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Operations Management Call Handling

A Review of the Emergency Call Handling Process

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1. Process Overview

The procedure shown in Diagram 1 represents the process for handling Emergency Support calls from customers who hold current support contracts. These support contracts deal with the service and support of critical control systems that monitor and safeguard oil production systems and refinery processes, onshore and offshore, worldwide. Customers who have a current support contract have access to a call-handling centre, which upon receipt of a telephone call; collect limited information, which is then routed via Email and SMS to a Duty and Standby engineer who are on duty twenty four hours, seven days a week. Once the Duty engineer receives the text message or email, they then follow the process as shown in Diagram 1. The process shown is based on a process "Flowchart" and represents the flow of information between the customer, as well as the service personnel involve, there are at certain points, a number of decisions to be taken which are represented as diamond boxes, as well as data input points and manual operation activities.

Key to the success of the process is the timely response to client-initiated calls, as well as the indication that a call has been picked up and dealt with allowing other support staff such as the Standby engineer and Support Manager to stand down. These markers are represented by the target times to answer a call (15, 30 & 60 minutes) and are used to provide Key Performance Indicators (KPI's) for both the Support Department and Business Operations. These time markers are also used to provide reference against Service Level Agreements (SLA's) that are in-built to the support contracts regard response times. Given the nature of the systems that are being supported, the response to critical failures is a key delivery issue, and if successfully implemented and managed, can provide benefit in terms of increased revenue for on-target delivery.

