The Value of Data-Driven Cleaning

Introduction

With the fourth industrial revolution upon us[1], the rate at which technology develops seems to know no bounds. The rise of Big Data and the Internet of Things (IoT), in particular, is disrupting the way businesses operate in many industries, not least the cleaning and facility services industry. The COVID-19 pandemic has also had a profound effect on people's expectations on cleaning and hygiene, bringing with it new challenges that will stay with us for the foreseeable future.

This constantly changing environment, generates growing demands on facility managers and service providers alike, forcing them to rethink and go about their business differently. The transformation, however, is not simply about introducing new technology for the sake of it, but rather about creating value by harnessing data to gain better insights and solve business challenges. Guessing is no longer good enough and proof of service is more important than ever before. Those that fail to re-think and optimise their operations through data-driven insights will find it increasingly difficult to remain competitive and could be rendered obsolete in the future.

For the cleaning industry, the speed and pervasiveness of change is profound. Facility service providers must be capable of continuously dealing with today's most pressing challenges – while also making sure to prepare themselves for the complexities of tomorrow. Data-driven cleaning is one solution that enables facility and operations managers together with their service providers to apply new forms of technology to overcome both long-standing and new challenges, helping them to stay competitive and increase their performance.

This whitepaper focuses on data-driven cleaning, its value, and the effects it has on the cleaning industry. It first discusses the major challenges that managers in charge of cleaning face today, and then focuses on the opportunities and value that advanced data capabilities bring for both service providers and clients.

> The Internet of Things is a technological revolution but more importantly it's driving a business revolution. New processes and business models emerge, helping industries to shift their focus from production details to actual outcome and value.
>
> **- Corine Schep, EMEA Director for Data, Artificial Intelligence, Advanced Analytics and IoT at Microsoft**

> It is not business as usual, and we are adopting new tools to challenge the way we work. Data-driven cleaning enables us to be leaner and optimise the organisation we already have.
>
> **- Jean Dussaix, Senior Global Category Buyer at Sodexo**

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1. https://www.cnbc.com/2019/01/16/fourth-industrial-revolution-explained-davos-2019.html

The cleaning industry today

The facility services industry carries great economic importance and continues to grow around the globe. The global cleaning services market alone is expected to reach $74 billion in revenue by 2022, growing 6.2% on average each year[2].

If we take the whole facility management sector into account, which besides cleaning also includes a number of other soft services (e.g. security, catering, pest control) and hard services (e.g. heating, plumbing, lighting), the numbers are even more staggering with $945 billion in global revenue expected by 2025[3].

Despite the rapid growth within the industry, there are key challenges that are affecting facility managers as well as service providers of all sizes. Four key challenges are (1) optimising resources, (2) providing proof of service, (3) high staff turnover and absenteeism, as well as (4) the expectation of constant improvements from management and customers.

The pandemic has added even more pressure in the form of (5) even higher demands on cleaning quality and hygiene, (6) new cleaning procedures that require extra training (which causes additional staffing issues) and (7) even higher requirements on showing evidence of cleaning and hygiene.

All told, this means that facility managers and service providers are now expected to perform additional cleaning and administration work – with the same, or actually less, resources.

Optimising resources

The cleaning industry is facing profit margin pressure due to constantly high price competition between companies and gradually rising labour costs. With its low barriers to entry, the industry is made up of a great number of established players that compete intensely in most markets. Intense price pressure is accompanied by proportionally high total costs for labour. Costs related to labour make up an estimated 70-75% of total costs for the average facility cleaning business[4].

This makes optimising cleaning resources a top priority, both for facility managers and facility service companies. However, this is difficult to achieve without up-to-date and objective information on cleaning needs. Not knowing the status of washrooms and dispensers often leads to over-cleaning and unnecessary check-up rounds, which wastes resources. It can also result in under-cleaning which results in "fire-fighting", complaints and monetary penalties when agreed on service levels are not achieved.

Proof of service

Although service quality has always been perceived an important objective, the lack of objective data to assess quality has made it difficult for facility managers and service providers to demonstrate work performance and achieved value. Thus, staffing and purchasing decisions in this industry tend to be heavily influenced by cost, and businesses compete predominantly on price.

High staff turnover and absenteeism

Both in-house facility managers and facility services companies rely heavily on their people yet continue to experience high employee turnover and absenteeism. With high turnover rates, a lot of time and money is spent on the recruitment and training of new employees. Moreover, staff frequently being absent from work leads to inconsistencies in cleaning quality, putting managers in charge of those cleaning staff at risk of incurring complaints and penalties, as well as difficulties when it comes to handovers between shifts.

