



Using PrediCX to reduce Helpdesk Costs while Improving Service Levels

In a large company an internal helpdesk can be as large and complex as any external CRM and keeping down costs whilst keeping up service levels are high priorities.

Concepts not Keywords

PrediCX is an automated machine learning platform for quickly and accurately generating models for text, using 'human-in-the-loop' technology i.e. with minimum input from a non-data scientist. The automated analysis took only a few hours to generate meaningful output across, no matter how large the dataset. PrediCX provides accurate, actionable insight based on concepts, not keywords and sentiment scoring.

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How PrediCX was applied to ServiceNow data

The customer was an enterprise providing software and consultancy with around 5,000 employees and around 30,000 tickets per year. Warwick Analytics applied its PrediCX software to the helpdesk tickets from ServiceNow (it can also work with BMC Remedy, Zendesk, Salesforce and others). After a short training period of a couple of days, PrediCX was already classifying unstructured data i.e. the text notes within the tickets as well as the notes of the solutions and corrective actions. There were several use cases:

- Early warning of issues and hints for root causes to minimise risk and lost productivity
- Root causes of common issues to obviate tickets and cost, and improve service levels
- Identify opportunities for automation and self-serve both direct and to support agents
- Automated, accurate classification

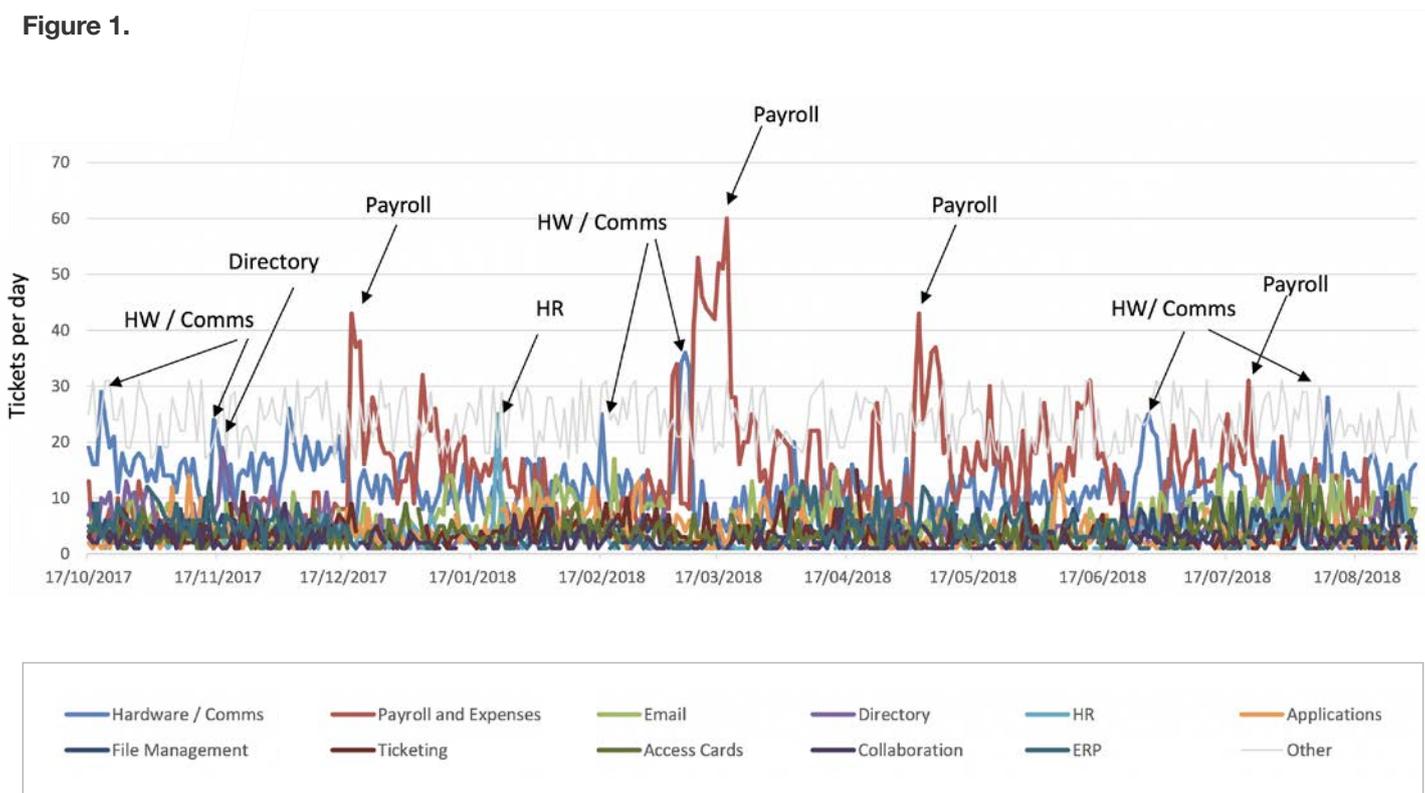
The view was both retrospective and forward-looking, i.e. to identify the opportunities it could have saved in the past had it been implemented at the time, as well as identifying opportunities going forward.