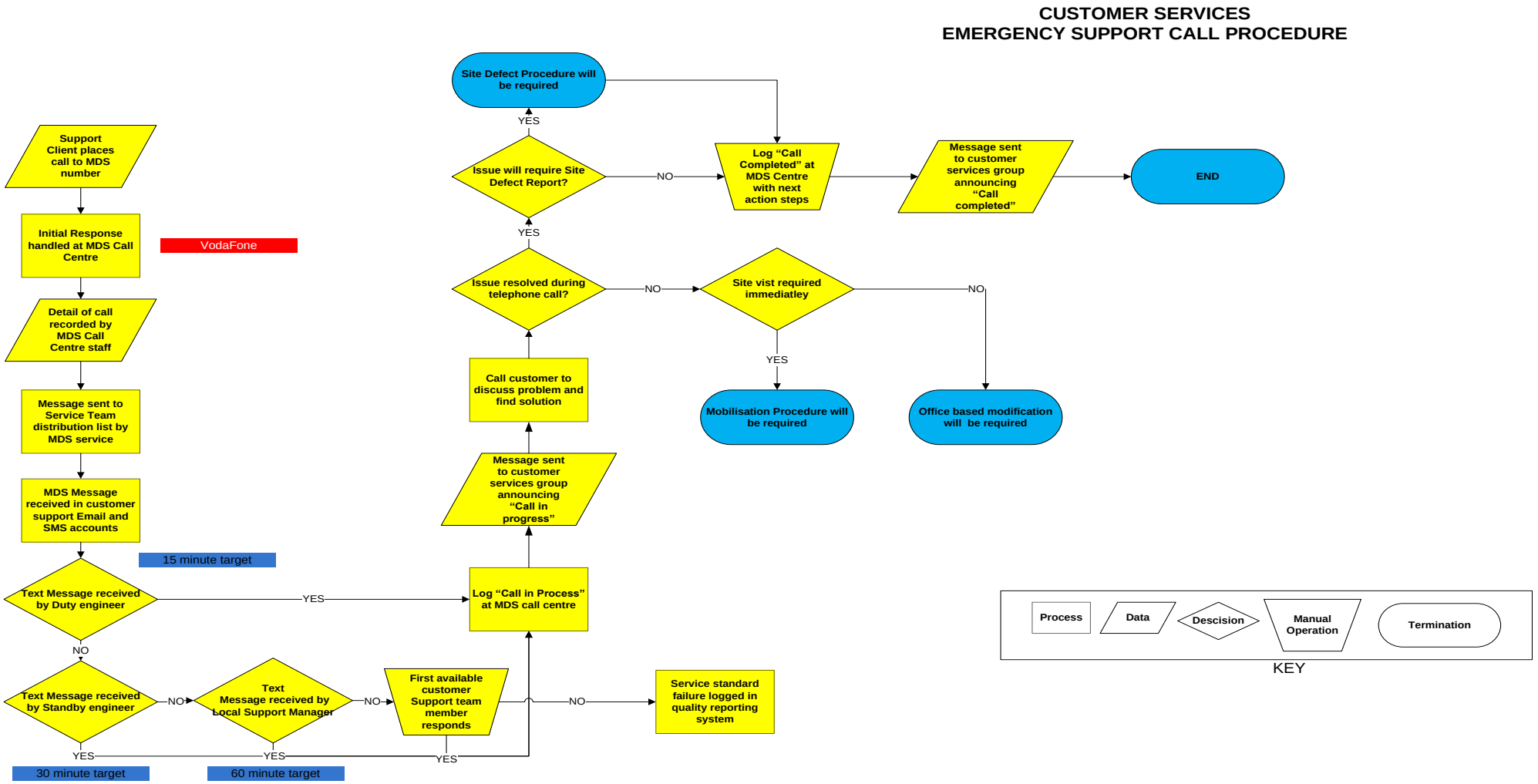

Diagram 1 – Customer Services Emergency Support Call Procedure

One draw back to the “Flowchart” for this process is that it does not give a great deal of detail as to the interface with the client. Client interface processes are not clearly seen, making it difficult to see the level of exposure to the client that an engineer may have, this is an important factor as it may have an impact on the effectiveness of the interface between the client and the engineer. One way to overcome this problem is to have view of the client interface via a “Service Blueprint”; this along with further analysis is described later in this assessment.

2. Process Analysis

With all processes, it is important to be able to measure the effectiveness of the process, especially if the process has visibility with customers. Depending upon the type of process, there are a number of tools and techniques that can be applied in order to be able to identify were there maybe deficiencies, or areas of improvement. For the process shown in Diagram 1, we shall consider Total Quality Management (TQM) a theoretical approach that focuses on the management of quality and performance within the process. Given the nature of the process, the application of TQM is applicable as the three defining principles of TQM map directly to this process, these being:

1. Customer Satisfaction
2. Employee Involvement
3. Continuous Improvement

The management aspect of TQM is a strong driver given that part of the process involves senior managers; therefore, the leadership for quality and delivery are embedded within the process. This leadership for quality then flows through to the engineers on the ground who delivery the customer contact experience. Using TQM provides a two-way dialogue between staff and managers providing channels for problems solving and continuous improvement.

TQM is not a way of doing process improvement; therefore, we need to call upon a number of additional tools to be able to do this. Within the process we have a number of critical points which can be evaluated by use of a "Checklist", here we would record the time taken to respond to the client as well as the time taken for a message to be received (15, 30 or 60 minutes). Further to this, and in order to provide statistical analysis we would adopt the use of "Histograms" or "Bar Charts" so being able to succinctly present the data captured from the checklist. Additionally, the use of a "Pareto Chart" can provide data as to those vital factors that may be influencing process performance.

As seen, the above process is represented by use of a "Flowchart" but further to this, the use of a "Service Blueprint" can provide key information and data as to high areas of customer contact. Identifying customer contact areas within the process allows management to assess the level of training needs that may be required for those personnel who have client-facing roles. This is particularly important were the process contact is dealing with clients who (due to the nature of their business) may be particularly difficult to deal with.

3. System Problems

Identifying problems within the system is a principle element of process management and forms part of the management toolset that should be adopted as a component of the continuing process improvement cycle. TQM provides a basis for this, as well as Statistical Process Control (SPC), which is a method for determining whether a process is delivering what it should be; for instance, whether or not the time markers in Diagram 1 are being attained. One principle problem with the process described in Diagram 1 is that the client places a call into a Message Distribution Centre whose operatives are not trained in the systems that the client has, therefore, have no knowledge of the technology or systems being employed. They act only as a gateway, repeating the message the client tells them. Therefore, if the information the client passes to the MDS service is wrong,

or the operative interprets it incorrectly, then this will be passed to the receiving engineer via the text message or email (steps 3 & 4).

One further problem that can be identified is were the responding engineer is requested to place a message on the MDS to indicate that they are dealing with the call (Log Call in Progress) at the MDS call centre. In doing so, all other engineers' stand-down, if this message is not received, then the escalation process is invoked. In some instances (and possibly because of the first problem) the first responding engineer spends too much time trying to understand the problem, and fails to place a call to say they are dealing with the call. This can cause the second engineer in the escalation path to pick up the call and contact the client, which induces confusion and highlights a lack of control. This problem is considered most serious because it has a direct impact on the client facing side of the process, with clients getting multiple calls from different engineers. Additionally, this problem directly affects the data captured from when a call was placed, to when a call was responded too. The reality of the situation may be that the engineer has responded to the client but due to the issues highlighted above, he may not have placed a call back in time. So the time recorded from when a call was first received to when it is first responded to and ultimately closed is skewed, and not a true representation of the actual call handling response times .

