The Visible Management System: Management ideas with library principles

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This paper reviews elements of a management approach that ensures predictable output from any administrative organization. The principles behind this system, though arising from the application of manufacturing processes to administrative systems, parallel the concepts and ideas upon which many library and information science tools have been established. The Visible Management system will be described briefly and placed in its historical context. It creates a framework whereby work and its output become visible and measurable. In over ten years of practical use, dramatic increases in productivity and improved client service have been seen along with greater job satisfaction for employees. Library management systems have used some of the same principles, but can benefit from application of some others.

Introduction
In any system of human organization there are always precedents. This includes approaches to managing library processes and business functions. In order to understand where we are, we need to know from whence we came.

Libraries have their origins in the ancient past. One of the best known early libraries was that at Alexandria in Egypt. Established by Ptolemy Soter in about 283 B.C., at its peak it was said to contain some 70,000 volumes. It flourished under various rulers until 640 A.D. when it was destroyed by using the books as fuel to heat bath water. Unfortunately it appears that there are no details of how it was organized (Donaldson 1981, 13).

As scholarship became more widespread, libraries sprang up in Europe during the Middle ages. Some of the best examples currently extant are the chained libraries, so named because the books were chained to the reading tables due to their scarcity and value. A fine example of such a library is that at Hereford Cathedral in the UK. It holds 1,444 books, making it the largest chained collection
in the world (Hereford, 1961).

As library collections grew it was necessary to establish some form of organization in order to be able to find a particular book in the collection. Various methods were used, but they were not standardized until the work of Melvil Dewey in the 19th century. The Dewey Decimal Classification (DDC), as it came to be known, is the most used, studied, and discussed classification in the world. Originally designed for arranging the material in the Amherst College library in Amherst, Massachusetts, it was published in 1876 for use in other libraries. Prior to Dewey's system, books were classified according to their room, tier and shelf location, thus requiring reclassification as libraries ran out of shelf space from time to time. Such location-specific systems fail when we wish to relocate a book from shelf to shelf, from range to range, or from building to building. Dewey's use of relative location made it possible for collection growth without renumbering books because he numbered books according to their intellectual content, not according to their physical location — the latter changes, the former never does.

In 1901 the U.S. Library of Congress published the first volume of the Library of Congress Classification. It was based on that library's own collection, just as the Dewey system was originated with the Amherst library collection.

Along with these well-known classification systems, libraries have evolved a number of methods and tools to deal with their operations. Business management has evolved in similar ways over the years through the application of ideas and theories.

**Business management approaches**

In 1776 Adam Smith published *An Inquiry into the Nature and Causes of the wealth of Nations*. This Scottish economist advocated the division of labour in the productive process, economies of scale and hierarchical control. The Industrial Revolution, already underway in Adam Smith's time, helped to engender new inventions and methods of production. The doctrine of laissez-faire, strongly advocated by Adam Smith, suggested that business be regulated by supply and demand rather than by the craft guilds and government.

Throughout the 19th century, many ideas for the organization of business and economic life were developed and promoted. Space here is too short for pursuit of this theme. However, modern approaches may be thought to begin with Frank and Lilian Gilbreth in the first decade of the 20th century. In the 1920s, Frederick Taylor also developed ideas of time-and-motion studies, called Taylorization, which were much criticized for being unresponsive to the physical and psychological needs of workers.

Walter A. Shewhart, a physicist at Bell Labs in the 1930s, advocated the use
of statistical sampling and control charts addressing the problem of variation in products and manufacturing processes. W. Edwards Deming worked with Shewhart and applied statistical sampling to functions in the U.S. Bureau of the Census during World War II. After the war Deming was instrumental in bringing these same ideas to Japan, where they revolutionized Japanese industrial methods. The principles he espoused included abolishing production quotas and making top management, not workers, accountable for success or failure. Statistical process control (SPC) of the entire production process from raw material through to finished product became the norm for Japanese industry.

Recent management ideas have largely been outgrowths of Deming’s approach. They include the Zero Defects initiative of Philip B. Crosby at Martin Marietta, the Total Quality Management movement, Quality Circles, Benchmarking, and Business Process Re-engineering (BPR).

