AUTOMATING THE TELCO WORKFORCE WITH FIELDFORCE PROCESS AUTOMATION

White Paper

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Key Topics

- The challenges and opportunities facing telcos globally
- The role of Fieldforce Process Automation in cost effective delivery of new customer services
- The benefits of using Automated Scheduling to drive business development

Executive Overview

Fieldforce Process Automation, FPA, offers an unprecedented opportunity to deliver, cost effectively, the new products and services required to sustain competitive position in the current economic climate.

The global telecomms sector is struggling to get to grips with a rapid turnaround in fortune with growth rates falling from the highs of the past few years to single figures according to research organisation, Gartner. Deregulation and increasing competition are creating an extremely difficult marketplace, with new, leaner organisations rushing in to cherry pick the most valuable customers from the slower, recently deregulated telcos.

Additionally, new telecommunications technologies, while delivering huge commercial opportunities, are expensive to develop and deploy, typically demanding large, highly skilled fieldforces.

To survive, telcos need to deliver new services and improve customer satisfaction, while significantly reducing financial overheads.

A key area of opportunity and challenge is the fieldforce. While traditional manual processes are costly and constrain new business development, automating fieldforce scheduling processes provides a platform for reduced cost and improved quality of service.

However, it cannot be achieved through automating basic scheduling and dispatch solutions, even if they are hooked up to a CRM application. Business transformation can only be achieved through high levels of automation. BT has achieved savings of £100 million a year on its service costs as a result of 95% fieldforce process automation. This level of automation demands an integrated, enterprise-wide FPA solution.

Without this an organisation cannot achieve Return on Investment (ROI), through improved fieldforce productivity, reduced costs and improved quality of service.

This paper examines the core elements of an FPA solution that are required to enable a telco to achieve ROI. It embraces scale and scope as well as real-time scheduling and monitoring.

It then outlines the business benefits that such a solution can enable, from improved customer satisfaction to the delivery of new services, and provides an overview of the issues that need to be addressed to achieve a successful implementation.

Business Challenges

The loss of investor confidence in the telecomms sector has resulted in a massive change in emphasis by telcos. The frenetic merger and acquisition activity of the past few years has led to companies with a high internal cost base and fragmented processes as they struggle to incorporate many organisations into one. The result has been low or inconsistent quality of service, resulting in poor customer satisfaction ratings. Now telcos are entering a period of consolidation and rationalisation.

Having invested hugely in 3G licenses and increasingly complex technology, telcos are now also looking closely at cost reduction throughout the organisation. This is particularly true in fieldforces, which have either grown dramatically to support the complexity of new telecommunications technology or are creaking under the intense pressure the workforce is under, leading to sickleave which further reduces staff numbers, increasing pressure for those left who, in turn, cannot cope with the stress.

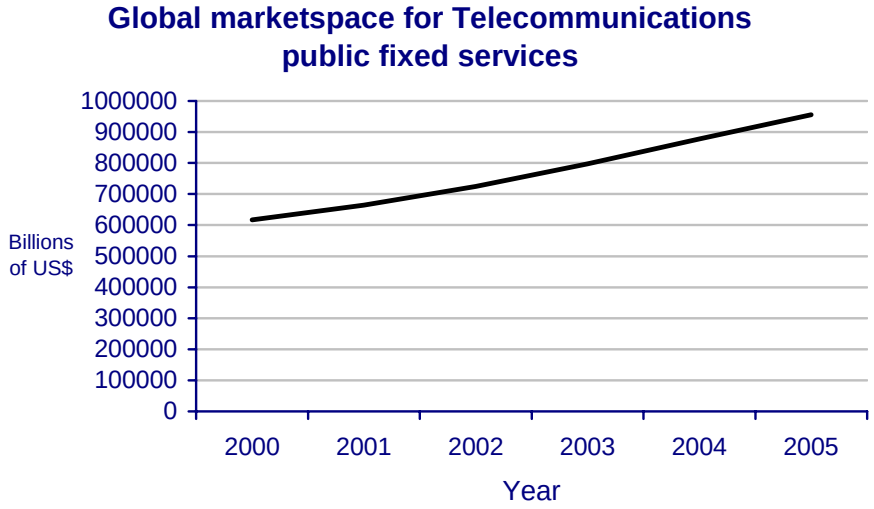
Now the focus is on reducing the overhead associated with the fieldforce, yet few telcos can afford to suffer any reduction in quality of service since many are already labouring under low customer satisfaction levels.