4. Stakeholders & Change Impact

The Customer Services Emergency Support Call procedure has three stakeholders, but one of primary importance, are the Support Engineer(s). As much as the MDS call-handling centre (Vodafone) is a fundamental link in the process, their input and dynamic flexibility is limited, as they serve only to distribute a message to a group of users. Indeed, as a third party commercial provider of a service, the amount of change that can be applied to them, as part of a continuous improvement cycle is virtually nil, so in part, the Emergency Support Call process is centred on

the MDS and their methods of deliver. Therefore, any improvement or redesign of the process must factor this fixed and unchangeable part of the process.

Primary to the process are the Support Engineers (Duty & Standby) who provide the majority of the process inputs and outputs, and who act as both service providers and monitors. Changes to the process through TQM & SPC techniques, as well as mechanisms such as client feedback and employee (engineers) feedback, need to consider carefully the impact on this primary stakeholder. Any modifications to the process need to be considered against the skills and abilities of those who act as Duty and Standby engineer. Will improvements mean that engineers need to be trained further? Will this training mean that certain engineers will not be able to take part in the process, so limiting the amount of engineers available to act as Duty or Standby? Will changes mean that more time is required "processing" the action, meaning engineers need to do more paperwork with a possible consequence that operating overheads for the process increase, reducing margin and increasing the possibility that costs for support services need to be increased and passed onto the client.

Therefore, it is important that any changes to the process show improvement in both process efficiency as well as cost reduction. Additionally, given that this service functions 24x7 it is important that any changes consider the engineers and the amount of time they may be engaged with the process during a call, as client calls maybe handled in the early hours or over weekend periods. Process analysis and improvement tools such as the Work Sampling Method that enables management to measure the time spent on activities such as paperwork so being able to release engineers from the process as soon as possible, allowing them to return to their own time as quickly as possible.

5. Process Improvement

Process management and review is essential if companies are to provide effective and efficient services such as those outlined in Diagram 1. The process review lifecycle calls upon both theoretical as well as practical toolsets that can be used to implement effective changes. Additionally, the use of ICT applications could provide both cost and resource benefits. The process in Diagram 1 can be improved in a number of ways, the first being the use of an automated email response system that can generate an email or text message informing the client that an engineer will respond in a timely manner. This firstly gives a quicker indication back to the client that their message has been distributed and that someone will be dealing with their call. This would drive to improve customer satisfaction with regard to the speed of call acknowledgements, a measure captured and required by TQM (customer satisfaction), see Diagram 2 below for details.

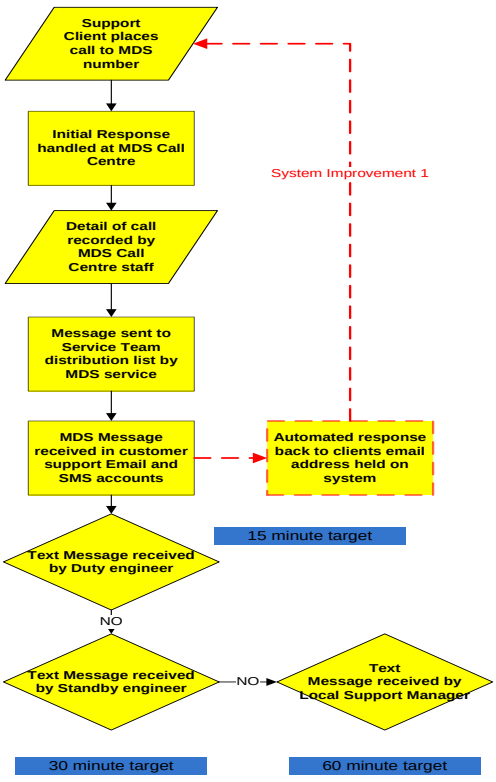

Diagram 2 – Process Improvement 1

Further opportunities for improvement could be found by including within the Message Distribution List, another part of the business this being the "Travel Coordinators". The Travel Coordinators are responsible for booking travel for the engineers such as hire cars, flights, hotels etc. With the inclusion of the coordinators much earlier in the process, rather than it is now after the decision point "site visit required immediately", this it is hoped will improve one of the key performance measures, which is the "response to site time", a key contractual and performance related measure.

