CUTTING COSTS and IMPROVING OUTCOMES for JANITORIAL SERVICES

By Jeffery L. Campbell, Ph.D.
Recent research reveals that janitorial services account for nearly 30 percent of facility budgets, which translates into billions of dollars annually. With janitorial services consuming such a large share of budgets, other industry findings are alarming. Most cleaning systems: 1) have no quantifiable standards; 2) are based solely on appearance; 3) have little or no method of measuring effectiveness and performance; 4) are not based on actual research; and 5) are driven by chemical and equipment manufacturers. In an industry that has been around as long as public buildings themselves, janitorial methods have seen little progress. As a matter of fact, most janitors today use the same tools and processes that were used 50 years ago.

With the current tight economy where every facet of business has had to become more accountable, the cleaning industry continues to lag behind. However, some innovative approaches are being introduced that efficiently manages janitorial services by utilizing measurable standards and up-to-date business practices. The following case studies highlight four universities that have implemented these practices. Not only have these universities improved their overall cleanliness, but they have experienced significant savings.
CASE STUDY 1

In 2008, the University of Massachusetts (UMass) was facing a $46 million reduction in funding campus-wide. Ashoke Ganguli, director of auxiliary services at UMass contracted a cleaning industry consultant to test a system that would reduce costs while maintaining quality. This consultant does not sell products or equipment but utilizes best practices based on research and predicted outcomes.

The pilot building selected for the test was the 360,000-square-foot Campus Center (student union building), which houses meeting and conference rooms, a hotel, special events, catering, food service and food outlets, the bookstore, and a variety of other services for students and visitors. It is the busiest hub on campus with more than 12,000 to 15,000 people passing through each day. The high foot traffic made cleaning especially challenging. Current operations included 38 FTEs (full-time equivalent staff) based on a 7-day workweek. As a measure of cleanliness UMass used the widely accepted APPA Five Levels of Appearance (see chart below).

Prior to the test, the Campus Center was consistently scoring at Level 3-Casual Inattention.

When UMass implemented the recommended engineered cleaning system, the first step was to perform a building profile. This profile determines exactly how much cleanable surface area there is, and what kinds of surfaces need to be cleaned. Research has shown there is a 10 to 40 percent difference in cleanable square feet than what is actually reported; this was the case for UMass. The next step was determining regular custodial functions. Because the Campus Center provides such a variety of services it was easy for costs to be incurred from duties that are not regular custodial responsibilities such as the set up of meeting rooms at all hours of the day.

Next was to workload the cleaning assignments. This includes utilizing the team-cleaning concept which assigns specialized tasks and equipment to each team member. Team-cleaning allows for simplification of the cleaning process which results in a safer, healthier, and more productive work environment. An analysis of who, what, when, where, why, and how surfaces are cleaned was detailed. This analysis included an important research study titled ISSA’s Official 540 Cleaning Times that identified the amount of time needed to clean all types of surfaces. Prior to implementing the engineered cleaning system, custodial functions required 1,560 hours of labor per week. After the work-loading stage was completed and tested, it was determined that the building could be cleaned with 31 FTEs and 1,240 hours per week based on a 7-day work week. This was a difference of 320 direct work hours per week, with annual savings of $360,000, or a 20 percent reduction in cost.

A major concern with the campus budget cuts was whether the quality of performance could be maintained. After implementing the new system, cleaning improved dramatically from Level 3-Casual Inattention to 1.5-Orderly Spotlessness. This improvement was clearly apparent to students, staff and visitors. Not only did appearance improve, but there was substantial savings to the budget. Director Ganguli was able to return $360,000 to the university the first year. Another benefit, not reflected in the cost savings, was the reduction of lost work hours due to accidents. Over a two-year period lost work hours decreased 89 percent.

CASE STUDY 2

In 2009, the department of Plant Building and Grounds Services at the University of Michigan faced deep budget cuts. Director John Lawter began to investigate how other universities were dealing with this challenge. Among best practices he identified were at UMass, University of Texas, University of North Carolina, and University of New Mexico. They had all saved considerable dollars while significantly improving levels of appearance from implementing the engineered cleaning system.

Lawter decided to implement the engineered cleaning system; the rollout began in July 2009. The scope of the project included 200 buildings comprising 15 million gross square feet. The three-year goal for the program is to cut 10 percent, or $2.1 million of their budget. After the first nine months
Facilities Manager (reported March 2010) their objective was to be achieve 10 per-
cent of this cut. Surprisingly, they achieved 11 percent, which
represented a reduction of 11 FTEs. In addition, the APPA
Level of Appearance improved from 2.22—Ordinary Tidiness to
1.87—Orderly Spotlessness.

