DYNAMIC BUSINESS PROCESS MODELLING (BPM) FOR BUSINESS PROCESS CHANGE

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Abstract: The high failure rates of many business process change deployments are attributed to the inability to predict the outcome of the exercise without actually implementing the change in the physical environment. This restriction could be a result of over 80% of business process change projects adopting a static modelling technique in order to model their business processes. Static modelling enables the display of activities and the flow of information. However, physical aspects of a process, such as the movement of an object through the process, cannot be replicated. A technique that is thought to overcome this problem is dynamic Business Process Modelling (BPM). As the term suggests dynamic modelling facilitates the representation of the dynamic aspects of a business process including resources and the movement of people and objects. The aim of this paper is to investigate the use of dynamic modelling, in comparison to static modelling, for the purpose of business process change. This is achieved by the using both static modelling and dynamic modelling to represent the change procedure of a process from the Helpdesk of a large multi-national company. The results achieved using both techniques are compared.

Keywords: Business Process Modelling, Business Process Change, Dynamic Modelling

1. INTRODUCTION

Current business processes are becoming outdated and inefficient [Jacobson et al., 1995]. Over time business processes have been added to and automated, which has often resulted in the original structure of the process being distorted and the process complex. The need to streamline and optimise business processes is apparent in many organisations. In order to update and redesign business processes a technique referred to as business process change was introduced. Business process change involves examining a process with the aim of reducing the number of activities by eliminating the more menial tasks and simplifying the overall process [Swenson, 1993]. Furthermore, in order to undertake business process change it is necessary to adopt a clean sheet approach enabling the radical redesign of the business processes [Burke and Peppard, 1995; Robson and Ullah, 1996]. In theory, although this appears to be a relatively simple concept, the actual success rate of business process change deployments is less than 50% [Hammer and Champy, 1993; Robson and Ullah, 1996]. One of the reasons contributing to this problem is thought to be the inability to predict the outcome of a business process change exercise [Hlupic and Robinson, 1998]. Consequently, problematic areas of the changed business process can only be identified once the process has been physically implemented. Therefore, it is anticipated that the ability to view and assess a changed business process prior to implementation may have a positive impact on the success rate of future business process change deployments. One possible method of achieving this is to use dynamic business process modelling.

The paper begins by providing a brief introduction to the areas of business process change and business process modelling. Following this is a description of a case study where a business process is due to be changed. The change process is demonstrated using both a static modelling technique and a dynamic modelling technique. The advantages and disadvantages of each are discussed in the following section. The paper concludes by suggesting that dynamic modelling is one possible way of improving the success rate of business process change deployments.

2. BUSINESS PROCESS MODELLING

Business Process Modelling (BPM) is a technique used to analyse and model business processes [Curtis et al., 1992]. There are a number of techniques for the purpose of business process modelling [Hommes and Reijswoud, 2000]. However, these can generally be divided into two categories; static modelling and dynamic

modelling. A static business process model can be thought of as a diagrammatic representation of the process under consideration [Phalp and Shepperd, 2000]. Furthermore, there are a variety of methods and notations for the purpose of business process modelling [Abeysinghe and Phalp, 1997; Giaglis, 2001]. However, it appears that these are not adopted and instead a simple diagrammatic approach is preferred [Miers, 1994]. Static modelling enables the structure of the process to be displayed along with the flow of information between processes. Furthermore, static models have a deterministic nature and are independent of process sequence [Galdwin and Tumay, 1994]. The main advantage of using this modelling technique is that it enables an in-depth understanding of the process being modelled. The disadvantage of using a static modelling technique is that it does not facilitate the outcome of a changed process to be predicted. Furthermore, the physical aspects of the process cannot be modelled including resources and technology. However, despite the rigidity of static modelling over 80% of business process change deployments adopt this technique [Gladwin and Tumay, 1994].

In comparison to static modelling, dynamic modelling enables a closer representation of the physical business process environment including people and equipment. Furthermore, a dynamic model facilitates the display of activities and flow of events within a process. The advantage of using dynamic modelling is that it enables the outcome of a changed process to be evaluated prior to it being implemented into the physical environment. Furthermore, resources and their movements are also taken into consideration within the dynamic model. Therefore, the fact that over 50% of business process change projects undertaken result in failure could be attributed to the fact that over 80% of business process change deployments use static modelling. Furthermore, the restrictions enforced by this technique means that it is impossible to predict the outcome of a changed process; one of the reasons contributing to the failure of business process change. Dynamic business process modelling does enable the analysis and evaluation of changed processes therefore, it is possible that this technique can help to improve the success rate of business process change deployments. In order to investigate this a process requiring change is used to demonstrate both static and dynamic business process modelling.

3. SERVICE ORDERING PROCESS

The service ordering process exists as part of a facility supported by the Helpdesk of a large multi-national company. The company consists of the five divisions displayed in Figure 1, of which Division 1 and Division 2 are completely and partially involved within the process respectively. Division 1 consists of two departments namely the Helpdesk and the Service Representatives Group. Division 2 is sub-divided into four departments including Human Resources, the Automobile Department, Finance, and, the Information Systems Department. From the latter Division only the Information Systems Department are involved in the process being addressed.

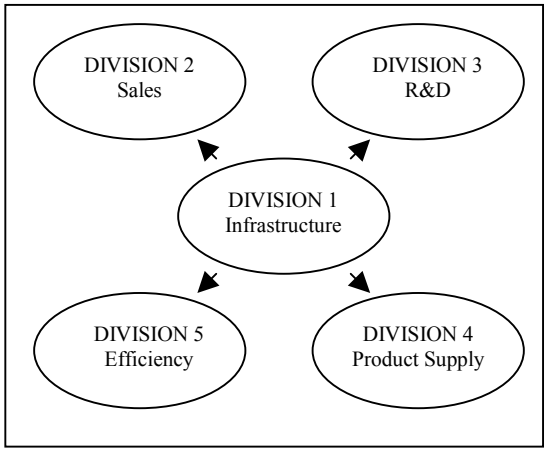

Figure 1 : Divisions Existing in the Company

The service ordering process has, over time, become disordered resulting in long complex tasks that no single department or person has ultimate control over. The service ordering process is responsible for providing a number of services to the employees within the company. These services include car phone and mobile phone loans, the installation of ISDN lines, arranging videoconferencing facilities for meetings, voicemail set-up, and the provision of in-house telephones. In addition to the ordering of a service the employee can enquire about the status of a service that has already been ordered.