> High turnover rates can have a tremendous impact on company profitability and service delivery. Overall, there is a reason it's at the top of many facility managers' minds.
>
> **- Cleaning & Maintenance Management Magazine[5]**

2. Allied Market Research (2017), Cleaning Services Market: Global Opportunity Analysis and Industry Forecasts, 2014-2022.
3. Frost & Sullivan (2016), The Future of Facility Management.
4. Jan Stegmann (2017), Koll på läget! Ansvar för lokalvård.
5. Cleaning & Maintenance Management Magazine (2015), Tackling Turnover.

Expectations of constant improvements

A common problem in the industry is that it's difficult to initiate and demonstrate innovation. This, together with difficulties in living up to expected efficiency improvements, as well as an increased price pressure can make it hard for service providers to establish long-term relationships with their clients and customers. For facility service companies, the result is reduced margins, high client acquisition costs and frequent contract turnover. The Domestic Cleaning Alliance estimates that the average cleaning company loses up to 55% of its total customer base every year.

Even higher demands on cleaning quality and hygiene

In a recent global survey, as many as 80% of the respondents said that they "expect public washrooms to provide a safe hygiene environment to a higher extent now than before COVID-19[6]. Three in four employees also expect their employer to provide extra cleaning rounds to ensure hygiene[7]. Unfortunately, cleaning resources struggle to keep up with the increased demands, leaving facility managers to face an almost impossible situation. Long-established and predetermined approaches towards cleaning are no longer enough to meet the new customer demands.

New cleaning procedures

The pandemic has also brought with it a multitude of new cleaning procedures, standards and regulations which add to the workload for cleaning teams and in some cases also mandate the use of personal protection equipment. These new tasks require extra training, which in turn can cause additional staffing issues as training time eats into regular work hours.

Showing evidence of cleaning and hygiene

Lastly, facility managers and service providers are challenged by increased expectations on showing evidence of cleaning and hygiene – to demonstrate to tenants and employees that the facility is safe. This involves additional and time-consuming administration and reporting.
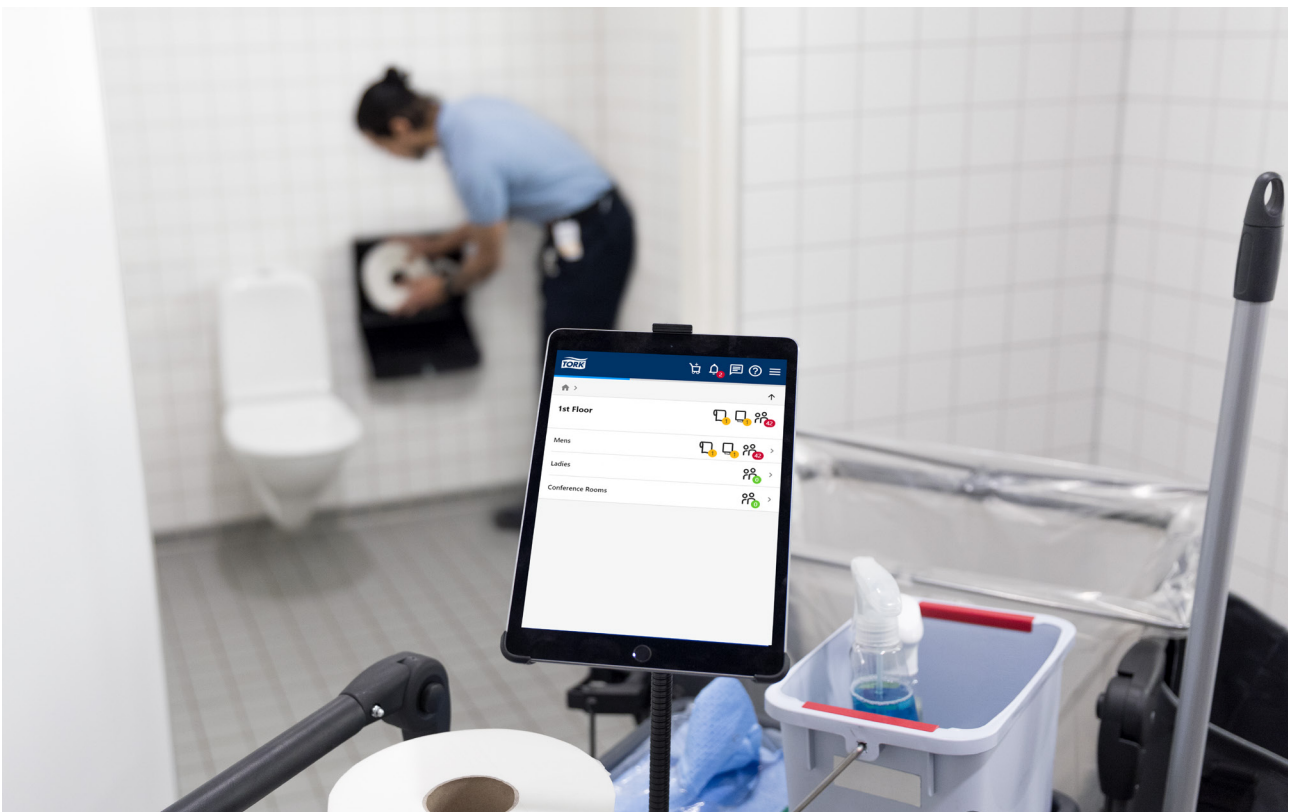
6. 2021 Survey conducted by United Minds in cooperation with CINT in March 2021. The survey covered seven markets: UK, USA, China, Germany, France, Spain and Sweden. In total, 7063 answered the survey.
7. 2020 research study by Kantar commissioned by Essity