What PrediCX found

First Level Concepts

You can see from **Figure 1** that the profile of issues at the high levels is anything but predictable. There are huge spikes which cause emergency situations of resources and loss of service levels. This pattern continues at all levels, not just the ones shown. The support teams spend much of their time dealing with these situations rather than enhancing the service.

Figure 1.

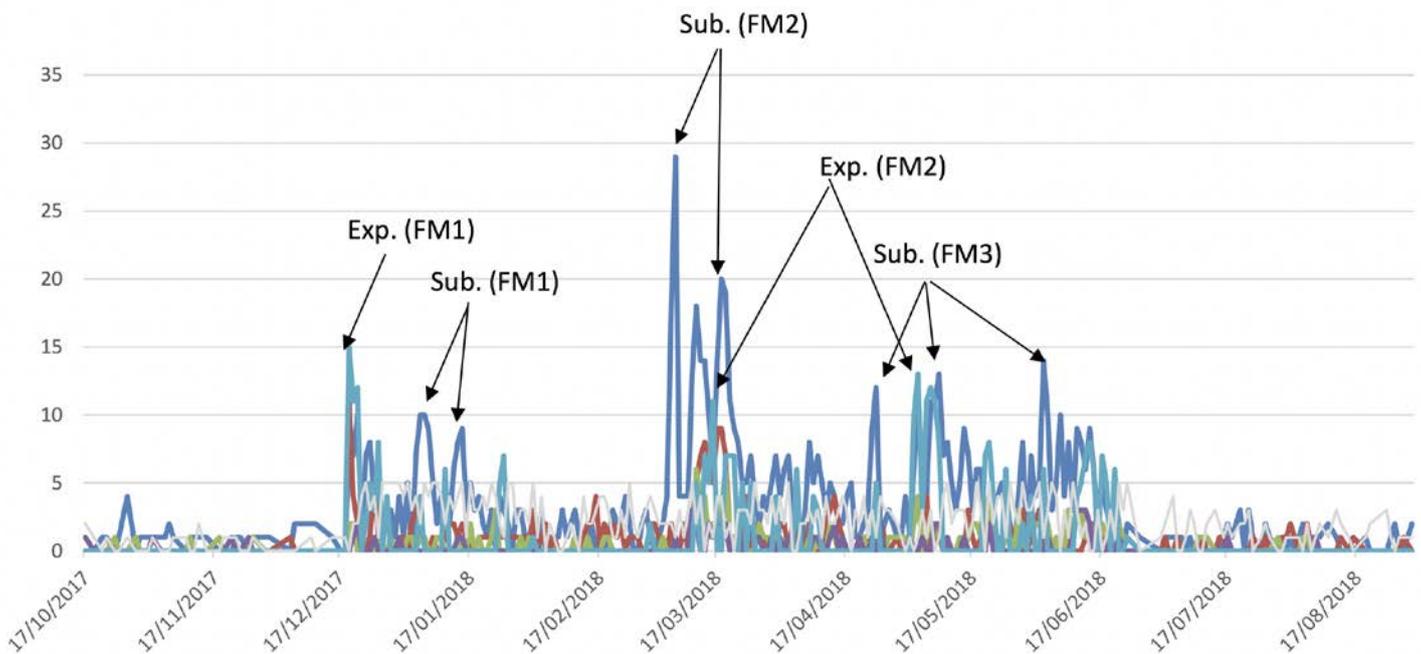


Whilst there will always be emergency situations, the opportunities are to spot the common issues as quickly as possible with alerts, as well as identifying the root causes from the notes of investigated tickets. This can isolate the relevant failure mode quickly and hint at the corrective action required, as well as identifying whether the issue is new or a repeat of something in the past. This is compared to the alternative of manual classification which does not pick out the rich detail of the ticket symptoms (or solutions) and is often inconsistent and inaccurate.