Originally, the process was designed to involve two groups and, although it was not functioning in an optimised manner its workings were relatively straightforward. An employee would place an order for the required service with the Helpdesk. The Helpdesk would order the services, on behalf of the employee, from the Service Representatives Group (SRG). In turn, the Service Representatives Group would order the requested services from the appropriate Telephone Company of which there were two. A similar pattern was intended to occur when an employee made an enquiry regarding a previously ordered service i.e. the employee enquires at the Helpdesk, the Helpdesk contacts the

Service Representatives Group, and the Service Representatives Group speaks to the external Telephone Company providing the service. The manner in which the original process was designed to function is shown diagrammatically in Figure 2. However, in practice the process did not function as planned and consequently an additional group became involved and responsibilities within the process changed. The following section describes how the original process has changed along with details about the groups involved.

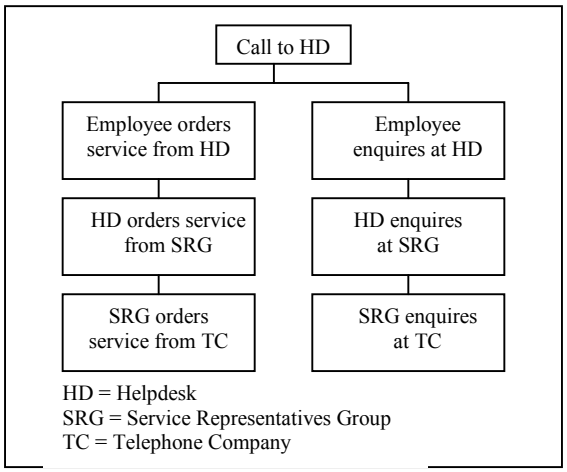

Figure 2: Original Design of the Service Ordering Process

3.1. The Current Process

In order to establish the environment of the existing process, including its functionality and the involvement of each of the groups, it was necessary to interview a number of key people from each of the groups. As recommended by Czajz and Blair [1996] interviewees were given a copy of the questions beforehand so that they could think about and prepare their answers. The outcome from the interviews suggested that there were three groups involved in the Service Ordering Process.

The first group is the Helpdesk (HD) which consists of fifty people and is used by employees to arrange any services that are required and, in theory, the first point of contact for an employee with any queries regarding a service that has been ordered. Between them, the Service Representatives Group and the Helpdesk, they are responsible for arranging contracts, paying for the services provided, and liasing with the external Telephone Companies should a problem arise.

The second group, the Service Representatives Group (SRG), consists of twelve people and is divided into the teams illustrated in Figure 3, so that there are two people responsible for each of the services previously described. This allows the company to maintain good relationships with the external Telephone Companies since a group of people from the multi-national company deal with the same group of people from the Telephone Companies. It also ensures a better service for the employees within the company because each person, within the Service Representatives Group, specialises in a particular area so they are able to provide professional advice.

The third group was not configured in the design of the original process. However, due to the problems arising because of the complexity of the process the Information Systems Department (ISD) took it upon themselves to become involved. The Information Systems Department (ISD) consists of seven people and, in relation to this particular process, they are responsible for storing data about the company sales staff who are based off-site. Sales staff within this multi-national company are permanently based away from the company office travelling from client to client hence the reference to ‘off-site’. Figure 3 demonstrates the groups involved in the process in its existing state.

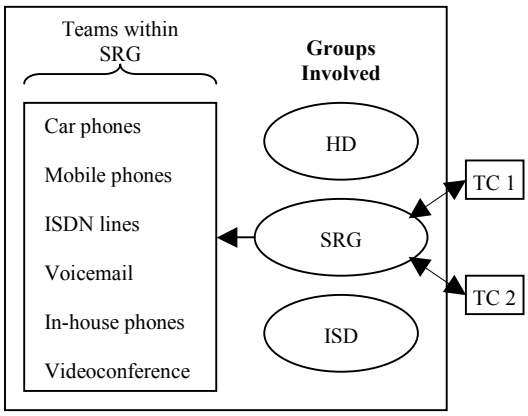

Figure 3: Groups Involved in the Process

Having identified the groups and their roles, the various activities within the Service Ordering process were also established. When a new service is required by an employee an order is placed through one of three groups; the Helpdesk (HD), the Service Representatives Group (SRG), or the Information Systems Department (ISD). If the Helpdesk receives the request they assign a reference number and complete an order form. If the user has not provided adequate information the Helpdesk contacts them. If a member of the Service Representatives Group receives the order they log the details and forward the information to the Helpdesk. The Helpdesk performs the same procedure previously described i.e. assign a reference number and complete an order form.

When the Information Systems Department are the recipients of the order they assign their *own* log number and complete their *own* form. This is then forwarded to the Helpdesk who transfer the relevant information from the Information Systems Department form onto their form and assign a reference number. If for some reason an order form is incomplete, then the group who originally received the order must obtain the additional information. Once the Helpdesk has a satisfactorily completed order form, an order needs to be placed with the appropriate Telephone Company. This is the responsibility of the Service Representatives Group whose teams confirm which of the two telephone companies the order should be placed with and contacts the relevant one. Figure 4 is a simplified graphical representation of the sequence of steps that takes place when an employee places an order. A similar procedure takes place when a service has already been ordered and an employee is enquiring about its status. Again the employee can call one of three places but in most cases they contact the group where the order was originally placed. If the Helpdesk receives the enquiry then they obtain the reference number, which is used to retrieve the order form. This contains details of the service(s) ordered and its current status. If they are able to resolve the enquiry then they do so. However, if they are unable to help they contact the Service Representatives Group who call the appropriate Telephone Company. The details are then passed onto the Helpdesk who report the status back to the employee and log the details on their system.