Neither will cost cutting deliver the profitability required by shareholders: there is also a need for new services that will generate revenue. Yet such initiatives are further challenged by increasing global market deregulation. This has resulted in the removal of the former telco monopolies, and increasing competitively-aimed legislation, such as local loop unbundling, that requires more inter-company co-operation in order to provide the required new services.

Such services cannot be introduced by telcos still manually managing their workforce due to the cost and inertia associated with such manual processes.

Business Opportunities

According to research organisation, Gartner, the global market for telecommunications public fixed services was US$616 billion in 2000. Service provision represents the lion's share of all telecommunications revenue, outpacing the size of the equipment market by nearly 3-to-1. But in the next five years, Gartner asserts, the world will see a significant tightening of the telecommunications services market, as line penetration in developing regions begins to outpace population growth to reach saturation levels for basic service.



Meanwhile, operators in the more mature regions examine methods of bringing successful, truly attractive and profitable services to their target markets. By 2005, public fixed services revenue worldwide will have grown to US$945 billion, a growth rate of 8.9 percent.

Certainly the development of both fixed and wireless technology, especially the introduction of 2.5 and 3G, is providing opportunities for telcos to attract new business and retail customers. Increasingly, partnerships between telcos, or wholesale outsourcing of the telco's workforce to an independent service company, which handles services for multiple clients will enable new service delivery that will drive up customer satisfaction levels and improve revenue, while cost cutting will provide new levels of efficiency that can be passed on to the customer, increasing competitive opportunity.

Meanwhile, organisations with continued poor quality of service are left vulnerable to the new, flexible telcos who can leverage their lower cost base to cherry pick the most valuable customers from slower, recently de-regulated telcos. Gartner asserts, "Success will be based on delivering quality service and dealing with customers as partners. Companies that follow these principles skilfully will find little churn even in market segments that are under stress."

Fieldforce Process Automation

The challenges and opportunities outlined above have encouraged many telcos to consider the automation of fieldforce planning, scheduling and dispatch. Yet, to date, only a few have achieved any meaningful benefits because many of these solutions are inherently limited, failing to automate the workforce processes or integrate these processes into core corporate systems.

The objective of FPA is to improve efficiency and effectiveness of the fieldforce while delivering improved customer services at a reduced cost. It requires integrated software that goes a lot further than basic scheduling, automated dispatch and integration to Customer Relationship Management (CRM). High levels of fieldforce automated scheduling can only be attained through intelligent, complex software that delivers real-time monitoring and scheduling, effective exception management and intelligent reaction to business change – such as high priority incidents and missed appointments. This software needs to be totally integrated into core business systems, not only CRM, but also Enterprise Resource Planning (ERP), billing and human resources, as well as additional applications such as fleet management.

Fieldforce Process Automation

Information underpins successful fieldforce process automation, information that spans three key areas: geography, staff and work.

- Geography:

  While less prone to variation, the demands of geography have an important impact on field services. For example, travel times between locations have a direct effect on scheduling jobs.

- Staff:

  Overlaid onto this geographic information is staff information, comprising numbers of staff, their skills profile and level of expertise. The information should also include their preferred working days/hours as well as location, since productivity is improved by allowing staff to work as close to home as possible.

- Work:

  Every field service organisation experiences peaks and troughs in initial calls during the day, week, and even year. Telcos are particularly prone to an increase in reported faults during bad weather. This profile of work is also not uniform across a country, with often more faults to repair in Wales and Cornwall during a bad storm than in London.