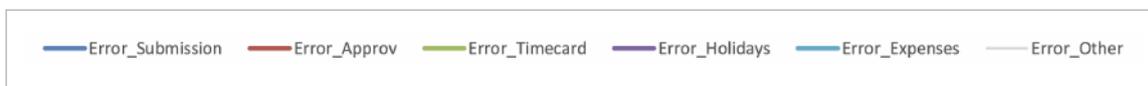
Early Warning of Payroll Issues

Figure 2 shows the detail that PredicX is able to identify from the text of the tickets. You can see that PredicX has identified five types of error from the symptoms as well as identifying several failure modes (“FM”) from the notes of the corrective actions. None of this insight could be gleaned from the manual classification and therefore remained hidden.

Figure 2.



Payroll: Different failure modes identified from automatically classifying symptoms and root causes.

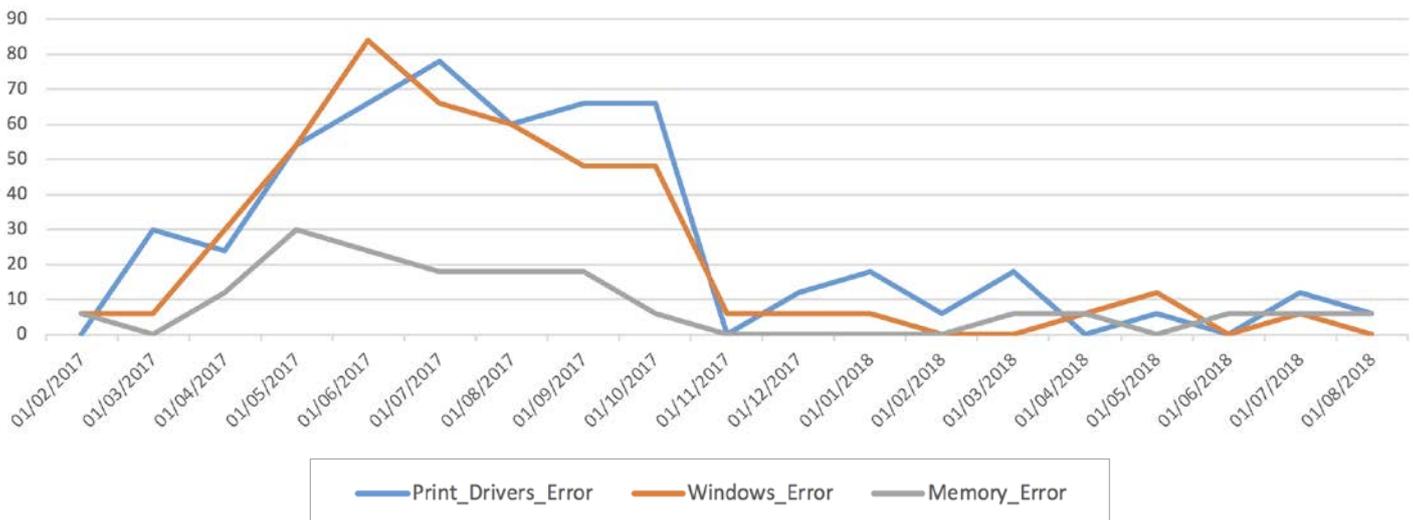


This insight allows managers to quickly see when certain failure modes are reappearing e.g. the Expense error FM2 which reoccurred from the first incident on 16 March 2018 and reappeared on 4 May 2018. If PredicX had been used at the time, it would have helped to implement a permanent fix during the first incident. It also would have shrunk the time of impact of issues by providing the earliest warning of an issue and hints at root causes e.g. the Submission error FM2 from 4 March 2018 to 25 March 2018. PredicX can help obviate future failure modes and facilitate projects to implement preventative and corrective actions that can be executed ‘offline’ without disrupting service levels.