Transforming the industry and creating new value through data-driven cleaning

In order to meet the above-mentioned challenges and remain competitive, the cleaning industry needs to be innovative in adopting new ways of working. Although new technology cannot create value and new operational processes on its own, new technology can act as an enabler that makes it possible to harness real-time data that empowers cleaning teams and facility managers to work more efficiently and make other and better decisions.

Data-driven cleaning is one concrete example of the value that the Internet of Things and advanced connectivity can create. With sensors throughout facilities collecting data about visitor numbers, cleaning needs, and refill levels in real time, service providers are empowered to improve their cleaning operations in three ways: (1) ensuring high cleaning quality (2) delivering on the newer hygiene demands, while at the same time (3) improving operational efficiency.

> As a company today, you cannot afford to miss out on the Internet of Things. Ignoring it would mean saying no to valuable insights at times when customer demands and the competition are only increasing.
>
> **- Corine Schep, EMEA Director for Data, Artificial Intelligence,**
> **Advanced Analytics and IoT at Microsoft**

> It is obvious that the whole cleaning industry will have to change and embrace new technology in order to survive the digital age.
>
> **- Professor Kaj Storbacka,**
> **Graduate School of Management at the University of Auckland Business School**

Ensuring high cleaning quality

Key factors for user satisfaction and customer retention are proactive innovation and being able to guarantee a consistently high quality of service. Yet, quality of work performance has been notoriously hard to achieve and prove in an industry that competes so hard on price and lacks objective performance data and KPIs.

Data-driven cleaning enables cleaning service providers to move beyond a strong cost focus and achieve recognition for the value they provide. Being able to demonstrate work performance creates new opportunities for service providers to guarantee a high quality of service, and to bring user satisfaction up and complaints down.

Cleaning teams can act on real-time data to deliver higher quality more effectively and eliminate complaints by being able to proactively respond to refill and cleaning needs. This proactive approach to cleaning operations has been shown to achieve up to 30% higher customer satisfaction[8].

Going digital also helps businesses make workforce well-being a priority in their operations. It puts technology in the hands of cleaners and managers, letting them at all times have an overview, make informed decisions, and plan ahead. It bestows employees with a sense of urgency and significance when they get to focus on areas and tasks in need, rather than having to follow a predetermined schedule regardless of the situation. This way, data-driven cleaning is about working smarter, feeling less stressed and in better control of one's workload, and having a more balanced working situation. The result can be seen in higher cleaning quality.

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8. Measurement of visitor satisfaction in two Tork Vision Cleaning washrooms and two traditionally maintained and equipped washrooms at ISSA/Interclean exhibition, May 2016. Note: Tork Vision Cleaning was formerly known as Tork EasyCube®.

> Today, we provide a higher and more consistent cleaning quality. Multiple cleaners across different shifts work with the software to manage the cleaning across the busy site. It is not that we do cleaning itself differently, but much more effectively. We have a new level of flexibility and proactivity in our operations that allows us to meet and match cleaning needs whenever and wherever they occur.
>
> **- Tom Lloyd, Operations Director, Principle Cleaning**

> There's a convergence between B2B and B2C. Personal experiences also affect business people, even if they are digital experiences outside office hours. Each time a customer is exposed to an improved digital experience their expectations are immediately raised to a higher level.
>
> **- Corine Schep, EMEA Director for Data, Artificial Intelligence,**
> **Advanced Analytics and IoT at Microsoft**

> The software tells me exactly where to go for cleaning or restocking. It's more convenient and comfortable.
>
> **- Rousna Dumond, La Providence cleaner, Uber Paris**

Delivering on the newer hygiene demands

Securing washroom hygiene and making sure that guests have access to hygiene products have always been important performance measurements and crucial to avoid complaints. In the wake of the pandemic, these factors have also become critical to help avoid the spread of infection.