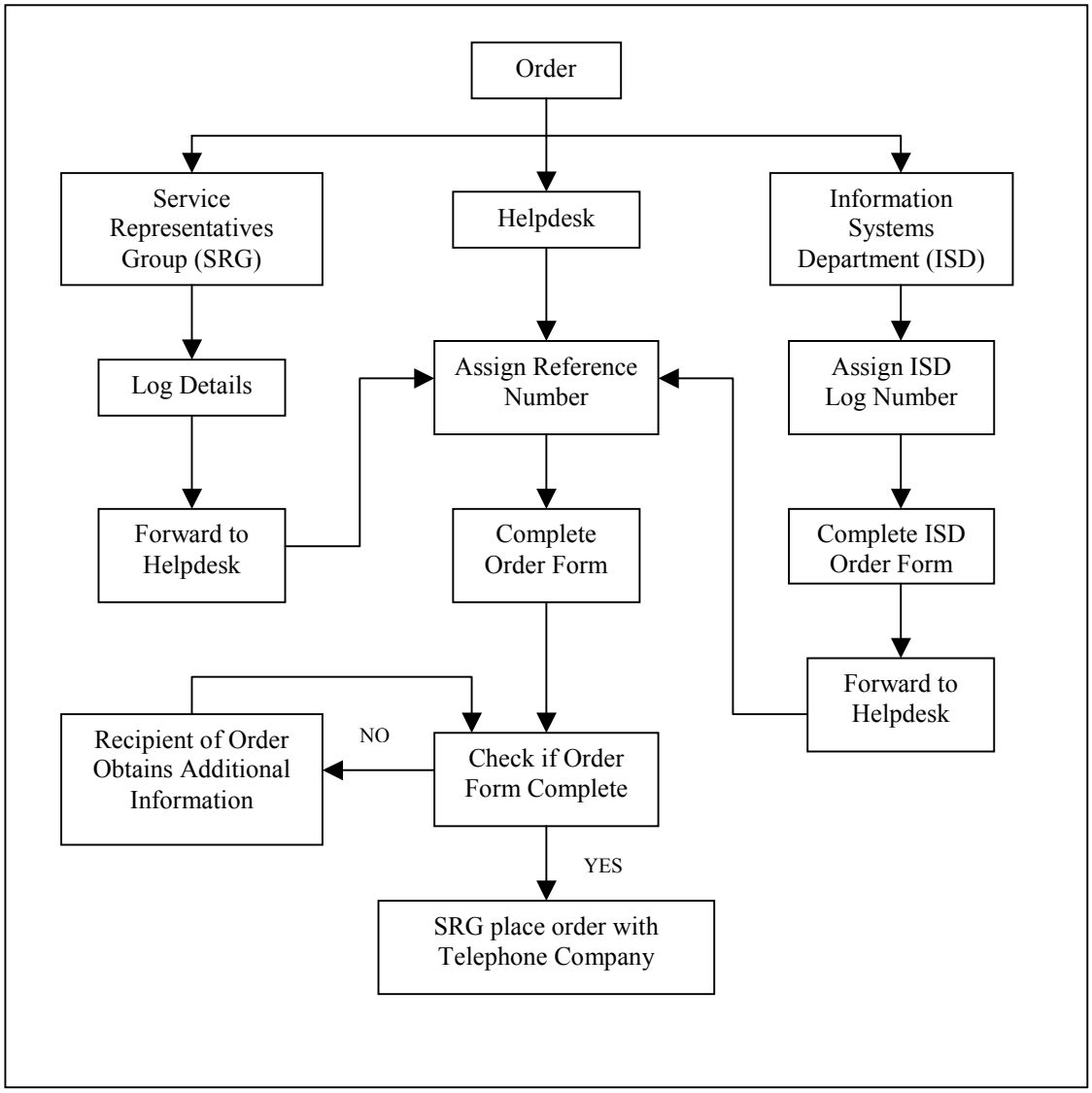

Figure 4: Phases That Take Place When an Employee Orders a Service

If somebody in the Service Representatives Group or the Information Systems Department receives the enquiry, the first task is to acquire the reference number assigned by the Helpdesk. They then pass on this information to the Helpdesk who, as before, try to resolve the problem by viewing the order form. If they can assist, the Service Representatives Group/Information Systems Department inform the employee of the current situation.

As before, if the Helpdesk are unable to provide an answer they contact the Service Representatives Group whom obtain an explanation by contacting the relevant Telephone Company. At this point they report the information back to the Helpdesk who log the details and outcome of the enquiry and at the same time inform the employee of the situation. Figure 5 diagrammatically illustrates the basic phases that take place when an employee enquires about a previously ordered service.

