

THE ROLE OF DOCUMENTATION AND STANDARDIZATION IN A SUSTAINABLE COMPANY DEVELOPMENT

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Abstract

Those companies who'd like to sustain on the market for a long time, should study the well-established companies who have stayed in the business for a long time. These established companies, like for example Toyota, adopted such managerial and business practices that proved themselves as sound throughout the time. Of course, companies like Toyota adopted many different sound practices and rules and it is not possible to mention all of them in this paper, but one is very important, however, not well understood and recognized by other companies. It is the role of documentation and standardization in a sustainable development of any company, which is not well understood and recognizes by other companies. This paper tries to give an insight into this issue.

Introduction

Every company was once established and then further built by an enthusiastic founder(s) or entrepreneur(s). However, only genius founders could make their company stay in the market for a long period. But the important thing here is how to make organizations endure once the genius who built them retired or passed on.

There is no surprise when company has been doing its business well for the first five or ten years or even during the period the founder has managed his or her company well, but it's really interesting to observe companies that consistently generate outstanding results over a twenty- or thirty year period or even when the former founder(s) has left. Certainly, these companies must have built up some mechanism for an excellent performance and to study and learn from these mechanisms is a necessity for other companies to stay in the market over a long period. We could find out many equally important mechanisms embedded in the excellent companies, but one is very significant – *documented procedures and standards*, and their role in the assurance of the endurance of excellent companies on the market.

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Founders' genes and documentation

Usually when some founder establishes his or her business and this business benefits throughout the longer period, it's because both the founder had vital vision and perspective at that time and, at the same time, the founder was able to further manage his or her business over the period of existence of his or her company. During this period the founder accumulated valuable knowledge and acquired prowess. However, every founder once has to retire or leave for any reason and there can be a risk that if there is not found equally bold successor who could be able to replace the former founder the business can sooner or later go out of the market.

But excellent companies don't rely too much only on the boldness of the founder. Excellent companies urge their employees to also contribute to the accumulation of a company's organizational knowledge. So that the ideas of both the founder and other employees could be maintained for future generations of managers and employees who would once run the business, these ideas must be recorded and kept in the form of documents regardless of if documents are in paper or electronic form.

We can now say that the recorded procedures are the genes of the founder or generally a company's organizational knowledge and documents themselves are the medium for preserving and transmitting this knowledge to other generations of managers and employees. The existence of this medium is what permits genes to be transmitted from one generation to the next. Without documents, the meaning of information sent from one person would be completely different ten people later. The transmission of information can be broken. Where only spoken words are transmitted, no bold managers and people can build a world-class organization.

When a company maintains organizational knowledge in the form of documents, the organizational capabilities cultivated by each generations of managers and employees are transmitted without distortion to the next generations. Otherwise, without such documentation, the organizational capabilities of each generation of managers vanish when the baton is passed on to the next generation.

When we take as an example of excellent company Toyota, as Satoshi Hino (2006) comments, all the basics of Toyota business exist as a document, and written documents are the starting point for both action and thought.

The Role and Effect of Documentation

Documented procedures means "standard way of working" or "work standards." A standard is the documented expression of the best method known at a given point of time; it enforces that method until a better one comes along. An organization as a whole keeps improving its method via

a process of formal revision in which improvements on past methods are incorporated into new standards. Standards are therefore a form of human wisdom hammered out with the aim of continually improving work methods (Hino, 2006).

We can designate organizations as innovative that don't hesitate to change the current state of affairs, organizations that accept that changing status quo is good. What helps much to such organizations is the steady everyday continuous improvement of the company's activities. But continuous improvement requires having standards being in place for whatever activities to be conducted in the workplace. The first step in continuous improvement is therefore standardization of the processes that produce results. When this principle is weakened, team members lose a sense of where they belong and what their primary roles are. Empty formalism takes over and no one does anything unless there is a reason for that (Hino, 2006).

Work standards give objective clarity to the question of what we do and where we do it. They illuminate the relationships between individual tasks and the system as a whole and allow us to understand the purpose of each activity in the context of the whole. The role of documentation goes beyond simply specifying rules or capturing the current situation. Documents illuminate the current situation and should be used as the point of departure for improving it (Hino, 2006).

