The Risks of Ignoring Remote Monitoring Alarms

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Mike Parks, SVP, IoT Strategy, Accruent

In a 2017 study, Gartner reported there were more IoT devices in the world than human inhabitants. In business, those IoT devices provide a level of security and risk management that has never been seen before. That's good, right? Generally speaking, yes, but with so many alarm alerts from remote monitoring, it's almost impossible for workers to pay attention to all of them, and that puts retail, from big box, department stores, and traditional retailers at risk. Let's look at one specific retail sector – grocery stores – to show how.

In grocery stores, with an abundance of refrigeration to be monitored, there can be an incredible amount of alarms set off every day. I was speaking recently with a grocery chain with 350 locations. Each store has 500 IoT devices, with an average of ten data points monitored per device. That amounts to 1.75 million data signals. When operations are going smoothly, with only 0.1 percent alarms per day, that still amounts to 1,750 alarms. Or, about five alarms per day per store.

There's no doubt IoT is making grocers better manage their infrastructure, with refrigeration being a compelling use case. This is due to the dollar value of the inventory, the importance of products to consumers and the significant risks to revenue, profit, and safety when a grocery case loses power or stops cooling properly.

The problem is that most alarms generated by IoT devices are low-level alarms, meaning they are about conditions that do not really need *immediate* attention. And with more devices triggering more alarms, in-store personnel are being trained to IGNORE alarms.

It makes sense that store personnel don't want to be chasing the latest alert of Freezer #3C going above 25' F for the fifth time in a week. They have much more important things to tend to like sales, merchandising displays, managing inventory and servicing customers.

But, ignoring a valid alarm, or not acting on it promptly and properly, can have severe consequences. United Supermarkets had strong processes, but not strong enough. Before fully automating their IoT alarm monitoring and response, they were throwing away at least $300,000 per year of product that had gone off-temperature for more than four hours due to ignored alarms. Since implementing a fully automated alarm handling and dispatch system, they haven't had a catastrophic product failure in three years.

There are a few keys to creating a remote monitoring system that truly works to avoid the risks of ignored alarms. These apply to most retail businesses, not just grocers:

1. **Properly configure monitoring, including filtering and reactive measures**. Only involve people when absolutely necessary. Your system should be smart enough to detect alarms that are likely to self-correct. If your system is not automatically filtering out at least 95 percent of alarms as not requiring attention, it's probably not well tuned.
2. **Deliver alarms and alerts through a staff-friendly user experience**. Use a monitoring system that alerts store personnel through the devices they're likely to pay attention to, such as a mobile app or SMS message. Note: a system that auto-dials a store phone number is a sure-fire way to NOT get a response.
3. **Auto-generate work orders**. For fault conditions that truly need attention, create or choose a system that will automatically dispatch technicians. If the generation of those work orders follows the proper procedures, there won't be too many work orders at all. Accruent recently did a study across our client portfolio and found that out of 1,980,310 raw alarms, customers only generated 1,742 work orders.
4. **Design fault-proof work flows**. Ensure there's a clear chain of custody for every valid alarm, and that if a positive resolution isn't flagged in the system within a certain amount of time, the alert is escalated to the next level of personnel.
5. **Create a closed-loop system**. Your system should ensure that losses don't occur by confirming problems that are flagged truly get fixed. This can include mobile interfaces for the technicians to easily enter updates in the field, and automation that tracks the measured parameters to ensure the problem area returns to normal range after intervention.
6. **Add predictive analytics**. The most powerful IoT alarm solutions learn and improve over time. These systems apply linear regression to look back, before a device or system became sick, to identify the early anomalies that can predict future failures of other similar devices.

IoT-driven remote monitoring in retail works only when a business has the correct alarm management system and procedures in place. If it does, disasters can be averted, money can be saved, a competitive advantage will evolve, and the business will be streamlined, safe, and compliant.

About the author: Mike Parks is Senior Vice President, IoT Strategy for Accruent, a global software company that helps organizations achieve superior performance by transforming how they manage their physical resources. Accruent's cloud-based software and services enables organizations to optimize all stages of real estate, facilities and asset management, from capital planning through to IoT-based monitoring and control.

Edited by Ken Briodagh

Author Info

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