The IoT approach to noise control in contact centers

The article discusses:

- The problem of rising noise levels at the workplace
- The need for contact centers to adopt comprehensive solutions to reduce noise levels
- The impact of IoT in combating noise challenge

AI in design

In an era of connected and open workplaces with increasing emphasis on collaboration and transparency, one element that impacts productivity often goes unnoticed. This is the rising decibels at the workplace.

Noise at the workplace can arise due to a variety of factors...telephones and mobiles constantly trilling away, the clicking noise of keyboards and fax machines, chatty colleagues and lengthy telephone conversations, animated and loud workplace debates, music playing in the background and more. The death of private cubicles and the popularity of free-flowing co-working spaces have added to an increase in noise levels at the workplace in recent years.

This paper explores the impact of noise levels on workplace, specifically contact center productivity, and explores the possibility of leveraging IoT-enabled smart solutions to identify and monitor noise levels at the workplace.

The impact of noise on contact center productivity

According to a survey conducted by the global commercial flooring company Interface in association with Radius Global Market Research, noise levels at the workplace negatively affect 69% of all employees' concentration levels, productivity and creativity.[1]

This situation is more amplified in a contact center environment, specifically, an inbound one. With telephone lines constantly buzzing, and employees on calls, straining to be heard over each other's voices and external noises, a typical contact center floor is noisy, distracting and often, disengaging in terms of productivity levels. Constant noise at the workplace can have many negative effects. According to Julian Treasure, Chairman of The Sound Agency and author of Sound Business, sound affects everyone

psychologically, and impacts cognitive functions and behavior, even though they may not be aware of it.

In a survey conducted by Plantronics, 55 percent of over 2,184 respondents maintained that they were disturbed by noise at the workplace multiple times a day. Here are some of the top challenges arising out of noise at the workplace, according to the survey.[2]

Inability to focus: Persistent noise can lead to lack of concentration and inability to focus, resulting in poor productivity levels, which affects overall quality of work. Over 48 percent of the survey respondents claimed that they were unable to focus on their work. What's more, 94 percent of the respondents claimed that they were likely to be more productive in a less noisy environment. Treasure maintains that we have the capacity for about 1.6 human conversations, so if we are listening in on one conservation particularly, we are left with only 0.6 for our inner voice and thoughts, affecting productivity.

Inability to hear or communicate clearly: 27 percent of all survey respondents claimed that they had trouble hearing well or communicating easily on their calls due to persistent ambient noise at the workplace. This not only becomes a challenging proposition for employees who deal with inbound calls every day, it also reflects poorly on the brand or organization for clients who call in with queries and hear muffled noises and background interruptions as against clear responses or explanations to their queries. Add to this the issue of miscommunication and misinterpretation of both the queries and responses on both ends due, leading to waste of time and resources and repeat queries, impacting overall productivity levels.

Privacy issues: Many inbound contact centers often deal with sensitive and highly confidential information. Noisy contact centers trying to maximize on utilization of square footage often face the issue of privileged customer data being overheard or chanced upon, albeit unintentionally. Whatever the underlying reasons, this situation poses companies with the grave issue of violation of customer privacy and could potentially snowball into legal complications with the customer or even loss of business.

Health risks: Chronic noise levels at the workplace leave employees feeling very irritable and on the edge. Often, it can result in health complications including increased blood pressure and additionally affect the emotional wellbeing of employees, causing them to be moody or depressed[3]. Keeping workplace noise to a minimum helps improve concentration and well-being of all employees. In fact, one research indicates that noisy office environments lead to increased stress levels and anxiety, with 50% revealing noise levels would impact their decision to accept a job.

Impact on overall productivity and customer satisfaction: All of the above factors result in lower employee satisfaction levels and ultimately, lower productivity levels in contact centers. Not just this, background noise also affects the quality of calls and results in lower net promoter scores and less than happy customers. According to a recent study by Oxford Economics, office noise levels are worsening and there is a direct correlation between a company's revenue growth and how they approach their work environments.[4] 63% of employees say they lack quiet space for focused work, which has a negative effect on their productivity, financial performance, yet just 40% understand the link between noise, distraction and productivity.