In many companies standards in the form of documents are drawn up by staff members, by which they only seek to ensure that operators follow these procedures. But standards actually serve as the points of departure for continuous improvement and genes. Ignorant people tend to emphasize the negative regulatory or coercive aspect of standardization. But an organization should not follow inferior methods when better standard methods are available. In other words, when better standard methods are developed, they should replace the old inferior methods. People should be given the opportunity to always change the old standards, when new procedures are developed and this is where continuous improvement has its place. Written documents are indispensable for enhancing the precision of communication. Communication occurs when other person understands. What a person may have said is secondary. True communication is difficult. This is where standards are required (Hino, 2006).

Bureaucratic Principles and the Negative Effect of Bureaucracy

Standardization and documentation constitute the central parts of the bureaucracy, and are generally considered to be reactionary. However, when once sociologist Max Weber advocated bureaucracy, it was very effective methodology for managing organizations at that time. The Max Weber's bureaucratic principles are (Hino, 2006):

- ❑ *Standardization:* Work is performed on the basis of universal and general rules.

- ❑ *Specialization:* Work is divided into specialties by function.
- ❑ *Professionalization:* The performance of work requires specialized training and education.
- ❑ *Depersonalization:* Inequities disappear because conduct is based on rules with the regularity of machines.
- ❑ *Stratification:* Hierarchies of authorities are clear.
- ❑ *Formalization:* Jobs are in principle performed with documents as catalysts.

Such bureaucratic principles allow organizations to benefit from the effects of accuracy, stability, efficiency, and uniformity. However, a carelessly run bureaucracy is prone to negative effects and therefore bureaucracies came to be seen as having reactionary attributes. As a result, the word eventually became a synonym for “rigidity.”

What we can do to overcome these negative effects of bureaucracy is to establish some task forces that cut horizontally across an organization. These can compliment a vertically aligned bureaucracy as a method for suppressing bureaucracy’s negative effects, energizing the organization and sustaining evolution. Bureaucracy remains the fundamental principle of organizational management even today. A powerful organization can be constructed on a bureaucratic foundation as long as it institutes reliable measures to avoid falling prey to bureaucracy’s shortcomings.

Within this bureaucratic system, Toyota has made use of the crucial principles of documentation and standardization to transmit genes or knowledge and experience of previous generations. At the same time, these principles provide succeeding generations with actions and also with goals to be surpassed, so that new genes are added in a cycle of studying and revising improved ways of working. This is what we can understand by a “learning organization.”

Documents as an efficient means of exchanging information

In the article entitled, “Another look at Toyota’s Integrated Product Development,” Durward K. Sobek, II et al. (1998) explains the importance of documents in exchanging information.

When a problem arises that requires coordination between departments, the standard procedure is to put together reports including a “problem-solving plan,” “important information,” and a “recommendation,” and then distribute these documents to the departments concerned. The recipients are expected to read and study the documents and to provide feedback by telephone or individual meetings or sometimes by compiling reports based on other documents. One or two iterations of this will result in a considerable volume of information going back and forth and the

participants will reach consensus on most points. Only when insurmountable disagreements occur will meeting be held to resolve the problem through direct dialogue.

Problem-solving meetings of this sort are prepared for by making sure that all participants understand the important issues beforehand and that everyone has considered proposals and countermeasures that approach the problem based on the same data. Since such meetings focus on resolving a specific problem, time isn't wasted obtaining a consensus among the participants. This contrasts with many U.S. companies in which attendees show up at meetings without having done any preparation at all. The first half of the meeting is wasted in defining the problem and then participants scramble to deal with a problem they've hardly had time to think about.

Toyota frequently relies on written documentation as the first step in problem solving, but the company avoids the massive paperwork that afflicts bureaucracies. In most cases, engineers will write clear, concise reports on one side of a sheet of A3 paper. These reports are all written in the same format so that everyone understands where to find the problem definition, the engineer and department handling it, the results of analysis and proposals for resolution. A standard format also allows engineers to check whether all important aspects are covered.

Toyota has built a culture, moreover, in which reading this type of report is seeing to be valuable and indispensable for the smooth conduct of work.