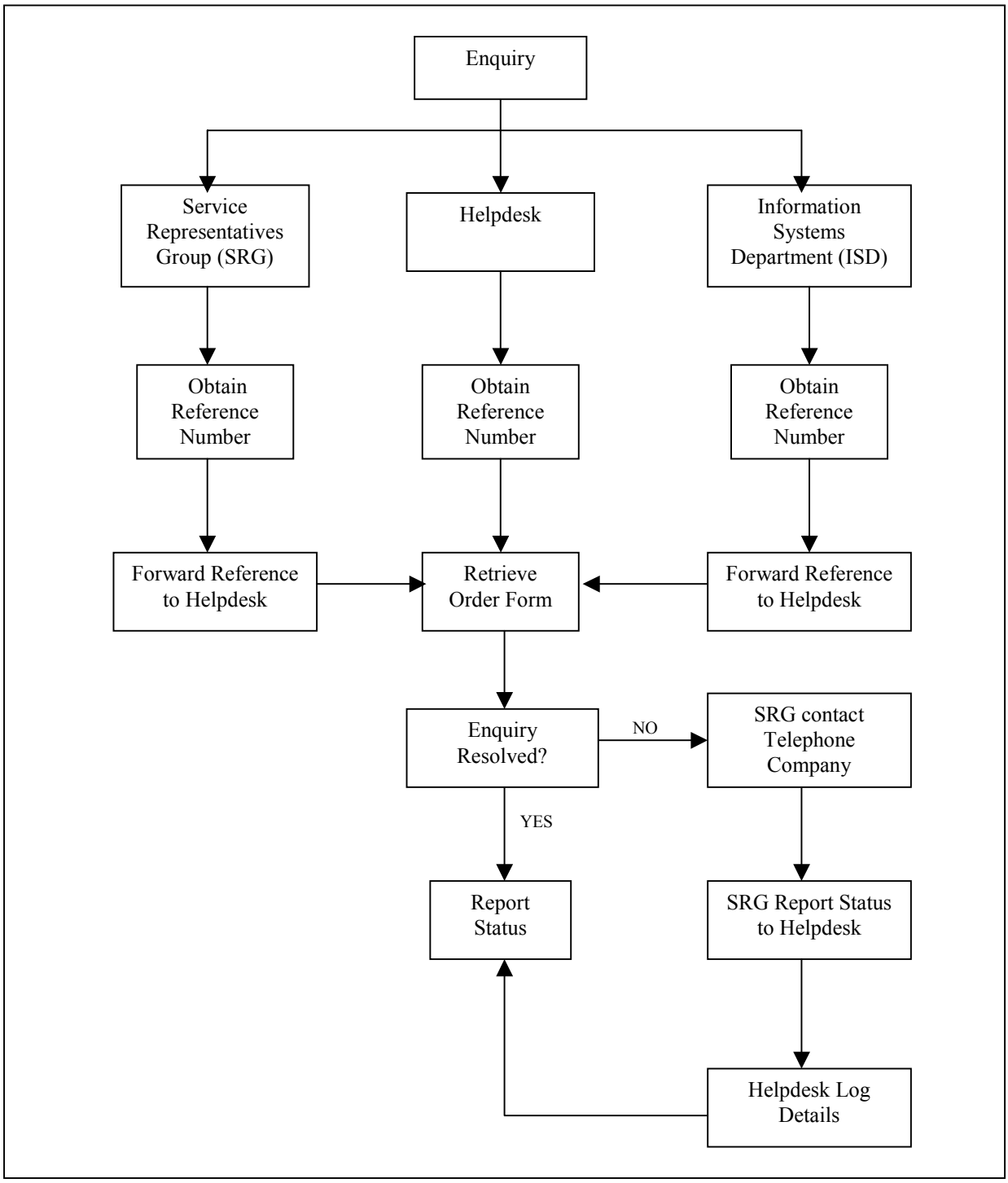

Figure 5: Phases That Take Place When an Employee Enquiries About a Previously Ordered Service

4. STATIC MODELLING

At this stage an adequate amount of knowledge had been gained in order to create a static model of the current process. As acknowledged in Section 2, numerous methods exist for the static modelling of business processes including Role Activity Diagrams, Communicating Sequential Processes [Phalp et al., 1998; Phalp, 1998; Phalp and Shepperd, 2000], petri-nets [Dong and Chen, 2001; Giaglis, 2001; Salimifard and Wright, 2001], flowcharting, IDEF0, and IDEF3 [Giaglis, 2001] to name but a few. However, also mentioned was a lack of these formal techniques being deployed, and instead, a more easily understandable method, similar to that of flowcharting, is being favoured. In fact, if the diagrams from Figures 4 and 5 are combined it is possible to claim that this is indeed a static model of the existing Service Ordering Process. Using this it is possible to determine the basic functionality of the process but apart from that it is difficult to derive anything further. However, this does not mean that it is impossible to design a changed, improved, version of the process.

Collectively Figures 4 and 5 demonstrate that one of the three groups are the recipients of the order or enquiry. Closer examination of the models illustrate that at some point within the process the Helpdesk re-gain control of the process and completes the order/enquiry. Therefore, a possibility is to omit the other two groups and grant the Helpdesk complete ownership of the process. In the light of this, the changed process could be modelled using a static modelling technique as demonstrated in Figure 6. It is possible, by simply glancing at the changed process in Figure 6, to establish that the extant process demonstrated in Figures 4 and 5 has been simplified quite considerably. On the surface this appears to be a feasible alternative. However, the impact of the process cannot be determined without implementing it within the physical environment. Furthermore, it is difficult to establish the resources allocated to this process, whether any of the activities work in parallel, the length of time required to complete each activity, and the timeframe for the process from start to finish.

