itself to effective computerisation (Epstein and Mutschler, 1989; Mutschler and Hoefler, 1990).

Nonetheless, properly approached during design and implementation, IT can greatly enhance the provider - client relationship, by enabling predictable, reliable and fast delivery of the service to the front-line professional, without intruding on the delicate "moment of truth" dynamics with the client. Furthermore, in the development of inter-agency processes, IT can become the essential, integrating "glue", which holds an otherwise fragile collaboration in place. Examples of such inter-agency IT infrastructure in the world of business include: electronic data interchange (EDI), electronic fund transfer at point-of-sale (EFTPOS), and integrated travel (airline, car hire and hotel reservation) systems.

A central caveat in the effective implementation of IT in Personal Social Services relates, then, is the way in which the design and implementation of IT infrastructure is approached. Foremost on this agenda is the *purpose* for which systems are to be developed. Approached using the "management control" paradigm, systems will undoubtedly create additional work and delays in service processes, while promoting a culture of mis-trust and bureaucracy. However, if systems are designed to support rationalised, inter-agency processes, they should contribute to more effective and responsive service delivery, while encouraging collaboration and enabling the service workers themselves to provide a seamless co-ordination of process activities.

Apart from professional resistance to the implementation of IT, the existing systems infrastructure, where it exists, can be a significant and expensive barrier to organisational change. As an artefact of the "old" organisation, *legacy systems* represent the traditional procedures and "way" of providing and managing services. While organisation structure can be changed with sufficient force and goodwill, these legacy systems (whether automated or manual) may be the backbone of an acceptable service, and any alteration or replacement is likely to create substantial risks of service failure. For this reason, and for the costs associated with replacement, business organisations have viewed IT as the single greatest impediment to realising new business processes, despite the potential of the technology to revolutionise services (Lyons, 1995). Several authors note that this is equally important in the public sector (see, for example, Muid, 1994; Keen, 1994; Willcocks, 1994).

The absence of IT infrastructure in some of the Personal Social Services in Ireland at present may, in this respect, be a blessing in disguise. However, an inappropriate design approach for any proposed systems could well create an equally redundant IT infrastructure. Under public pressure to streamline existing operations, each of the participating agencies, or internal functions, might well develop its own information systems. Failure to view the systems infrastructure along integrated inter-agency *process* lines, would thus create a range of independent functional information islands, which would further inhibit the co-ordination of processes and structures.

In order to illustrate the effect of pursuing alternative, and apparently viable, design approaches, figure 2 presents two models for developing Personal

Social Service IT infrastructure. Both models share the same objective -- that is, the development of a seamless service process -- but differ in the manner in which they attempt to meet this objective.

In the first example *functional*, or agency specific, strategies determine service objectives which identify the information and transaction processing needs for each function. In our Child Welfare example, information needs might be separately determined for the Social Work, Public Health Nursing, and Home Management functional specialists. This subsequently becomes the foundation for the *IT systems architecture* and *data structures*, which serve to consolidate and ingrain existing disparities between these disciplines. This is an example of how *local* IT developments can frustrate efforts to successfully integrate services. Articulating service objectives through functional strategies, as opposed to process ones, thus encourages the ineffective use of IT.

In the second example, *service objectives* are used to develop a process based IT infrastructure, recognising both: 1. the disparate information requirements of participating agencies and functions, and 2. the need to define IT architecture at the level of the *process* rather than the *individual function*. Systems and data structures, thus developed, will be designed to automate and integrate the newly designed processes, as well as enabling an easy flow of information to the point of use in the relevant service professional's hands.