By giving cleaners and managers access to real-time data of dispenser consumption and washroom traffic, they can make sure that dispensers are stocked up to 99% of the time[9], achieve faster resolution times and quickly recognise when and where targeted touchpoint cleaning is needed. Data-driven cleaning has been shown to save up 20% of cleaning hours[10] – time that cleaners can dedicate to the critical tasks that help facility managers and service providers deliver on the newer hygiene demands.

Data-driving cleaning software also provides managers with built-in reporting tools that give the ability to quickly provide hard data to prove adherence to safety regulations and provide proof of service.

> Think about value and how to augment your cleaners. It is not about replacing but helping them. The system should work for the cleaners, not the other way around.
>
> **- Professor Kaj Storbacka,**
> **Graduate School of Management at the University of Auckland Business School**

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9. Measured across nearly 13,000 connected dispensers between June-December 2019, based on time per month that a dispenser is in an empty status against total time per month.
10. Based on the documented results achieved by three Tork Vision Cleaning customers, measured before and after the implementation of Tork Vision Cleaning. Note: Tork Vision Cleaning was formerly known as Tork EasyCube.

> Connecting employees with technology makes them happier, more loyal employees as they are able to interact with their employer in a richer way.
>
> **- Deloitte[11]**

> We've been used to managing based on what we thought. Now we can manage based on what we know.
>
> **- Annette Garsrud, Business Manager Cleaning Operations, Nordre Follo municipality, Norway**

Improving operational efficiency

Given the pressure that facility managers and service providers are facing, it is not surprising that the industry constantly strives toward improving its operational efficiency. In the past, organisations and businesses have tried to boost efficiency by putting greater demands on their workforce, making staff work more in the same amount of time. However, labour scarcity, high rates of staff turnover and absenteeism, as well as high business costs related to this, make it critical to keep employees happy and engaged.

Data-driven cleaning provides a completely different route for efficiency enhancements. It enables managers and cleaners to harness real-time data and make informed decisions, no matter the complexity of the facility. As static cleaning schedules are transformed into need-based work, the workforce can focus their time and attention on what is needed, when and where it is needed. Unnecessary tasks are eliminated, and cleaning resources can be optimised, with managers being able to feel safe that no over- or under-cleaning takes place.

As cleaners only refill dispensers when they are about to run out, data-driven cleaning also contributes to sustainability through less waste.

> My cleaning frequencies now vary from 2 to 7 times per day, providing for a much more efficient and higher quality cleaning than pre-set rounds.
>
> **- Chris Avis, Client Services Director, Blue Fin Building**

> Applying new forms of technology both to enhance the management of facilities and to create new kinds of work experiences may be the single most important challenge facing facility management professionals.
>
> **- Royal Institution of Chartered Surveyors (RICS) & International Facility Management Association (IFMA)[12]**

11. Deloitte (2017), The Connected Worker.
12. RICS & IFMA (2017), Raising the Bar: From Operational Excellence to Strategic Impact in FM.

Data-driven cleaning:
A paradigm shift for the industry

Data-driven cleaning means enabling an industry to shift from introducing incremental updates to redefining what cleaning can achieve. It provides facility managers, facility service companies and their cleaning teams with new and smarter ways of working in order to remain competitive, and a new logic for cleaning that not just meets the expectations of increasingly demanding clients and customers, but exceeds them and shapes new ones.

The core of data-driven cleaning is advanced technology and connectivity, but the value it provides lies in what it enables the humans who use it to do: empowering cleaners to act on real-time information to work more efficiently, eliminate unnecessary work, and ensure an even higher quality of cleaning, as well as enabling managers to make other and better decisions to optimise operations.

> Data-driven cleaning changes the industry. Firstly, it dramatically improves efficiency. Secondly, it boosts staff motivation. We can see how it increases our staff's engagement. Thirdly, it creates a new and higher standard of cleaning for our customers. With real-time data, we are going to increase the performance of the whole market.
>
> **- Jean Dussaix, Senior Global Category Buyer at Sodexo**

> Industries tend to move and change very slowly due to certain institutionalised logics that dictate how they operate. If you want to innovate as company today, you need to challenge these logics and come up with new ones. You need to change the rules of the game.
>
> **- Professor Kaj Storbacka,**
> **Graduate School of Management at the University of Auckland Business School**

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