Documentation and standardization versus creativity and flexibility

In successful companies like Toyota we can sense an apparent paradox, that activities, connections, and production flows are rigidly documented, yet at the same time operations are enormously flexible and adaptable. It is because the rigid specification is the very thing that makes the flexibility and creativity possible. Activities and processes are constantly being challenged and pushed to a higher level of performance, enabling the company to continually innovate and improve. When we define a specification, we at the same time establish the sets of hypotheses that can be then tested. To make any changes, we need to use a rigorous problem-solving process that requires a detailed assessment of the current state of affairs and a plan for improvement that is, in effect, an experimental test of the proposed changes. If we don't follow this scientific rigor, change in processes would resemble to little more than random trial and error.

The fact that this scientific method is embedded in a successful company explains why the high degree of documentation and specification does not promote the command and control environment one might expect. Indeed, in watching people doing their jobs and in helping to design production processes, the system actually stimulates workers and managers to engage in the kind of experimentation that is widely recognized as the cornerstone of a learning organization.

In the Toyota Production System, one of the rules regards *how people work*: **All work shall be highly specified as to content, sequence, timing, and outcome.** Spear and Bowen (1999) further explain this rule and the role of documentation, which plays in this rule.

Toyota's managers recognize that the devil is in the details; that's why they ensure that all work is highly specified as to content, sequence, timing, and outcome. When a car's seat is installed, for instance, the bolts are always tightened in the same order, the time it takes to turn each bolt is specified, and so the torque to which the bolt should be tightened. Such exactness is applied not only to the repetitive motions of production workers, but also to the activities of all people regardless of their functional specialty or hierarchical role. The requirement that every activity be specified is the unstated rule of the system. The rule seems simple, something you'd expect everyone to understand and be able to follow easily. But in reality, most managers outside Toyota and its partners don't take this approach to design and execution – even they think they do.

Let's look at how operators at a typical U.S. auto plant install a seat into a car. They are supposed to take four bolts from a box, carry them and a torch wrench to the car, tighten the four bolts, and enter a code into a computer to indicate that the work has been done without problems. Then they wait for the next car to arrive. New operators are usually trained by experienced workers, who teach by demonstrating what to do. A seasoned colleague might be available to help a new operator with any difficulties, such as failing to tighten a bolt enough or forgetting to enter the computer code.

This sounds straightforward, so what's wrong with it? The problem is that those specifications actually allow – and even assume – considerable variation in the way employees do their work. Without anyone realizing it, there is a plenty of scope for a new operator to put the seat into the vehicle differently than an experienced employee would. Some operators might put the front bolts in after the rear bolts; others might tighten as they go along. All this variation translates into poorer quality, lower productivity, and higher costs. More important, it hinders learning and improvement in the organization because the variations hide the link between how the work is done and the results.

At Toyota's plants, because all operators (new and old, junior and supervisory) follow a well-defined sequence of steps for a particular job, it is instantly clear when they deviate from the specifications. At Toyota the seat is tighten as follows. The work is designed as a sequence of seven tasks, all of which are expected to be completed in 55 seconds as the car moves at a fixed speed through a worker's zone. If the production worker finds himself doing task 6 before task 4 then the job is actually being done differently than it was designed to be done, indicating that something

must be wrong. Similarly, if after 40 seconds the worker is still on task 4, which should have been completed after 31 seconds, then something, too, is wrong. To make problem detection even simpler, the length of the floor for each work area is marked in tenths. So if the worker is passing the sixth of the ten floor marks and is still on task 4, then he and his team leader know that he has fallen behind. Since the deviation is immediately apparent, worker and supervisor can move to correct problem right away and then determine how to change the specification or retrain the worker to prevent a recurrence. Even complex and infrequent activities, such as training an inexperienced workers at a new plant, launching a new model, changing over a production line, or shifting equipment from one part of a plant to another, are designed according to this rule.

In calling for people to do their work as a highly specified sequence of steps, the rule How people work forces them to test hypotheses through action. Performing the activity tests the two hypotheses implicit in its design: first, that the person doing the activity is capable of performing it correctly and, second, that performing the activity actually creates the expected outcome. In case of seat installer, if he can't insert the seat in the specified way within the specified amount of time, then he is clearly refuting at least one of these two hypotheses, thereby indicating that the activity needs to be redesigned or the worker needs to be trained.

Conclusion

We could see from this paper that documents play different and important roles in the company. Then it depends on the managers how they understand these roles and how they impart this importance in employees, so that they could make use of documentation for maintaining and enhancing the company effectiveness.

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