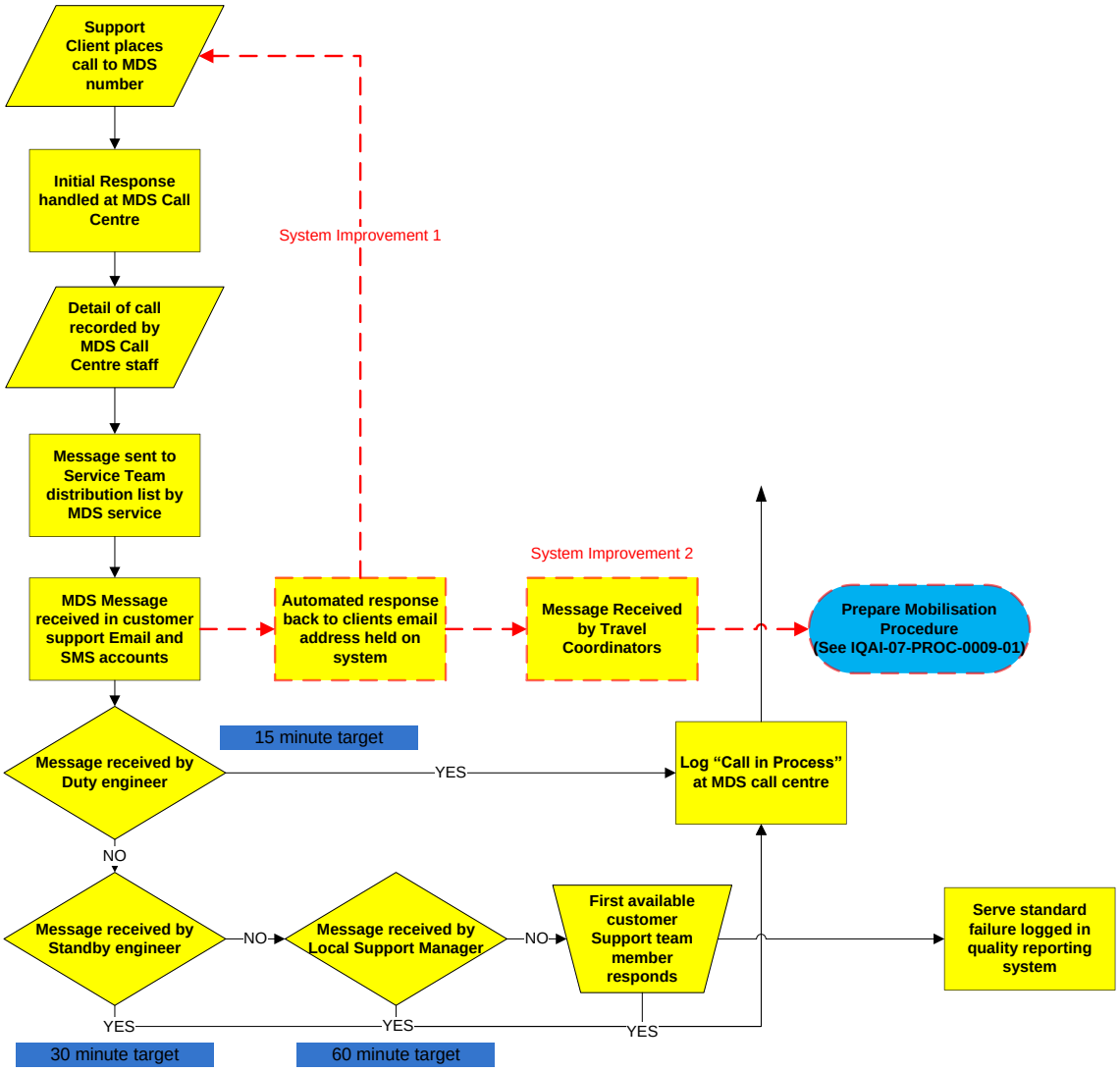

Diagram 3 – Process Improvement 2

The achievement of this target improvement could be measured by use of a Work Sampling Method that measures (in time) each of the steps in the process of booking flights, hotels etc, giving measures of time for each activity as well as measuring idle time such as “on hold”. Knowing this time factor allows an overall time to site deployment to be assessed, which feeds back into the contractual conditions for Support Contract giving “real estimates” for deployment.

In practise though the time taken to complete both the travel mobilisation and engineers deployment varies quite considerably due to technical factors that may transpire during the call, therefore, the measures employed and the data captured need to factor the variance that both the nature of the business and the client can induce.

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