



GAMIFICATION OF FRONT-LINE WORKER APPLICATION GAINS EHS INSIGHTS

A leading chemical producer of polystyrene and styrene monomer provides solutions and products such as foam, plastic, and rubber to a variety of customers. Established in 2008 with the merger of two chemical companies, they now operate seven manufacturing plants across the Americas from their headquarters in Texas. They have received 45 Environmental, Health and Safety awards for the performance of their employees and facilities.

CHALLENGE:

The chemical manufacturer had an existing application to provide insight into their Environmental, Health and Safety behavior across all facilities which relied on tracking handwritten hazard reports from their firstline workers. The paper forms had to be compiled by their corporate office on a weekly basis, then entered into an Excel spreadsheet to track and store the quarterly EHS data. Capturing the EHS information from the seven manufacturing plants and implement behavioral improvements was a time-consuming process. They also lacked an electronic audit trail for tracking hazards chronologically and had weak security and privacy guidelines for EHS documentation. The intake of information often resulted in inaccurate reporting and insights for employees and facilities performance. Employees were unmotivated to report EHS issues due to the haphazard process and absence of a technology-enabled solution that was easy to use and uniform across plant locations.

SOLUTION:

The company wanted to update their manual process with a new mobile-ready application which would enable firstline workers to easily enter information in real time when an EHS incident occurred on location. Capturing data in real time by engaging firstline workers to actively use the tracking application would generate more accurate reports on hazard observations.

Catapult approached the project in an agile fashion, ideating workflows and processes. The new Environmental, Health and Safety (EHS) Application uses the Power Platform suite (Power Apps, Power Automate, and Power BI), along with SharePoint Online, to monitor and track safety activities throughout their organization. Paper forms were converted to a Power App with a mobile-friendly interface to enable users to quickly enter EHS information.

Managers can now track and approve incoming notices and requests and provide employees and managers a centralized view to track the process. The app was designed to be multilingual and uses Azure Active Directory (AD) to track user locations and provide contextual dashboards to users and administrators. Power Automate provides business process automation for approvals and notifications related to incoming EHS requests. Power BI connects to the underlying SharePoint Online data model, providing dashboards and reporting for admins and managers to track progress. In addition to a new mobile interface, workflows and reporting,



Catapult implemented a point-based scoring system for each safety activity, observation, and pre-task analysis entered to gamify EHS reporting from firstline workers and encourage application use. Gamification helped increase reporting to a standardized process throughout the organization and brought integrity to the reward process.

The multilingual application allows managers to provide information to employees in local languages to improve employee interactions. Catapult also created a Non-Participation Report to audit those that are not filling out safety activities and data so managers can encourage participation.

RESULTS:

The company has seen a marked improvement in their environmental, health and safety activities by enabling reporting and response to EHS incidents in a timely manner.

The new application has:

- Reduced manual data entry by providing ability to submit anywhere via mobile device
- Increased the volume of data gathered, improving reporting accuracy
- More timely and accurate reporting of EHS data
- Offered better employee experiences by providing information in local languages
- Increased participation through gamification and reporting on non-participation
- Automation streamlines reporting of EHS data to databases and dashboards and calculates quarterly points per facility
- Raised awareness of the availability to report safety concerns in real time
- Improved management's understanding of workplace concerns