Successful FPA solutions are based upon detailed information across all three of these areas.

Scope and Scale

A good, integrated solution can enable one person to monitor up to hundreds of fieldforce staff – BT has achieved a ratio of one manager per 300 fieldforce staff. This can only be achieved with an automated scheduling solution able to cope with the intensely complex nature of telco fieldforce activity. The solution has to be able to scale to handle over tens of thousands of field service engineers conducting over 100,000 jobs daily to support even the largest telco fieldforces. It also manages diverse user skills and job requirements that encompass an extremely broad, and ever broadening, technology range.

One key way of achieving this efficiency is through the use of an operational tool that provides rich visualisation through maps, reducing the reliance on local knowledge. Such tools also allow rapid switching of parameter sets to meet predicted and unpredicted business scenarios, such as dealing with storm damage.

In addition, the scope of fieldforce activity is far wider in the telco industry than in any other, ranging from a single residential customer with one phone connection in the Outer Hebrides to a large international bank in the City of London with complex, highly available data and voice traffic requirements. The combination of multiple customer types and multiple technologies, many delivered under different Service Level Agreements (SLAs), creates unparalleled complexity, with multiple potential scenarios for the fieldforce to handle.

The key to a successful deployment, and where many telco attempts have failed to date, is to automate as close to 100 % of all fieldforce processes that is achievable. Automating significantly less creates the need for manual intervention on a scale that immediately increases cost and removes ROI. For example, if only 70 % of processes are automated, that leaves 30 % that must be handled manually. More central managers are required to monitor the fieldforce and the workforce itself is less responsive, which means that the quality of service opportunities are not maximised.

The implications on the business are significant: not only is there a cost associated with employing staff to handle manual processes but there is an immediate loss of flexibility and ability to rapidly implement new processes across the business. In addition, real world experience shows that the manual processes begin to have a detrimental impact on the automated processes and can actually compromise the entire automation project. Even where automation is achieved, there is a significantly reduced opportunity to achieve ROI.

Any FPA solution that does not have the scale and scope to handle this vast range of scenarios, from the repair of a domestic telephone line to the introduction of ADSL for a bank in London, is not going to manage a full scale automation of process and, hence, deliver the ROI required.

Achieving Automation

In addition to the fundamental scope and scale elements of an FPA solution, there are many further features that play an essential role in delivering improved quality of service, enhanced productivity and reduced cost throughout the field service.

Real-Time Scheduling

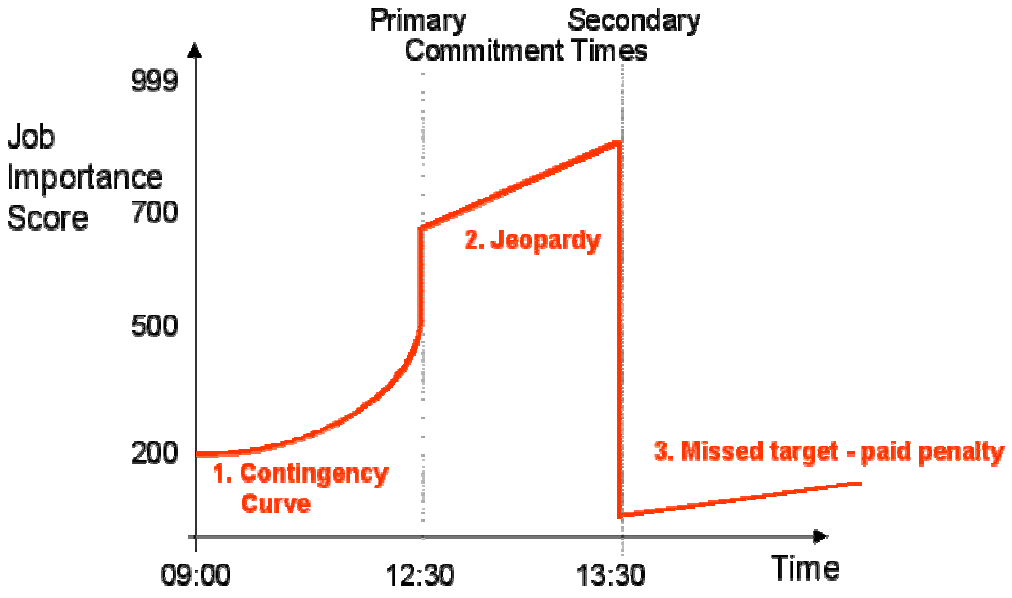
Underpinning the ability to handle both complexity and change is real-time scheduling. This ensures that every impacting real world event that occurs, such as a utility network digging up a road damaging a network cable, can be immediately assessed and assimilated into the schedule.