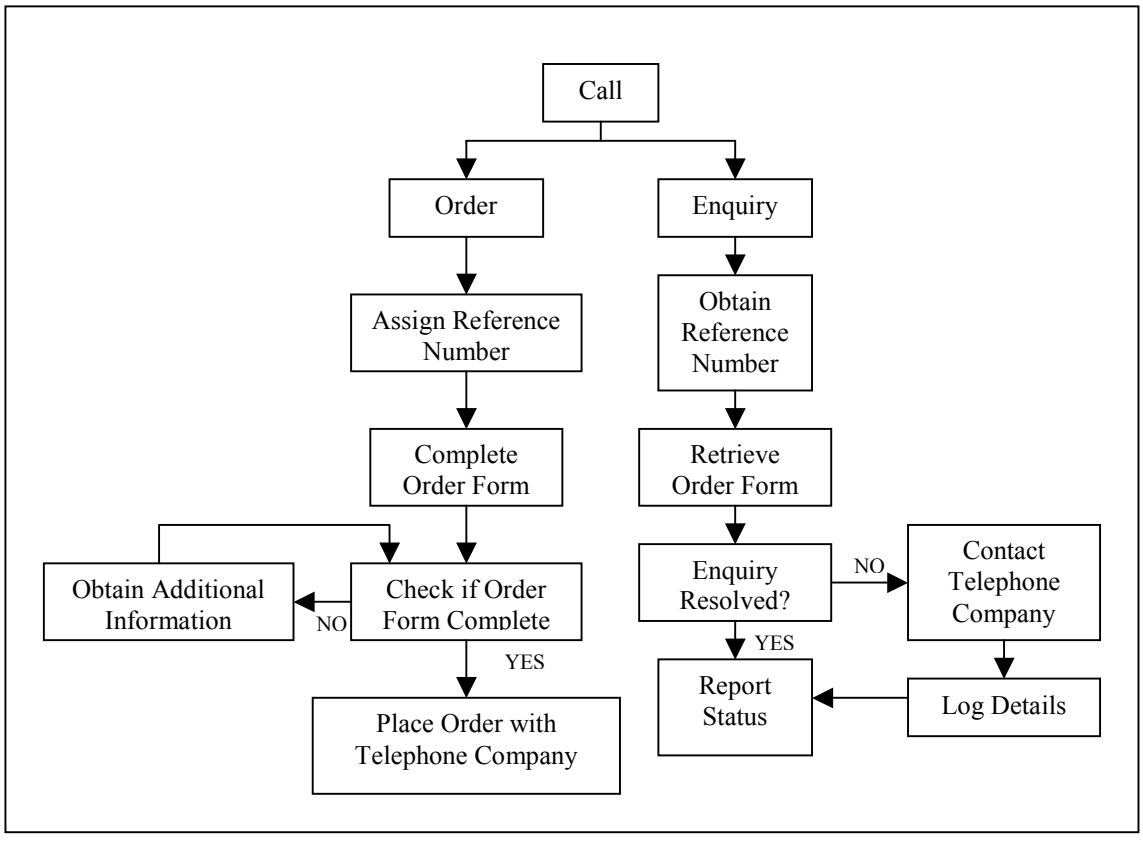

Figure 6: Static Model of the Changed Service Ordering Process

5. DYNAMIC MODELLING

Enough information was known in order to identify the groups involved and the activities contained within the Service Ordering Process. However, for comparison purposes the first phase of dynamic modelling involved the development of a model representing the extant process. Therefore, more detailed information, was required about its workings. This was achieved through the use of interviews during which, basic information about the functionality was obtained. However, to account for resources and timeframes for activities additional information was required. This was accomplished by conducting further interviews but mainly through observation and involvement within the process. In order to achieve, as much as possible, a fair representation of the extant process, observation was carried out over a number of weeks and during different points throughout the day. Information recorded related to the duration of each activity within the process (e.g. the length of time required to place an order with the Telephone Company, staff levels, and the duration of a request and enquiry from start to finish). As a result, it was apparent that the process was based around six different streams of calls coming into the process:

1. An *order* for a service placed with the *Helpdesk*,
2. An *enquiry* at the *Helpdesk* about a previously ordered service,
3. An *order* for a service placed with the *Service Representatives Group*,
4. An *enquiry* at the *Service Representatives Group* about a previously ordered service,
5. An *order* for a service placed with the *Information Systems Department*, and
6. An *enquiry* at the *Information Systems Department* about a previously ordered service.

Therefore, the objective of the dynamic model was to produce details with regards to the duration of each type of call. In this particular case a call refers to the length of time required to receive the initial order or enquiry and place the order with the appropriate Telephone Company or provide feedback regarding the status of the order respectively. The information gathered during interviews along with statistics, obtained during observation and involvement in the process, was used to create a model of the Service Ordering process. Figure 7 illustrates the model developed using Process Charter [Scitor Corporation, 1995]. This particular package was selected for a number of reasons. Firstly, it has been designed specifically so that it can be used to represent business processes. Secondly, previous experience with this package made it the obvious choice. By simply glancing at the model illustrated in Figure 7 it is easy to identify the complexity of the process. Furthermore, the model appears to be nothing more than a flow diagram which is characteristic of static modelling techniques. However, the difference is that each of the activities, represented by rectangles in Figure 7, has an activity box associated with it that is accessed by double-clicking the activity. The activity box enables information such as the number of resources allocated to the activity, frequency of calls coming into the activity, the setting of priorities, etc., to be specified.

In order to ensure that the model was a close representation of the Service Ordering process, the results of the model and the actual process were compared. However, before a comparison could be made it was necessary to 'warm-up' the model. According to Robinson [1994] when a model is initially run it starts from an empty state i.e. no calls, resources, etc., and therefore is not representative of normal working conditions. Since the natural break point in the process is the end of the day the model was set-up to reflect this and complete a cycle for one working day using a series of random numbers. Having established appropriate conditions for the model it was possible to proceed with the warm-up. The length of the warm-up period was determined by the number of cycles required to achieve a steady-state [Robinson, 1994] which is a reflection of normal working conditions.

Once steady-state was achieved it was possible to record the results from each cycle of the executing dynamic process model. Robinson [1994] suggests that it is necessary to perform, at least, three to five executions in order to obtain accurate results. Therefore, the model was run a total of twenty times. For each run a different set of random numbers representing the frequency of calls coming into the process was used. These random numbers were determined using a feature provided by Process Charter [Scitor Corporation, 1995]. The results obtained from the model were compared with the figures obtained from the actual process during observation. The results of the comparison are illustrated in Table 1.

Type of Call	Avg. minutes per call		Standard Deviation	Accuracy
	Extant Process	Model		
HD Ord	17	16.6	1.36	89%
HD Enq	23	22.6	0.49	96%
SRG Ord	30	28.6	1.74	90%
SRG Enq	20	19.8	0.75	95%
ISD Ord	18	17.8	0.40	97%
ISD Enq	26	25.8	1.33	94%

Table 1: Comparison of average times per call from the extant process and the model