It is important to note that these scores take into account more
than just appearance. When the independent auditors from the
university’s quality assurance department grade the space, they
are not only looking at cleaning appearance but also mainte-
nance issues (regardless of who is responsible). If a room scores a
4/5—Moderate Dinginess/Unkempt Neglect due to maintenance
problems, it is considered a defect and must be investigated. The
month before the rollout, 180 defects were identified. In month
nine of the rollout only 43 defects were reported. Overall, after
nine months, facility quality assurance scores improved 30 per-
cent and defects decreased 70 percent.

CASE STUDY 3

In 2006, Dr. Michael Berry, an industrial hygienist and re-
searcher at the University of North Carolina, tested the clean-
liness of two adjacent halls that were being cleaned with two
different systems. Carroll Hall was using the engineered clean-
ing system at an 80 percent audit level, and Dey Hall was using
traditional zone cleaning. The tests included measuring dust
removal, presence of fungal spores, restroom bacteria count, and
indoor air quality.

The results were as follows:
• The engineered cleaning system in Carroll Hall showed a 31
percent reduction in carpet dust, 120 percent average reduc-
tion in hard floor dust, and 342 percent average reduction in
counter dust. Dey Hall showed six times the carpet dust, twice
the hard floor dust, and almost twice the counter dust.
• The engineered cleaning system produced a measurable
cleaning result that is a factor of two to five times more effec-
tive in removing unwanted dust from the building envelope.
• Carroll Hall showed a significant fungal spore reduction from
the pre-engineered cleaning system test of 15 to 5 percent
after one month measurement of post-engineered cleaning
system implementation. Overall, Dey Hall had higher levels of
fungal spores.
• For the aerobic bacteria test in restrooms, samples were taken
in both buildings. Bacteria samples taken from door handles,
sink basins, sink faucets, and toilet seats rims showed that
post-engineered cleaning system samples decreased by 94
percent. This score was 6.2 percent lower than Day Hall.
• Air quality was measured at approximately PM10 (airborne
dusts in the size range less than 10 microns). Both halls mea-
sured similarly, with Carroll Hall averaging 11-30 ug/m3 and
Dey Hall averaging 15-40 ug/m3.

Amazingly, the restrooms had higher pathogen counts after
the traditional housekeepers finished “cleaning” than before the
entered the restroom. Dr. Berry observed they were actually
polluting the area—not cleaning it. In the engineered clean-
ing system cleaned restrooms, the housekeepers left the area
at healthy pathogen levels. Dr. Berry strongly suggests that
janitors and cleaners be more concerned about indoor envi-
ronmental quality, thus changing their mindset to consider
themselves as healthcare workers. Dr. Berry feels cleaning for
health must be more important than cleaning for appearance.
Unfortunately, most cleaning processes pollute indoor environ-
ments more than clean them.

CASE STUDY 4

The University of Texas at Austin (UT) began working with
the engineered cleaning system process in 2000. At the time, the
university had a total population on campus of 74,366. Janitorial
services cleaned 110 buildings consisting of 8.6 million square
feet. As an initial step, UT implemented a new mindset towards
their cleaning staff. They determined to treat all janitors like
first-class citizens, and provide the right training, equipment, and
environment in which they could succeed. Dr. Pat Clubb, UT’s
vice president of employee and campus services, championed this
mindset change by stating that cleaning is “strategic to the uni-
versity’s mission as it has a large role in maintaining the physical
environment of this world-class institution. It is the single largest
service division; provides for the health, cleanliness, and safety of

Summary of Improvements (after 9 months):
• Reduced 11 FTEs
• APPA Level of Appearance improved from Ordinary Tidiness to
Orderly Spotlessness
• Facility quality assurance scores improved 30%; defects decreased
70%
university students, staff, faculty, and visitors; touches virtually all campus clients daily; has access to almost every part of the campus; is a highly visible group; and strongly supported by clients.”

Next UT began to track progress and put measurable metrics in place. Chemical usage, equipment repair costs, and reworks (defects) by type, how often, and where were all tracked. All results showed significant improvement. Chemical usage and repair costs initially decreased dramatically then leveled out, ultimately saving thousands of dollars each month. After nine months, reworks dropped from 212 to 49, a 76 percent decrease. Other tracking included consistency of emptied trash, floors mopped, detailed cleaning, vacuuming, locking doors, restrooms, glass specialty areas, and chalk boards. One additional benefit was the department began to lead the university in sustainability and green practices.

SUMMARY

These four case studies provide a business model worthy of further investigation. They illustrate the benefits that can occur when janitorial services are carefully managed. By implementing a measurable cleaning system that is based on solid business practices, research, and engineering, businesses and educational facilities will eliminate needless costs and significantly improve quality.

REFERENCES


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