Additionally, simple scheduling algorithms, such as Rules Based scheduling, can only manage a maximum of 50-65 % utilisation of field staff. To increase efficiency levels, organisations need to look for a solution that combines a range of scheduling options to attain optimum efficiency. For example, once the Rules Based scheduling has completed the backbone of the schedule, such as inserting the fixed routing work for the next two weeks, Random scheduling algorithms can be used to optimally fill in the gaps. This approach also shows how much it will cost to adapt the schedule: if the cost is too high, the system will rerun the algorithm to find a more cost effective solution, repeating the process until it fits in with cost and quality of service objectives. This approach gives a very high scheduling utilisation.

Real-Time Monitoring

Real-time monitoring and rescheduling where appropriate is key to ensuring the automation can handle the uncertainties that arise during a typical day in a telco fieldforce. With the decision algorithms running in real-time, the system can continuously assess how best to cope with real world events to make the best business decisions. Without this real-time assessment, there is a tendency for managers to manually monitor the progress of jobs, undermining the automation process.

In addition, real-time monitoring, during the day and week, also allows telcos to increase the priority of jobs as they reach a deadline, particularly when missing that deadline will incur a penalty as specified on the SLA.



Flexible Information Management Minimises Exceptions

One of the main enemies of successful fieldforce process automation is information uncertainty. Data ambiguity and inaccuracy challenges a system, resulting in exception to be handled manually and in lower than desired automation levels. To achieve high levels of automation, a system needs to be able to recognise uncertain data and automatically introduce approximation to enable scheduling to continue in an automated fashion. Without this ability, it is impossible for an organisation to maximise efficiency as the reliance on manual intervention increases. Indeed, if a system is consistently throwing out exceptions, those tasked with monitoring the fieldforce lose confidence in the system and increasingly opt to override it and manage more processes manually.

For example, during the day a task arises that requires a certain skill but it is not clear which of two people with that skill will finish their current task, and hence become available, first. Rather than throw up an exception that requires manual intervention, the system will arbitrarily allocate the task to one of the people. Then, should the other become available first, using real-time scheduling the task will be automatically allocated to them, and the original person's schedule amended accordingly.

In addition, automated reception and validation of work ensures from the outset that thee is sufficient information to enable it to be scheduled and dispatched, flagging early any information gaps that demand manual intervention to fill.

Effective Exception Management

Of course, there will be some cases where the system cannot handle the process and will throw up an exception, for example, when there are no staff available in the desired area with the appropriate skills for a specific job. However, a good FPA system will also ease the management of these exceptions by providing the fieldforce manager with the information to rapidly resolve the problem. Not only is the information provided timely and up to date but it its fully interactive, graphical format allows the manager to understand the situation quickly and take appropriate remedial action.

In addition, constant real-time planning and assessment ensures exceptions are thrown up very early in the process. For example, at 8am it will be clear what jobs cannot be fitted into the schedule as it stands and managers can respond appropriately, either by updating the schedule to incorporate new parameters – such as a member of staff being unavailable, bringing in additional staff or changing customer appointments as per corporate objectives.