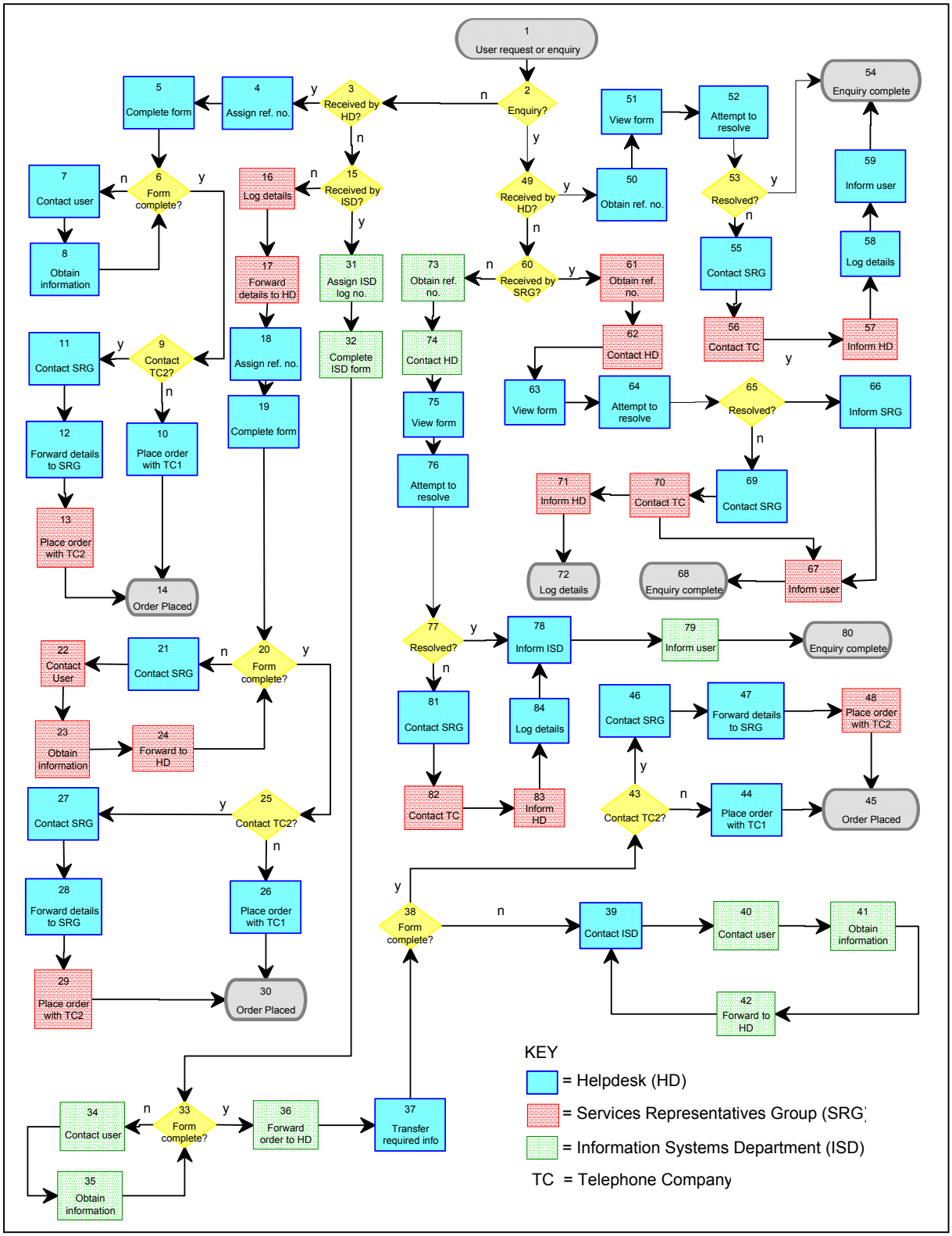

Figure 7: The Service Ordering Process

In both cases, the model and the extant process, the average minutes per call was calculated as illustrated in the shaded columns of Table 1. Although the largest difference for the average minutes per call from the model and the real process is only 1.5 minutes (SRG Ord) the standard deviation was also calculated. Determining the standard deviation made it possible to ascertain just

how close the results from each cycle of the model were to the real process. Using the three values, average minutes per call for the extant process, average minutes per call for the model, and the standard deviation it was possible to calculate a percentage which represents how close the times from the model were to the times from the extant process. The results demonstrated that for each stream of call the percentage ranges from 89% to 97%. The procedure of creating and running the dynamic model enabled the identification of problematic areas within the extant process. These include the following:

1. Too many groups involved
2. No clear ownership
3. Data duplication
4. Data redundancy
5. Process is overly complex and contains unnecessary activities
6. Which activities were delaying the process from completing the call

The dynamic model of the Service Ordering process showed that the number of groups involved in the process was unnecessarily high. Consequently, employees were confused about whom to contact in order to request a service or enquire about a service previously ordered. The involvement of numerous groups also created the problem of the ownership of the process being unclear. This resulted in blame for problems being passed from group to group and no one taking responsibility. Data duplication is another problem associated with the existing process. There are potentially three copies of the same data within this process. The Helpdesk are in possession of the order form that is forwarded to the Telephone Companies. However, in addition, the Information Systems Department have their own order form and the Service Representatives Group also logs the details of any requests they receive. This means that if one copy of the data is updated then they must all be updated. Unfortunately, it is often that one copy of data will be updated and the other copies will remain as they are resulting in data redundancy.

A further problematic aspect of the process is its complexity and length. A large number of unnecessary activities exist within the process resulting in the completion of calls being delayed and in some cases completely lost within the process. Finally, and most importantly of all, through the execution of the dynamic model it was possible to identify where in the process a call was being detained. The process stipulates that if an order form for a service is incomplete the additional information must be obtained from the employee. For example, any employee ordering a service must have approval from their division manager by way of an order number. If this number is not included on the order form or is incorrect then the service cannot be ordered. In this case the appropriate order number must be obtained from the employee. It was evident from the model that this could take anything from a few minutes to hours holding-up the completion of the order.

A number of the problems identified were obtained as a result of the procedure for obtaining data in order to build the model and actually building the model itself. However, the model was useful for locating precisely where, in the process, these problems exist. In light of the problems identified, the company agreed that the goal of the changed process should be a simplified version of the existing process in addition to reducing the average time for calls. Having created a model of the existing process and tested its accuracy in comparison to the real process a number of alternative processes where designed. Two examples of the changed process are demonstrated in the following sections.

The *first alternative* requires that a Service Order or Enquiry can only be made via the Helpdesk who are also responsible for placing orders with both of the Telephone Companies. Since the Information Services Department requested that they would still require access to information regarding the Sales team this was also incorporated into the model. Once the order is placed with the relevant Telephone Company the details of the order made by the Sales person are forwarded to the Information Services Department. In relation to the enquiry part of the process the Helpdesk is responsible for informing the user of the status, which omits the need for any of the other groups to be involved.

The benefits of this alternative are that only one group is involved and responsible for the process, making it simple and efficient. This option makes it possible to track, more easily, a service order through the process since it remains within the Helpdesk from start to finish. The involvement of only one group ensures that employees are certain about whom to contact should they require a service or need to enquire about an order previously placed. Furthermore, the ownership of the process is clear to everyone and responsibility for an unfulfilled or misplaced request cannot be passed along. Since this changed alternative omits the need for the involvement of more than one group who deal with all aspects of the process, the complexity and length of the process is dramatically reduced.

Finally, only one copy of data exists on the system reducing the risk of data redundancy, inaccuracy and duplication. Although the Information Services Department has a copy of the order details of those Sales staff members based off-site it has been made an insignificant part of the process and the Information Systems Department are responsible for maintaining and ensuring that it is kept up-to-date. A dynamic model of this alternative is illustrated in Figure 8.

