

Unlocking the rich value of payment terminal data through data analytics

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We are living in a 'data economy era', with the amount of data being captured growing at a meteoric rate thanks to the rapid adoption of digital systems and lower data storage costs. Hidden within this vast volume of data lie valuable insights.

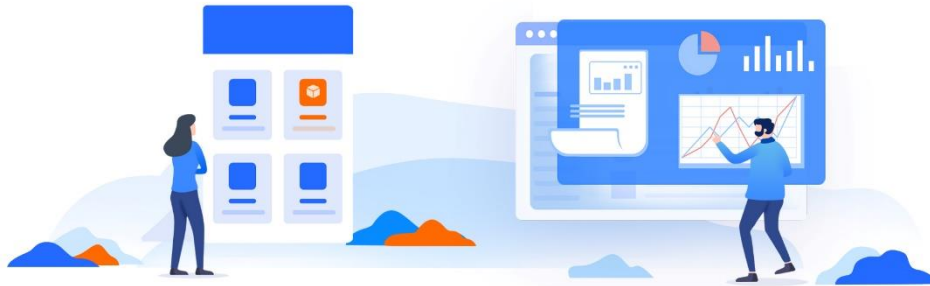


Data is the new oil

In 2006 the British mathematician Clive Humby declared that “*Data is the new oil*”, explaining that - just like oil - data is not useful in its raw state, but needs to be refined and processed before becoming valuable. PAX Technology, with its varied Android SmartPOS portfolio and [MAXSTORE](#) (the payment industry's leading device management platform) empowers acquiring banks and merchant service providers to do precisely that.

The value of data

Some of the main benefits available from payment data analytics include revenue generation, cost savings, efficiency improvements, enhanced customer understanding and improved decision making. At the latest World Economic Forum, the economic value of data was highlighted by several speakers, but they also pointed out the need for greater social responsibility as individuals are looking for more control of their data and transparency over its usage.



Payment terminals capture vast amounts of data

A point of sale terminal may be configured to capture three main types of data:

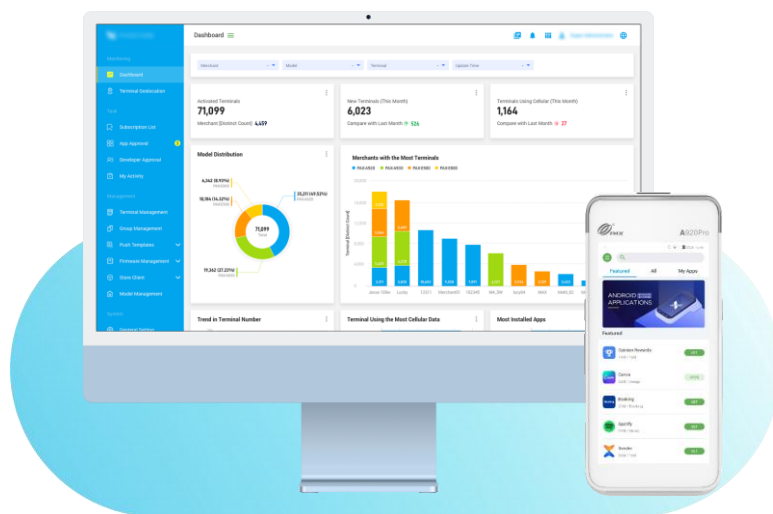
- Device data
- Payment application and transaction data
- EPOS cash register and 3rd party app data

The terminal contains a wide variety of rich data

Today's SmartPOS terminals capture masses of information about device status, its usage, activity levels, and health. Because they are powered by Android and come with increased storage capacity and faster communication links, more data than ever before can be captured, stored and shared. This enables device owners to perform enhanced terminal monitoring, device diagnostics and usage analysis.

The ability to share data in real-time is one of the key reasons why the value has increased. Hardware and software health are automatically monitored allowing preventative maintenance

to be undertaken, often before a merchant is even aware of a problem. Data analytics allows enhanced reporting, alerting, greater control and improved estate management for merchant service providers.