It is this minimalisation of exceptions that increases the number of field agents that can be managed by one person. While many systems peak at 40 field agents per manager, BT has achieved a 300:1 ratio, delivering significant financial benefits to the organisation. Indeed, with excellent exception management, one person can cover the exceptions for several hundred field staff, leaving the fieldforce managers to proactively handle the fieldforce.

High Priority Calls

A fully automated system can also handle the high priority and emergency calls to a telco. When such a call is logged, it is essential that it is dealt with immediately. A good FPA system will immediately scan all ‘on call’ staff to see who has the most appropriate skills and is closest to the location. It will then interrupt that person and direct them immediately to the emergency location. The system also has customisable rules that, for example, takes into account previous emergency calls and only interrupt an individual already dealing with such a task should a major emergency – such as when an entire exchange is taken out. Additionally, if an engineer is at the same location as the second emergency task they may be related and therefore the engineer is likely to be sent to the second interrupt task.

Using this high level of automation and real-time scheduling, a telco can ensure than even these high priority calls can be handled automatically and without manual intervention in a matter of seconds, ensuring they meet regulatory duties and high priority SLAs without additional cost to the business in administration.

Bundling Improves Productivity

Automation can also embrace routine maintenance jobs to improve overall productivity. As each schedule is completed, the system can automatically scan the list of routine maintenance jobs and assess whether they can be completed by any engineer working in specific areas during the day. In this way the efficiency of the process is further improved. In addition, the automation process will bundle work, such as tasks that can be completed in tandem at one business location or one residential street. The business can also set rules to manage bundling, reducing it to a maximum of one half day's work, for example.

Business Intelligence

In addition to the tight integration with corporate systems, which underpins many of the benefits highlighted above, FPA software can also provide management information to business intelligence software. This enables an organisation to spot trends early and hence pro-actively handle developing situations. Such intelligence enables the organisation to manage the business effectively, introducing new policies and business processes to deal with evolving customer issues or market trends.

Competitive Benefits

Once implemented, a good FPA solution enables a telco to achieve a range of benefits, which, critically, can evolve over time in line with changing business objectives.

Productivity

Proactive management of staff to ensure their work area and job type preferences are taken into consideration can have a significant impact on staff morale, and a knock on effect on productivity. Additionally, telcos can choose how to inform staff of their daily job schedule either on a job by job basis or providing them with a 'tour' – a day or morning/afternoon list of tasks. The choice can be based on company culture, availability of complete 'tours' at the beginning of the day and the most efficient way of working for that specific business area. The key is to have the information available to make that choice.