'Hidden' Mid-level Issues, Laptops

The emergency spikes are one type of situation, however there are often hidden mid-level issues. **Figure 3** shows a driver incompatibility issue that took 9 months to resolve. With PredicX, it's easy to see that it correlates with a particular Windows error and memory error too. Alert triggers within PredicX would have picked this up.

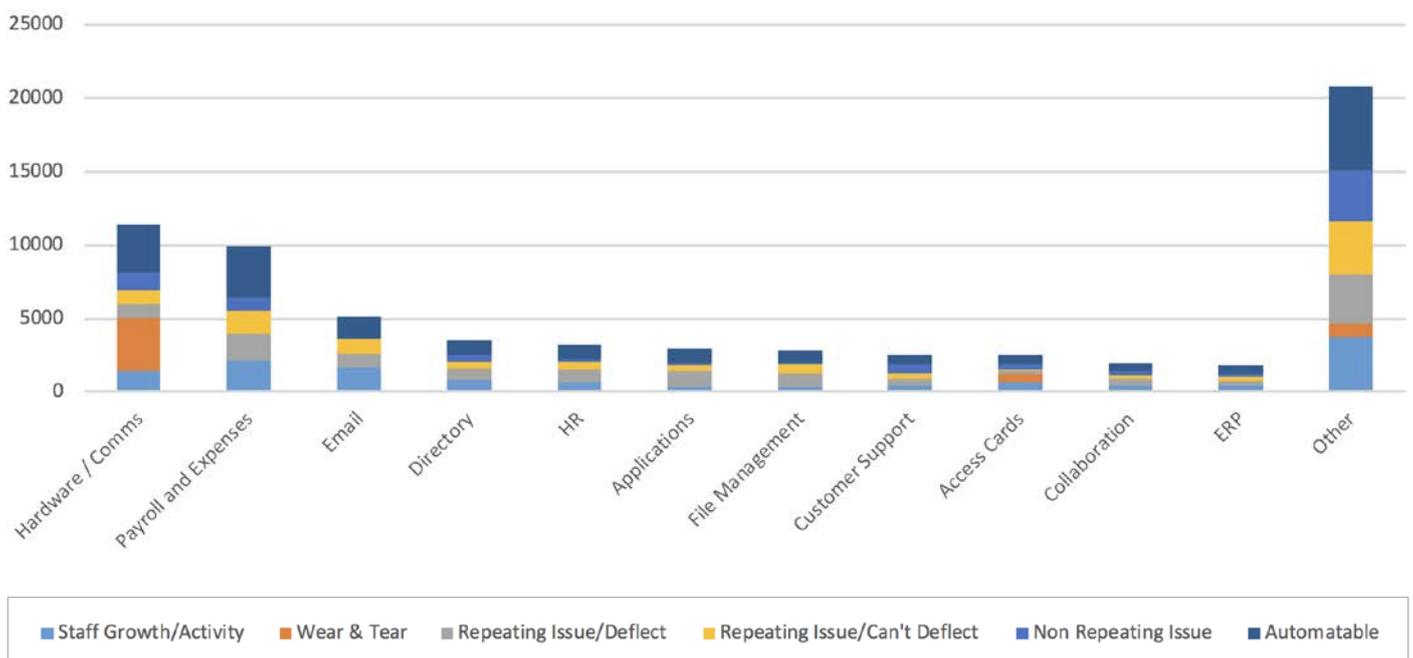
Figure 3.



Opportunities for Deflection and Automation

Figure 4 shows all the tickets over a period of 14.5 months and is an analysis of whether issues are to do with staff growth and activity, wear & tear (for hardware), a repeating issue which can be deflected (i.e. estimates based on common root causes), a repeated issue which can't be deflected (i.e. where no common root causes) and issues which appear to be non-repeating. These hint at the potential opportunities for deflection and automation.