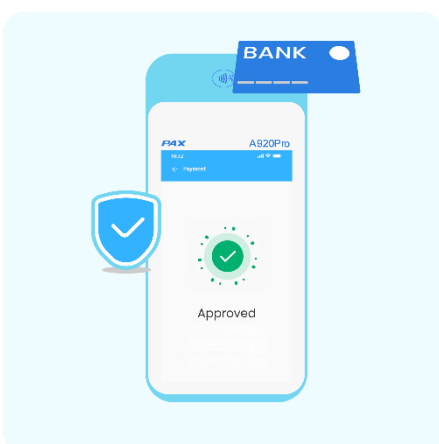


Geolocation data - which is only available with Android powered devices - enables transaction processing to be restricted to an agreed store or trading area, preventing unauthorised and fraudulent usage. It also helps support teams, as devices can be selected from a digital map.

Unlock insights from the payment app and transactions

SmartPOS terminals run certified payment software applications that manage the processing and sending of transaction details to a payment gateway or acquirer. Analysis of this data allows a clear understanding of the popularity of each payment method, the splits between different card brands, card technologies and types of cards being used and approval rates. Access to this type of data helps track business and store performance, improve the management of funds settlement & reconciliation, determines which payment methods to offer, and allows a terminal

owner to perform sophisticated trend and benchmarking analysis.



The digital storage of transaction receipts has become a popular new payment terminal app capability. Many consumers prefer receipts to be supplied digitally and – should a merchant's Payment Service Provider implement such a policy – businesses no longer need to store paper vouchers in the event of a chargeback or refund request. [MAXSTORE](#) goes further, enabling merchants to login to their provider's online portal in

real-time, to view such receipts and all sorts of other useful data (if, of course their Payment Service Provider chooses to grant them such access).

Naturally, PAX payment terminal applications are compliant with PCI Data Security Standards to prevent data breaches and to protect Personal Identifiable information (PII) in accordance with privacy legislation such as Europe's GDPR and California's CCPA. Tokenisation and data aggregation are methods used to reveal insights into customer behaviour without compromising security or privacy.

Each payment transaction includes a core set of Level 1 data fields (specified by the payment networks and acquirer) such as the merchant's name, transaction amount, payment credentials, authorisation details, date and time, etc. However, if supplemented by additional Level 2 data fields, such as address details, tax amount, reference numbers, then a merchant may be eligible for lower fees, improved acceptance rates and faster funds settlement. When Level 3 line-item product details are included (e.g. SKUs), this opens additional sales opportunities from users of corporate purchasing or government procurement cards. The EMV standards provide additional guidance on the data fields to be captured and shared.

Merchants and payment service providers increasingly rely on the ability to query transactions through a real-time dashboard and wish to generate graphical management reports from raw datasets. Previously these capabilities were not available to Small and Medium sized Enterprises (SMEs) but thanks to PAX Technology and MAXSTORE this barrier has been removed.

EPOS cash register data and 3rd party apps

More and more Android SmartPOS terminals now run an EPOS application alongside the payment app. This maximises the value of the device, eliminating hardware duplication while at the same time improving the user experience. The EPOS app captures many extra types of data fields, the most significant being item level product sales data which in addition to being used for inventory management analysis purposes can also be used to improve understanding of customer behaviour.



Additionally, store and staff performance can be better analysed thanks to the richer data that is available. Furthermore, employee scheduling can be improved thanks to the availability of store trading and peak hour data.

When a customer loyalty programme or marketing engagement app is integrated with an EPOS app then the value of the data increases further. Customers using data analytic platforms, such as the [GoInsight](#) service offered with MAXSTORE for example, can choose to import any data source, and combine them to create meaningful insights into customer behaviour, allowing personalised marketing offers to be created.

Vending machine suppliers are increasingly placing next generation unattended payment terminal models, such as the [PAX IM30](#), at the heart of product dispensers. A benefit of this approach is that product inventory levels can be monitored in real-time and re-stocked quicker.

Many of these data analytics capabilities have previously been restricted to large merchants who have access to enterprise grade analytic platform and in-house data scientists.

The PAX Perspective

We understand the importance of data analytics, and how this can reveal insights into business trading, operational performance, and customer activity. That is why we have made it a key element of our SmartPOS strategy. Our market leading, Android powered products (such as the latest [A920MAX](#) or best-selling multiline [A35](#)), capture far more data elements than legacy POS terminals, and we allow all of this data to be shared and - thanks to advanced toolsets provided as part of the MAXSTORE offering - let our users self-create management reports and reveal insights.



PAX devices incorporate large, touch screen graphic displays to simplify the entry of additional data elements, and to provide a modern User Experience (UX). We also let users set up alert notifications to enable appropriate action to be taken when necessary.