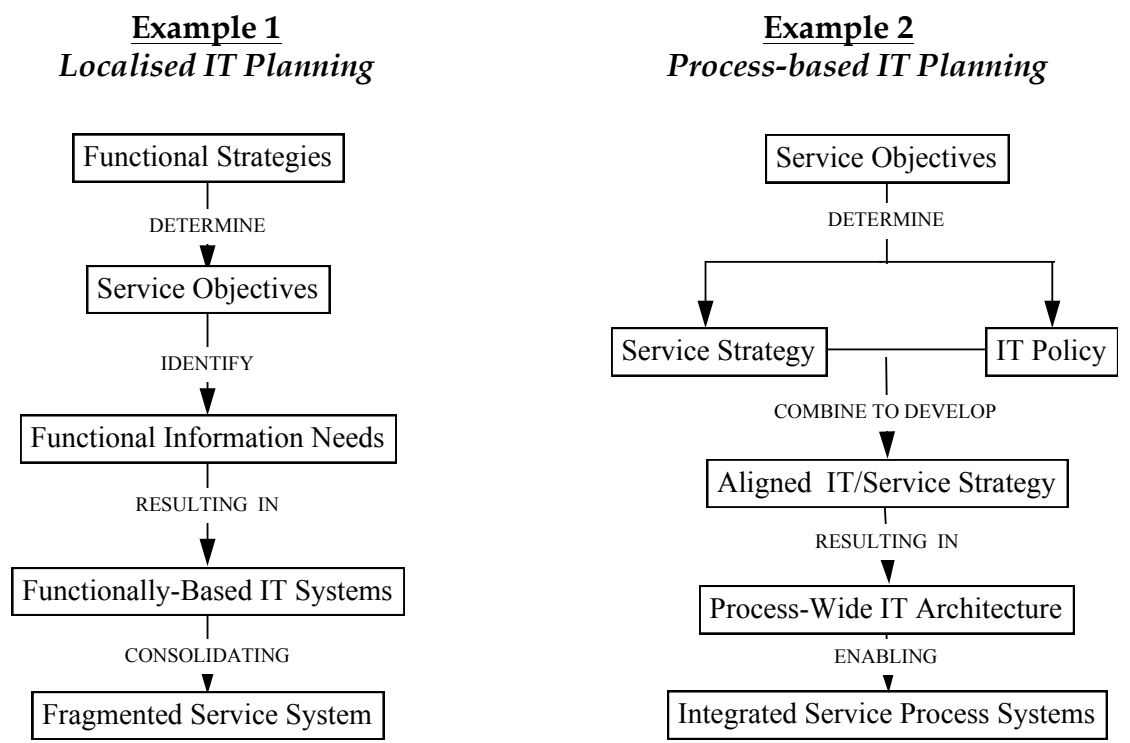


Figure 2. Localised and process-wide IT development models.

From an IT perspective, then, it is essential to develop an *integrated systems architecture*, which ensures the congruence of IT and Personal Social Service

objectives, before embarking on any specific systems development initiatives. Viewed simply, this is a blueprint of the IT infrastructure needed to support the effective functioning of the newly designed inter-agency processes. Once developed, such an IT architecture (which should embrace: information needs, systems needs, data needs and inter-operability requirements) should be used to guide the building and prioritisation of IT infrastructure across the service agencies. Failure to do so, is likely to result in a deepening functional orientation in the provision of these services.

Other IT issues which must be addressed include: responsibility for the integrity and control of data stored; access control; co-ordination of multiple entry points to such systems; as well as a host of technical matters. These factors are beyond the scope of this paper.

CONCLUSIONS

Public sector agencies are under increasing pressure to apply private sector management techniques in an attempt to provide more effective services. *Business process re-engineering* together with the deployment of advanced *information technology* have become the cornerstones of reorganisation in the private sector. Their application has now extended into many of the market-traded and administrative services provided by the State. But what place have such techniques in the development of professional or personal social services ?

This paper has shown that the analysis, diagnosis and design philosophies embodied in BPR based reorganisation provide a viable framework for re-thinking Personal Social Services. Properly approached, on a system-wide, inter-agency level, BPR should address the current root cause deficiencies in these services, and yield a durable organisation design capable of supporting accountable, responsive and effective service delivery mechanisms. The foundation for any reorganisation, then, must be rationalised *service delivery processes*, upon which appropriate structures, performance measures, inter-agency procedures, and IT infrastructure can be built.

Development of Personal Social Services must be directed at the organisational and infrastructural changes that are necessary to provide seamless service delivery processes. In particular, reorganisation efforts need to focus on:

- establishing clear service objectives, accountabilities and measures for each of the relevant core services;
- identifying and streamlining the service delivery processes, in particular, the extended inter-agency process flows of information and accountability;
- implementing new process based organisational structures, performance measures and inter-agency procedures, which support the easy flow of information and accountability; and

- designing an IT infrastructure which supports the inter-agency and inter-functional core processes, as distinct from optimising individual functional, or agency specific, performance objectives.

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