Despite this overwhelming evidence supporting the need for reduced noise levels at the workplace, only 31 percent of all respondents surveyed indicate that their employers provide private spaces for phone calls or conversations. This modification of layout may not even be a feasible solution in the context of contact centers where organizations look to maximize ROI on infrastructure and employee seating is planned around square footage utilization. While noise cancelling headsets are a very popular solution adopted across contact centers, with nearly 32 percent employees using headphones to block out distractions, contact centers need to adopt more comprehensive solutions to reduce noise levels on the floors. One such possibility is to leverage IoT to identify and eliminate noise sources in contact centers.[5]

The case for noise monitoring with IoT

The advent of IoT and the fourth industrial revolution have brought about some significant workplace automation solutions. Use cases of leveraging IoT to analyze data sources and automate production processes accordingly with precision technology to identify and control noise levels are plenty in the manufacturing scenario. Noise sensors are used in industrial environments to ensure compliance to safe work conditions, and adherence to norms and statutory guidelines. Companies are leveraging IoT technology to help with real-time monitoring of noise levels to curb noise pollution in new age smart cities. Barcelona in Spain has leveraged IoT and big data to install a city-wide sensor network that informs workers and residents about temperature, air quality, noise- levels, pedestrian traffic and more.[6]

Combating noise challenge with IoT

As per a study by Oxford Economics, only 6% of executives report having equipped their office with noise mitigating features. The need for improving call quality and customer experience is driving the demand for implementation of IoT in contact centers.

IoT provides real time monitoring and analysis of noise levels, which aids in decision making related to operational changes such as implementing sound proofing infrastructure or devices and technologies to minimize noise levels.

An IoT data aggregation & integration platform that provides features for managing/monitoring device networks, processing and visualizing collected data, and optionally integrating with other enterprise systems using open-source APIs will help mitigate the challenge of noise in workplaces. Wipro Smart i-Connect™ is one such IoT platform that delivers generic flexible approach for configuring, controlling and monitoring any device, data source or system object, regardless of its vendor, model, type and purpose. Its multi-tier distributed architecture helps in establishing true IoT-style peering relations between all embedded and regular servers.

Effective IoT solution for noise monitoring should include positioning noise-monitoring devices at ideal locations. Leveraging IoT, these sensors will collect data on noise levels, which can be pushed onto the cloud for real time monitoring and analysis. Weekly and monthly data should be generated, analyzed, reported, and customized as per business requirements. Based on user-defined set points, relevant actions and triggers should be configured on the IoT platform. For instance, if the noise level exceeds a certain range in a particular office zone, the system should initiate a set of triggers including alerts and non-intrusive notifications on desktops and mobiles to the corresponding representatives seated in that zone. These notifications can also be designed to suit the organization's escalation hierarchy and matrix. After an initial alert to the representative in the zone where noise is arising from, light indications can be activated for persistent noise levels exceeding one minute.

Email alerts to the supervisor can then be triggered if the noise levels continue to persist for five minutes and beyond, enabling intervention and relevant action to curb noise levels.

Conclusion

IoT makes it possible to collate data from across the enterprise to monitor noise levels effectively. With organizations and HR teams everywhere increasing their focus on employee welfare and wellbeing, monitoring and reduction of noise in contact centers would be key and will go beyond impacting productivity and creativity of employees. Employees will be able to connect and communicate with each other better, leading to enhanced team collaboration and interaction. They are also more likely to feel energized and focused in a calm and relatively quieter working environment, affecting their overall sense of well-being and satisfaction at work. This will also impact employee recruitment and retention in the long term for the organization.

About the author

Amalrani Meenakshi SK,

Architect - IoT, Cloud & Infrastructure Services, Wipro

Meenakshi has over 14 years of experience and plays a key role in presales and technical consultancy for IoT initiatives. She has extensive experience in Auto ID technologies across multiple industries including Retail, Manufacturing, Healthcare, Logistics and Transportation.

You can reach Meenakshi at
amalrani.meenakshi@wipro.com

References

[1]https://www.interiorsandsources.com/article-details/articleid/22583/title/interface-study-workplace-productivity

[2]https://www.plantronics.com/content/dam/plantronics/documents-and-guides/en/survey/managing-noise_survey-results pdf

[3]https://smallbusiness.chron.com/effects-noise-workplace-45782.html

[4] https://www.globenewswire.com/news-release/2018/06/12/1520603/0/en/A-New-Global-Study-Finds-the-Noise-Epidemic-Worsening-at-Work-With-Employees-in-Noisy-Offices-More-Likely-to-Leave-Their-Job-Within-Six-Months.html

[5]https://www.interiorsandsources.com/article-details/articleid/22583/title/interface-study-workplace-productivity

[6] https://www.techradar.com/news/audio/how-your-noisy-open-plan-office-is-making-you-66-less-productive-1148580

[7]https://www.zdnet.com/article/ten-examples-of-iot-and-big-data-working-well-together/

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 175,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

For more information, please write to us at **info@wipro.com**