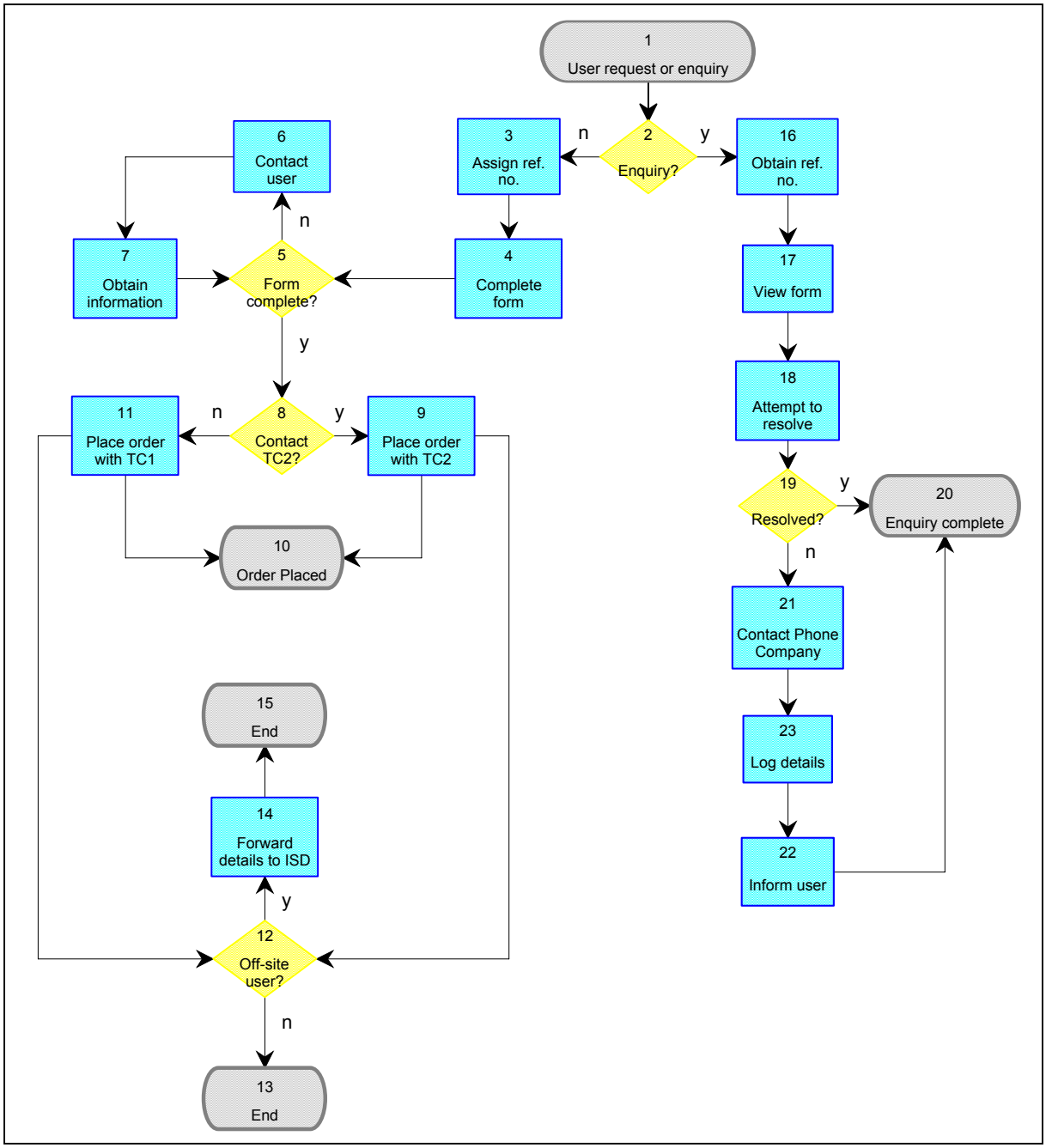

Figure 8: Changed Process 1

Although this alternative seems to provide a solution for each of the problems associated with this process there are a number of shortcomings. These include a shift in power which gives the Helpdesk exclusive control of the process possibly leading to reduced morale for the Service Representatives Group and the Information Services Department. Furthermore, giving the Helpdesk ownership of the process would result in increased work levels for this group, which could be difficult to negotiate with their staff. In addition, this alternative would not facilitate the building of relations with the external telephone companies, as is the case with the existing process, because any one of the potential fifty people from the Helpdesk would be able to place the order.

The *second alternative* involves the Helpdesk dealing with requests for new services only and the Services Representatives Group attending to service enquiries. This process works in precisely the same manner as the previous option and consists of the same activities except that the Service Representatives Group controls the enquiry side of the process. This option may alleviate the power shift problem associated with the first alternative and address the difficulties highlighted with the current process. The main issue with this approach is that it is likely that dealing with enquiries may take longer than the previous alternative since the number of people within the Service Representatives Group is far fewer, compared to the fifty people within the Helpdesk team. A diagram of the changed process representing this alternative is shown in Figure 9.