PAX SmartPOS terminals and payment apps - for example, [POSitive](#) (UK) or [FRV6](#) (France) - send data in real-time to MAXSTORE where sophisticated device usage, management, diagnostics and transactions can be viewed and data analytics performed. Our payment apps provide detailed transaction and settlement reporting and digital receipts. Multiple instant types are recorded including the split between contactless, contact and magnetic stripe usage. Security key types, validity dates and index storage positions are also recorded and made available for customer support teams to use and for analysis.

GoInsight platform

Our data analytic platform is called [GoInsight](#), which is accessed through MAXSTORE and offers seamless data integration between the two products. We provide insightful graphical dashboards that support the use of Widgets and present data in a choice of bar/column, double Y axis, line/area, pie/ring charts, tree maps, scatter plot and digital card formats.

Multiple levels of data drilling and filters can be applied to reveal previously unavailable insights. We provide a range of standard reports, making it easy for these to be shared, but more importantly let you create new reports to address your particular needs. We recognise that users don't want to have SQL skills and that they wish to be able to simply drag and drop data and then let graphical visualisation tools transform the raw data into insightful charts, graphs and histograms. We offer all of this and more through GoInsight.

For the first time thanks to GoInsight, SME merchants may be granted access - by the Payment Service Provider who controls their terminals via a MAXSTORE marketplace - to advanced data analytic capabilities without needing to invest in expensive platforms or specialist data analysts. GoInsight can be supplemented with data from other sales channels (like an eCommerce site) to create omni-channel reporting. We make it easy to export and import data and support integration through APIs and SDKs and use tokens to analyse customer activity.



One of the innovative analytic capabilities we offer is the ability to track new custom data sets through the deployment of an additional small app on the POS terminal. This option when combined with the ability to manage app parameter settings through MAXSTORE means that you are in complete control of the data you analyse and you don't need access to expensive 3rd party platforms or wait/pay for a supplier to add this new data point. Some customers are

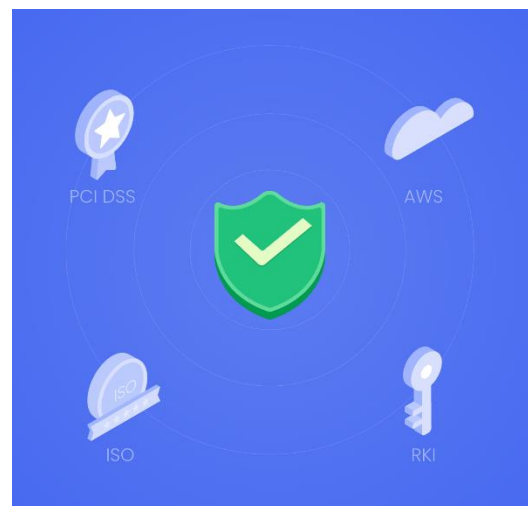
also exploring the integration of external data sources available from 3rd parties into GoInsight to take data analytics to the next level.

The IM30 unattended model provides vending machine dispensers with improved visibility into product stock levels and real-time status alerts leading to incremental sales and improved customer satisfaction. This is proving particularly helpful for one of our French customers who sell ice from vending machines as their product is highly sensitive to daily temperature.

From a support perspective GoInsight operators can quickly identify which devices are running older versions of Android libraries and arrange for remote software updates to be scheduled. Unusual cellular data usage can be investigated to control costs and stop unauthorised device usage.

Strong data security

Data [security](#) is our top priority and that is why we ensure strict controls around user access and data controls are in place. Multifactor authentication, role-based and context sensitive data permission tables ensure only the right people have access to each type of data. Our decision to [PCI DSS](#) certify MAXSTORE provides external validation of the strong data security technologies we use and the rigorous data security controls and processes we follow. PAX device owners find MAXSTORE and GoInsight to be extremely valuable in monitoring PCI PTS compliance and for chain of custody reporting throughout a device's lifecycle. Our Geolocation feature provides an additional layer of fraud control and emphasises our SmartPOS market leadership position.



Let's talk

The global PAX team would welcome the opportunity to demonstrate the data analytics capabilities available within MAXSTORE and GoInsight, and encourages everyone to make greater use of the data capabilities which the company is making available. The benefits of data analytics are significant, the possibilities are endless and thanks to PAX are now available to SMEs for the first time. Please do [get in touch](#) and discover a new world of insight.