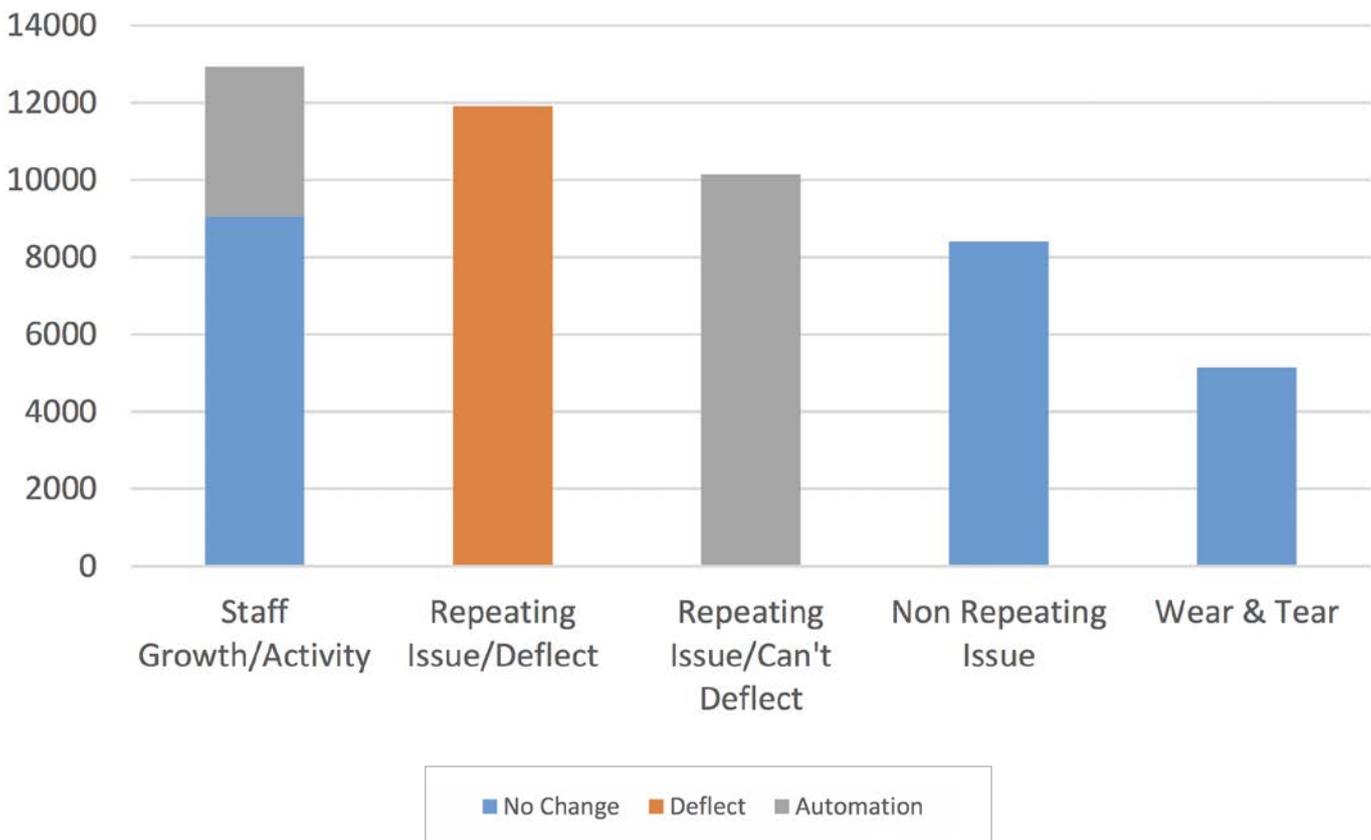
Figure 4.



Aggregate Sum of Opportunities for Deflection and Automation

Figure 5 sums up the possible tickets for deflection and automation. It shows that 25% of the total tickets analysed could have been deflected and 29% could be automated to some degree. Given there are about 40,000 tickets per annum and based on a typical cost of solving a ticket, it is estimated that PredicX identified savings of around a third of the cost of the helpdesk.

Figure 5.



There may be further opportunities to save on wear and tear too, e.g. by further insight into the supply chain and whether alternative suppliers or processes can prolong the life of assets. There are also opportunities to classify the rest of the tickets automatically and more consistently which leads to more accurate triage and resolution.

Conclusion

Warwick Analytics is able to generate actionable insight and automation at both a strategic and tactical level for helpdesks. It enables helpdesks to optimise their costs whilst maintaining service levels to meet the expectations of their internal customers.