BPR, identified with Hammer (Hammer and Champy 1993), is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical, contemporary measures of performance, such as cost, quality, service and speed. By definition revolutionary, BPR aims to create a new way of doing business, challenging process fundamentals and their very existence. Its focus is on the redesign of one or more business processes, not the reorganization of a department or organizational unit, but participants sometimes have difficulty in detecting a difference. BPR usually is initiated from the “top”, that is, it is often imposed by senior management and brought about by outside consultants.

Visible Management
Visible Management, a standardized approach to managerial excellence, actually predates re-engineering. Whereas re-engineering believes in pain before gain and is top down, Visible Management works from the bottom up, following a worker-motivated, almost hedonistic view: “Let’s make life easier as we make the business work better.” Visible Management can be applied to a one desk operation or over several offices, with each office working as one or more clusters of workers organized in teams that are formed - or form themselves - for operational reasons. Visible Management adheres to the three C’s of any good program of business improvement:

- Cooperation of management
- Commitment of everyone to the process of change and improvement
- Communication between individuals as teams in the office, in meetings and in training situations
Visible Management, like BPR and SPC, is process-oriented. It is predicated on team work when used for more than a single worker, but Visible Management aims for teamwork for cause, not simply for cosmetics. Deming is often interpreted to put the customer first. Visible Management prefers to put the organization first and then consider how we may satisfy the customer. Otherwise, we may give everything away.

Visible Management offers many of the same components as TQM II (Stein 1994, 105) in that, as well as being process oriented, it is also people oriented and offers a team approach to problem solving. There must be management commitment, not to control the program but rather to endorse and encourage it. Visible Management offers “an empowering approach to employee involvement” (Stein 1994, 105) in that employees have analysed and prioritized their job functions themselves.

Visible Management contains a “valid scheduling mechanism” (Stein, 1994) in that tasks are done according to a schedule, not before nor after. Scheduled task performance offers a controlled program of variation reduction or doing away with the demon of random arrival. With the implementation of Visible Management, learning and training become well-focused activities, mostly done on the job by co-workers and in the time saved by scheduling the work tasks. This is agreement with the opinions expressed by Farr and Sullivan (1996) who deem off-site training to be too expensive, lacking context and intimidating to the individual. Visible Management is a reward in itself for both workers and the organization. It enables managers to lead and guide workers who are no longer reacting to crises but carrying out clearly visible, scheduled tasks.

Some special features of Visible Management, as it has been implemented by Vanderstoop and described in Vanderstoop and Nash (1997) are:

- knowledge of how we perform work functions must be documented by the workers who know;
- what we do must be described and measured, and the measurement is first for the benefit of the worker, and then for the benefit of the organization and thereafter for the benefit of the customer;
- work and its execution must be made visible to workers and managers alike in ways that convey the situation at a glance;
- workers must have time and resources to cross-train and grow laterally in their skills to provide both organizational strength and employee motivation.

These considerations are realized via simple but effective methods and tools. For example, rather than use a traditional in-basket, Visible Management creates a set of file folders, each of which is the input hopper for a particular type of task. These files are arranged vertically so that users do not have to “dig” in a pile.
Moreover, by turning the folders onto their side or long axis when there is work pending in the folder, we see immediately that there is work waiting to be done. Doing the work empties the folder. This idea has been extended to a carousel wheel of folders, and more recently to a double-wheel. An important aspect of the folders is that each contains instructions describing how the tasks relating to it are to be performed. Furthermore, the labels on the folder tell when its tasks are scheduled for execution, who are the originators and recipients of the work, and the standard of service (how quickly the jobs will be done).

To gain the time to do the work, it is *scheduled*. We do not take the folders randomly. Indeed, the scheduling information — prepared by the workers in concert with managers and customers — is vital to avoid responding to randomly arriving “stimuli”. It is the immediate reaction to random arrival of work or perceived work that is one of the most serious causes of wasted effort and stress in modern administrative units.