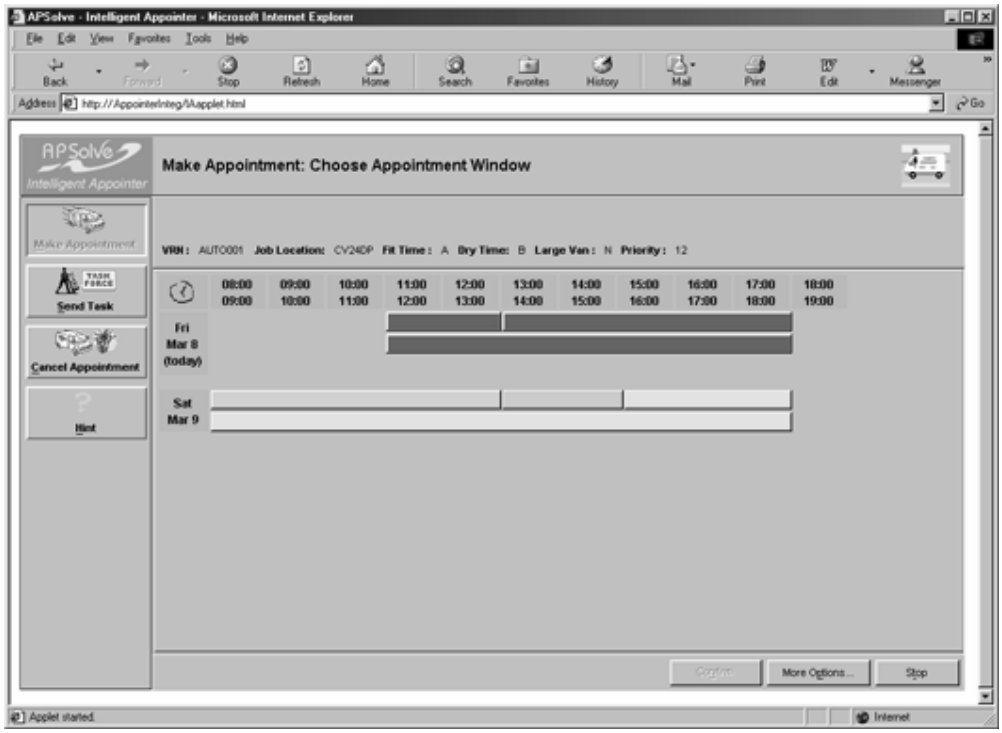
Cost & Efficiency

The most obvious benefit of successful fieldforce process automation is an improvement in efficiency and productivity, leading to significant cost reduction. For example, BT saves £100 million per annum in service costs as a result of successful FPA.

Additionally, a flexible automation system with real-time scheduling allows a telco to balance quality of service and cost, using different scheduling techniques to achieve automation in line with corporate objectives. In this way, organisations can manage not only many different customer scenarios, such as new business models deployed at the touch of a button across the entire country, but also prioritise jobs in line with SLAs to avoid incurring cost penalties associated with failure to meet specified deadlines. Indeed, cost effective 24/7 support for high priority SLAs offers telcos an opportunity to introduce new flexibility into the service agreements reached with customers.

Customer Service

Poor customer satisfaction is often due to the inability to offer flexible appointment scheduling – compounded by missing the appointments! The integration of the FPA solution into core corporate systems, such as CRM and ERP, enables a telco to support flexible appointment allocation in a manner that supports customer needs while ensuring cost effective delivery. By associating a cost to the company to appointments booked at certain times, fieldforce managers can enable call centre staff to direct customers towards less busy periods for their appointments, improving customer service while managing cost.



For example, a customer wants to make an appointment for a new line. When the call centre operative calls up the workforce information they see that appointments for the next morning are all Red, while those between 13:00 and 17:00 are Amber, and those after 17:00 and the following day are Green. The call centre can use this information to guide the customer towards a Green appointment, ensuring it can be cost effectively fitted into the schedules while meeting the customer's need.

The service can also be extended to Internet based appointments. A customer is offered a choice of available appointments based on real-time scheduling information and business costs, improving the efficiency of service to the customer without compromising fieldforce efficiency. This move towards self-service appointments will become increasingly valuable as telcos look to reduce their cost base, enabling them to reallocate call centre staff towards proactive sales activity.

This level of flexibility, based on tight integration, real-time scheduling and monitoring, enables telcos to introduce new customer services, such as BT's 'Today's Fault Today' five hour response to business customers. Without the ability to balance cost control with quality of service, such initiatives would be too costly to be viable.

New Business Ventures

With competition reaching unprecedented levels, all telcos are looking at the introduction of new services to retain and attain customers. Utilising an FPA system overcomes one of the main problems – and cost – associated with introducing new services. While manual forces tend to operate on local objectives, high levels of automation ensure that new policies and procedures can be implemented centrally, often over a weekend, coming into place on the following Monday morning to support the new initiative in a consistent manner across the country.

In addition to improving customer services as outlined above, telcos also have a clear opportunity to generate additional revenue. Business customers, in particular, will pay for fast response to problems, both voice and data, if they can be guaranteed. This provides a telco with a huge amount of flexibility to deliver different services to different categories of customers based on technology and product groups.

It also provides an excellent platform for the inter-company interoperation that is increasingly required for the implementation of new technology and digital TVs. In the US there are often three or four different companies involved in delivering broadband network services. Sharing information will enable those companies to efficiently schedule the delivery of such services, in the right order, avoiding the danger of repeat appointments required as a result of a partner organisation not completing their element of the task on time. The process improves customer services while reducing cost – which is a key consideration in the delivery of such complex technologies.