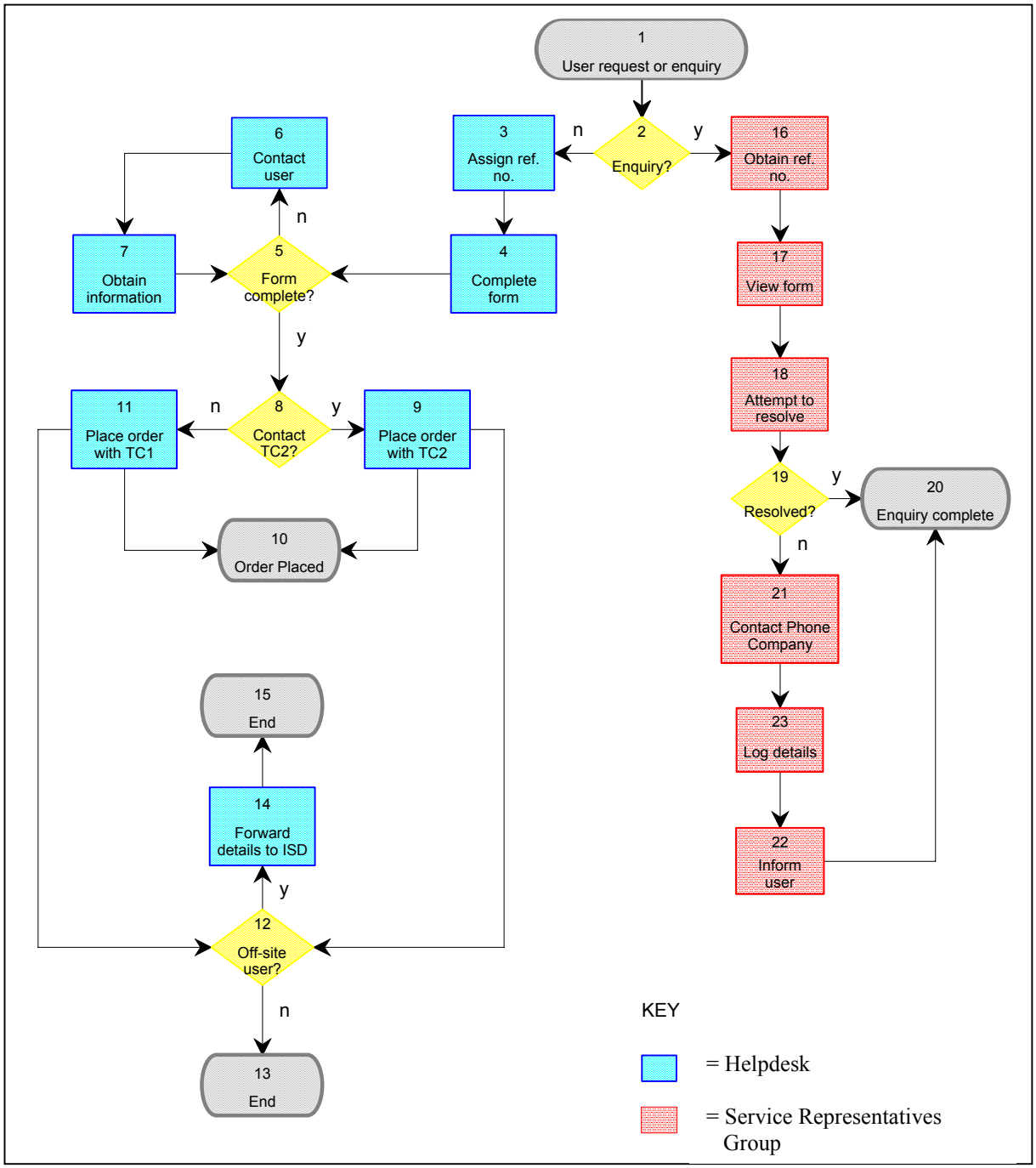

Figure 9: Changed Process 2

Having designed and created models of the two alternative processes it was necessary to compare the results from each with the existing process. As was the case with the model of the original process each model of the changed process was run twenty times using a different set of random numbers for each. Table 2 shows a comparison of the average minutes for both types of calls for the existing process, and the two changed processes. The results show that, with both cases, order and enquiry, the average minutes per call for changed process 1 are less than the existing process. With regards to changed process 2 the average minutes for dealing with an order is slightly less than the existing process. However, the time for completing an enquiry is substantially higher.

	Average minutes per call		
Type of Call	**Existing Process**	**Changed Process 1**	**Changed Process 2**
Order	25	22	24
Enquiry	23	20	26

Table 2: Average minutes per call for Changed Processes

On presenting the results to the company, it was decided that changed process 1 would be the most suitable for replacing the original process. There are a number of reasons for this particular choice. Firstly, the average amount of time spent per order and enquiry is lower than the figures obtained from changed process 2. Secondly, it makes far more sense to have one group of people controlling a process because if there is a problem it is obvious who is responsible and blame cannot be passed from group to group. Thirdly, having one group control the process, as opposed to three, only one set of the data is required. This is an advantage because, with the current process two sets of data are held on the system and if one is changed then the other must be synchronised manually. However, this synchronisation is not always carried out and inaccuracy is common. Finally, single ownership of the process means that the employees are aware of whom they must contact. Changed process 2 was considered unsuitable since it did not meet the objective of the exercise, which was to reduce the time spent on a call.

6. COMPARING THE TWO TECHNIQUES

Either static modelling or dynamic modelling can be used, and are both useful, during a business process change deployment. Static modelling is particularly advantageous for understanding and presenting a process. Although if a technique such as Role Activity Diagrams [Huckvale and Ould, 1995] is adopted it is necessary for those involved with the model, be it the modeller or user, to be familiar with its notation. Furthermore, with this particular case, it is difficult to compare the static model with the physical process since resources and timeframes are not represented within the model. Finally, the inability to conduct rigorous experimentation with the static model makes it difficult to determine whether the changed process would be a success or failure in the physical environment.

In contrast, in order to create a dynamic model of the extant process it was necessary to obtain an in-depth understanding of its functionality; a great deal more than that required to create the static model. The nature of dynamic modelling enables the representation of resources and timeframes therefore it was possible to test the accuracy of the dynamic model with the extant process. Furthermore, the ability to execute the dynamic model makes it possible to closely scrutinise the functionality of the individual activities contained within the process. In this particular case, this enabled the modellers to identify precisely where in the process calls were being delayed. Finally, the ability to experiment with the model, with the aim of achieving optimisation, made it possible to determine the impact of various alternative processes on the physical environment.

7. FINDINGS AND CONCLUSIONS

This paper has compared the use of static modelling and dynamic modelling for the use of a business process change deployment. A static model of the extant Service Ordering process was created. Followed by the redesigned process also presented using a static modelling technique. However, difficulty was experienced when attempting to ascertain the impact of the changed process in the physical environment. Therefore, a dynamic modelling approach was deployed using Process Charter [Scitor Corporation, 1995]. Again, a model of the extant process was created along with two alternative processes. The aim of the alternatives was to simplify the process and reduce the average time to complete a call. The nature of dynamic modelling enabled the capture and comparison of results from the extant process and the two alternatives. The most suitable one was selected for implementation.

It can be concluded that the use of dynamic modelling for the purpose of business process change, for this particular case proved to be beneficial. Firstly, the procedure involved in producing a replicate of the existing process enabled the authors to gain a detailed understanding

of the process in question. Furthermore, producing and being able to execute a model of the existing process allowed the identification of problematic areas such as where in the process requests where being held up. Secondly, dynamic Business Process Modelling facilitated the creation and comparison of various alternative processes without the need for any changes being made to the actual process. Finally, it was possible, by executing the models, to demonstrate the impact and results from alternative processes to the company. It appears that the use of dynamic business process modelling overcomes the problems, identified in the Introduction, associated with the business process change failures. These include the inability to predict the impact of a Business Process Change exercise without actually implementing a changed process. Since it is possible to achieve this through the use of dynamic business process modelling it can be suggested that the use of this technique can help to increase the success rate of Business Process Change projects.

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