**Library systems and business efficiency methods**

The methods used by libraries to carry out their functions are very similar to those recommended by many business efficiency experts. Let us consider some examples:

- visual systems for circulation management, as in the Brown system;
- ordered arrangement of material storage by using a classification system;
- authority files, thesauri, and procedures manuals to define processes and aid new workers

Where we perceive there to be opportunities for library systems to profit from Visible Management is in the systematic organizational and psychological aspects of implementation of processes. At the core, our suggestions relate to staff empowerment, team building and skills growth.

First, library workers are often highly stratified by job classification. This is an anathema to Visible Management, since job classification specializes and segregates workers, thereby reducing flexibility and risking erosion of organizational knowledge of how to do the work. We believe that a modified version of the knowledge folder (or vertical in-basket) could be developed for many library functions, incorporating the task instructions with the work to be done. This allows any moderately competent staff member to cover for those away for any reason. In these stringently constrained times, where few staff are available, this ought to be important. We are not aware of any libraries using such ideas, but welcome comments.

Secondly, and an outgrowth of the first point, is that the descriptions of how jobs are to be done should be prepared by those doing them. Where junior staff are responsible, they are given credit for their knowledge. We have in our consulting
work encountered situations where senior librarians proposed untenable solutions to problems and refused to listen to clerical staff who already had answers at hand. Our organizations and our customers do not care where the ideas come from, only that they are good ideas.

Third, the scheduled nature of tasks imposes a discipline that ensures the smooth running of the system. We must allow books to be re-shelved regularly, or reference work is impossible. If it turns out that there are not enough resources to do all the tasks, we do nobody any favours by pretending to have a reference librarian on duty eight hours a day. Scheduling and measuring the work will let us know what we can offer our clients.

Fourth, in common with office automation, libraries are increasingly using computerized systems which tend to hide work processes. Both offices and libraries require vigilance and insistence that software and configurations aid the visibility of work so that it can be measured and managed. It must not be up to the worker to query the computer. Rather, timely reminders and good interface design can aid in ensuring work gets done as scheduled.

Fifth, Visible Management accentuates good workplace design. Many libraries unfortunately have equipment and facilities that are not ergonomically sound. While we recognize the financial issues that attend workplace redesign, we note that the original office reorganized by Nick Vanderstoop was re-equipped at very modest expenditure. There was some new furniture and equipment — including the wheels — but much of the change was accomplished by new layout.

**What visible management can learn from libraries**

Classification systems that already exist in libraries provide a basis on which some administrative functions can be implemented. One of the most important parts of the Visible Management process relates the to the management of documents that record business activity. That is, we need to file a copy of correspondence, invoices, orders, etc. in order that we have a record of transactions of the organization. Many firms fail miserably at this task. In one of our consulting experiences we were taken to a huge warehouse well apart from the main administrative office where records were “archived” in unmarked cardboard boxes in a stack, ten high by one hundred wide by twenty deep. Computer disks are often no better, they just mean more junk in a smaller space.

Knowledge folders are like replacement systems, where borrowed books are replaced with tokens showing their loan status. Techniques developed by librarians to manage loans may have value in streamlining the scheduling and processing of Visible Management folders and the output documents that need to be filed.

A third example comes from thesauri. Librarians have long recognized that
different organizations use different terms for the same objects. When companies merge or work with new clients, there are bound to be terminological differences. We have incorporated a glossary in Vanderstoop and Nash to deal in part with this issue since the original implementation of Visible Management came about within an automobile manufacturing facility and was well-spiced with the local jargon.

Conclusion
While we are convinced that Visible Management offers significant advantages to organizations that practice it, and while well-run libraries have been using similar ideas for many decades, we recognize that there are many opportunities for wider use. The most obvious candidates are activities with a strong administrative component, such as inter-library loan and cataloguing. Public service activities, such as circulation and reference, where random arrival must be accepted as a part of the situation, will be aided mostly by efficiencies in general operations.

Similarly, we would like to see more interest by managers in other spheres of endeavour in the well-tried practices used by libraries to control large document collections and to subdivide the knowledge space using classification systems. There is no need to reinvent these techniques. We welcome debate about the issues and opportunities that have been raised by our juxtaposition of ideas from the administrative and library worlds.

References