Getting Started

What is the best approach to implementing a successful fieldforce process automation solution? There are two recommended options: either implement a proven packaged FPA solution or opt for a Managed Service that will handle the fieldforce for you. In either case it is important to work with consultants who have gained experience of pitfalls associated with the process and know the best ways to approach automation of fieldforce processes.

Alternatively, of course, organisations can choose the DIY route which is both time consuming and hugely expensive. Indeed, BT spent £100 million on the development of its FPA solution over ten years. And, although the system has generated significant financial and customer service benefits, that technology is now available on the general market.

In brief, there are several key areas to address:

- Business Modelling

  Business modelling provides organisations with a clear indication of how the automation of fieldforce processes can be achieved in their business. A key element of this modelling is understanding the processes actually undertaken by the fieldforce. Invariably this is one area in which companies have limited information. How long does it take to complete a task? Where are staff located at any time during the day? It is lack of information in this area that often leads scheduling staff to approximate job time, resulting in missed or delayed appointments.

  Once an appropriate business model has been established, consultants then use the business goal of the organisation – to increase productivity, for example – to define new metrics which are then fed into the business model to assess their impact on the organisation's fieldforce.

  In addition to providing a clear indication of the value of automation, business modelling can be used to address a particular area of pain for a business, such as achieving higher levels of customer satisfaction through new Key Performance Indicators (KPI).

- Data accuracy

  As mentioned above, inaccurate data can severely undermine the ROI of automation by creating many exceptions that require manual intervention. In addition to improving data quality as a result of the business modelling processes outlined, it is essential to validate the quality of information captured in the field. This is achieved through the introduction of fieldforce systems that are scripted to require specific information entry, with real-time validation to avoid errors.

  This information should then be fed back into core business systems to drive integrated processes throughout the business.

- Systems integration

  FPA cannot deliver its potential ROI in isolation from other core systems but needs to be integrated with other business applications, such as CRM, ERP, billing, HR and payroll, as well as spare parts, vehicle fleets and line testing systems. The integration goes beyond basic information links. For example, it is important that the CRM scripting process is adjusted to take into account the different levels of service and customer prioritisation to feed through into the automated system.

- Manage cultural change

  According to Gartner, “Through 2006, more than 50 percent of all CRM implementations will be viewed as failures from a customer’s point of view. These failures will be due to a combination of an inability to link channels, lack of process redesign or failure to provide any real customer benefits.” Culture is also identified as one of the biggest stumbling blocks to CRM success by IDC analyst Bill Clough, who says, “One of the biggest problems is people – the internal culture has to change.”

One of the potential downsides of fieldforce process automation is the negative morale in the fieldforce that arises as a result of a perceived loss of control over day to day work. Handled correctly this should not occur but it requires sensitive face to face education and training programmes to ensure the workforce understand why business processes are being automated. Working closely with consultants who have experienced automation before will introduce best practices to positively manage cultural change. The training process is fundamentally important: if users don’t like a system they will not use it, indeed with fieldforce systems those that are found frustrating to use are often deliberately damaged. This can be avoided by providing users will excellent training, tied in with the arrival of the systems, supported by good on line help where required.

Conclusion

The global outlook for the telecomms sector will undoubtedly improve in the longer term but in the short term telcos will have to look closely at cost base and quality of service if they are to survive and enjoy a more positive economic outlook.

And there is no doubt that the successful automation of fieldforce processes not only reduces costs but provides a fundamental platform upon which to deliver new customer services and achieve higher customer satisfaction levels.

However, basic scheduling and dispatch solutions, even if integrated with CRM, provide only limited opportunities for short term cost efficiencies since they fail to automate almost all of the processes.

Correctly implemented, FPA not only achieves huge financial savings and efficiency increases but also enables rapid deployment of business process change to support cost control and new customer initiatives.

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