



Disseminating Corporate Memory

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Dissemination of corporate memory depends on two factors:

1. Efficient distribution of corporate know how resulting from corporate memory.
2. Efficient assembly of corporate memory

EFFICIENT DISTRIBUTION OF CORPORATE KNOW-HOW RESULTING FROM CORPORATE MEMORY.

To obtain meaningful improvements in procedures as a result of corporate experience, the distribution of corporate experience must be such that, before each critical operation, the relevant operator is warned and advised to a degree sufficient to convince him to take into consideration the corporate experience when performing the critical operation.

With ISM, most companies get reports of incidents and non-conformities and, from these, they put into action remedies and preventative measures. However it is very unusual that this work will continue to be done with conviction because it is known that the distribution of warnings and procedural changes is incredibly indirect in its ability to prevent similar unwanted conditions because the front line operators are neither sufficiently educated on the matter nor are they consistently reminded at the appropriate time to prevent reoccurrence. Therefore, even if the safety culture exists as of the enactment of ISM, it is unlikely to continue under such obvious vulnerabilities to failure.

For example suppose that there is a rise in the lube oil sump tank level in an auxiliary diesel engine. The Oiler checking the level may enter the new level in the log book and may even notice that it is higher than the previous level. But at that point he needs to be warned of the seriousness of the situation in the event that the rise in level is not due to replenishment by a previous watch.

Most companies having experience of such dangers may have written a warning procedure in the SMS manual which is in the Engineer's office and is highly inefficient in divulging warnings when one is looking to warn the Oiler at the time of measuring or recording the measurement. Even if the Oiler had his own section of that manual for personal use, there would arise the extra burden of keeping his personal manual updated by the company Quality Manager as well as getting him to actively absorb the contents.

Consider how much easier it would be to have an electronic engine log like a spreadsheet in a computer in the control room that connects the action of replenishing oil to the recording of increased levels. This electronic log could then warn the Oiler of the danger of a rise in level without a proximate recording of replenishment and provide him with a recount of a similar situation and the damage that resulted.

One may say that a simple warning sign on the sump gauge may be sufficient however this is not so. Constant warnings without special reason become customary expectation and are ignored by most humans. Human attention is stimulated by a violation of expectations. Constant, out-of-context warnings become expected if seen more than once and are normally ignored after the first time.

You may say that such interactivity involving electronic logs is far in the future. On the contrary, it is far cheaper than one or two extra alarm instruments and almost an inconsiderable cost to each vessel. It could warn against a large number of situations that alarms cannot address with one programming effort shared by thousands of users while also providing framework for education and corporate memory.

There are two ways of warning people efficiently. As mentioned, one is to provide the warning at a time when it is not expected but is highly relevant, and the other is to warn them in the context of what they are about to do and while they are focused on the issue.

By organising your company-wide information system properly, you can provide education and warnings at the correct instance so as to efficiently influence the critical issues to which operators pay attention.

To achieve this, a company must have a computerised information system that combines as many on-board functions as possible so as to provide the user with information at the point of need. It is no good having stacks of information that the user is not used to referring to, because doing so is outside the operator's series of actions for the task at hand and will be ignored.

The question arises as to why you need computerisation. Well, it is the only way to relate large quantities of information instantaneously to the item of concentration. When the computer becomes sufficiently useful on board, it acquires data that indicates the status of the vessel and the personnel on board, and can then bring to the user an assortment of relevant information to assist in his or her tasks.

Paper information takes far too long to retrieve and cannot be automatically linked to the task without the user consciously looking for it. For example a warning about the high fluid level in the sump tank cannot be presented to the user at the point of that level being recorded unless a computer is used.

Let's now look at another example of desired corporate memory use.

Supposing that a Master has been given instructions to load at a loading buoy while last year a vessel from the same company fleet was involved in an incident where there was a minor collision with a buoy.

The company has analysed the cause of the accident and determined that it could have been avoided had the standby tugboat line not been dangerously close to the vessel's propeller at the time that the vessel needed to manoeuvre astern to avoid a wind-driven collision.

The company issues an amendment to the SMS manual and all the Masters and officers of the fleet are meant to read it. However, what guarantee do we have that the present Master a year later remembers the suggested precaution? SMS manual changes are read by the officers and crew but are not read in the context of preparing for a job and are not read just before taking preparatory action.

As an isolated precaution, such a warning would be seen as one of thousands of issues to bear in mind by the reader when he reads the manuals or the amendments. The reader may also remark that in any manoeuvring situation it is advisable to keep tug lines away from the propeller. However, should the warning come just before arrival at a mooring buoy, the Master may find the information very

relevant and may realise that it is during loading at the buoy, while attention is no longer paid to manoeuvring, that tug lines may be inadvertently allowed in the vicinity of the propeller.

EFFICIENT ASSEMBLY OF CORPORATE MEMORY

To assemble corporate memory efficiently, the process of assembly must not be a separate task from the day to day duties of company personnel it must be a byproduct of their work.

Most circumstances leading to corporate experience are in some way recorded in any organisation during some process or instance. However it is very unusual that the way it is recorded can lead to meaningful reconsideration of procedures and education because the prevailing processes are too complicated to flow, accumulate, and create results.

For example, if a new valve cage is being because a working valve cage has been found cracked, the Superintendent or Purchaser may enter this in the corporate memory while he is filling out or approving an order. A short damage description and the part description from the order is all that is needed to mention to future Chief Engineers on many ships (having similar equipment) this very significant occurrence. Of course this is simple if the company has an integrated system of information retrieval, communication and distribution.

Such a system would contextually connect an essential recording task to a voluntary corporate memory input but would use the existing context to significantly simplify recording and distribution. With such a system the Superintendent making the report need not

concern himself about how this information will gain approval, get to the ships, and to the attention of the Engineers, in the right context and at the right time. He only needs to write a couple of lines of damage description. If a digital picture of the damage exists he can include this as well.

Another example is the Tug Line incident mentioned earlier. In this case the incident report would be a part of a non-conformity report but would also be enriched by logbook information, relevant checklists etc, and routed for company approval and redistribution to future readers in a pre-organised method requiring minimum intervention and minimum data entry.

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