How an accounting firm reaches new levels of automation:

Their accounting software empowered with self-learning algorithms observing the human's data entry, learning from it – automating it.

Who is who?

Arkimera Robotics

Developers of API-service AzoraOne. Provides the market with self-learning technology as an API service for software companies – not by creating own applications for end users.

Accounting software company

Built an integration between their software and AzoraOne, presenting a solution to the market as embedded functionality.

Accounting firm – *the end user*

Uses the accounting software empowered by self-learning technology. In this scenario, we will look at the benefits from a firm perspective.

AzoraOne API

Can be integrated into an ERP/Accounting software, adding value in real-time in existing UI

Adds self-learning automation to the data entry process of registering financial documents

Low code integration & no settings, setup time or learning curve for end user

The situation for the accounting firm pre AzoraOne

In the beginning, there was manual labor

The head of the accounting firm, Anna, was a bit confused. She had listened to the podcasts, read the blogs. There was a lot of talk about AI and automation. The past decade she lost count of how often someone told her that she´d lose her job to the robots (sigh).

Sure. Her accounting software had some settings for automation, but it was all rather limited. The time it took to do all the settings.. Mostly she didn´t bother, it seemed quicker to just key in the data.

For financial documents such as invoices and receipts, the registering process was clearly very manual:

Looking at a document – keying in values in data entry fields.

This was all about to change.

Problems pre AzoraOne

Manual data entry steals time from higher value work

Automation is partial, enforces limited standards, takes lots of settings, setup time and app stack hustle

No real driver for digitalization since the data must be keyed in manually anyway

Document sorting in real-time by self-learning algoritms saves time

New normal – software that learns, adapts and evolves

Let´s fast forward a bit: Annas' accounting software provider delivered a rather eyebrow raising update: the software was empowered with self-learning algorithms.

The software now observes her data entry, learns, and takes over the work – in exact accordance with how Anna would have keyed in the data herself.

Let´s look at some cool value adds in the processing of a few financial documents!

Monday morning

After checking the email, Anna logs into her accounting software. She knows there will be some invoices waiting for her. Her customers are a bit hard to get to change sometimes, but most of them sends scans or PDFs (instead of papers in a shoebox..).

Anna also helps her customers by providing them with a dedicated email address. Sometimes the address is given directly to vendors – and PDF invoices are sent directly into the accounting software. Sometimes the customer themselves snap a photo of a parking receipt – or a purchase invoice - and emails it to the same address from their phone.

Whenever a document/image enters the accounting software, it is sorted in the blink of an eye – and presented to Anna in the respective user interfaces for invoices and receipts.

Sorting of documents

As a document or an image enters the accounting software, it is sent to the AzoraOne API. The self-learning algorithms processes the file and sends back a response categorizing the doc. The accounting software provider presents the end user with the document in the correct user interface.

Manual data entry is a thing of the past

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Automation of data entry – understanding the slight differences

Anna opens the interface for purchase invoices. The user interface consists of the actual invoice (PDF, scanned etc.) as well as the data entry fields for the different parameters such as date, vendor, accounts and amounts.

As the first invoice shows up on the screen, all the data entry fields are automatically populated in half a second. Anna has a quick look and clicks "enter".

The next invoice shows up and the fields are auto-populated in the blink of an eye.

Company adapted automation based on the end user's own work

This continues. Loads of invoices, from a bunch of different vendors, booked in different ways. The monthly invoice from that telecom company for phone and internet costs, with different choices of accounts for different customers? No problemo – the algorithm keeps the bookkeeping knowledge isolated per company, learning all those slight differences in chart of account and/or granularity.

What Anna enjoys the most is that the automation is based on her own work. She feels that she taught the software – it´s like having a digital twin bookkeeper doing the data entry!

If Anna wants to make a change in the bookkeeping, she simply books the document differently – this new information adds to the algorithms continuous learning. The machine does the data-entry work, the human remains in control.

Auto data-entry

AzoraOne extracts the data from an invoice. The self-learning algorithms plows through its historical learning – and pushes back a structured response that shows up directly in the UI the end user is used to, in the blink of an eye. The bookkeeping knowledge is built on a company level – leading to hyper precise automation per customer.

Controlled knowledge cloning – using *progenitors*

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A collection of bookkeeping knowledge, per company

Annas firm has hundreds of SME customers. Under the hood the algorithms of AzoraOne are building company specific bookkeeping knowledge. This leads to the hyper precise, company specific bookkeeping that has replaced the standardized, oversimplified automation solutions of the past.

A new customer – and leveraging previously gained knowledge

One of Annas customers, a beauty salon, recently referred a friend to Annas firm. The new customer is in the same field of business. As Anna starts registering purchase invoices in her accounting software – the algorithms will start learning. She also has a few choices: either, she could start up with no prior bookkeeping knowledge for this new client. In that scenario, Anna would teach the algoritms from scratch, simply by doing the bookkeeping old school style – keying it all in manually as the invoices show up. She knows the learning is rapid, it would only take a few invoices to get very good results. Typically, one invoice - sometimes a couple - per vendor does the trick.

But instead she cherry picks another customer in the same line of business – beauty salons – and with the swift click of a button she clones the knowledge from the previous company.

As she starts getting invoices and receipts from the new customer, the data entry will be automated in accordance with her prior data entry on the first salon. It´s probable they will have similar purchases and use similar accounts. And since the learning Is continuous, the new beauty-salon-robot will learn as she makes changes as well, adapting and becoming an expert on the new customer!

Progenitors

One useful resource in the AzoraOne API is "progenitors". It makes cloning of bookkeeping knowledge between companies possible. One to many, many to one, or many to many. Creating industry specific "robots" is one potential use, cloning the base data* knowledge to a whole population could be another.

** Base data, or header data, consists of the parameters that would be the same for any company, such as total sum, VAT, vendor, due date.*

Coding data consists of the account line items, could be one consisting the total sum or many consisting different accounts for different purchased items on the invoice.

The base data would typically be nice to share on a population, the coding data you´d want super precise per company – AzoraOne makes that possible.

Getting started with AzoraOne as an accounting firm

The very first day with AzoraOne

Let´s backtrack a bit and have a quick look at Annas very first experience!

For Anna, getting started with AzoraOne took about a minute.

Setup time

Consisted of clicking one button: "activate".

Settings

There was one choice. To teach the algorithm on Annas historical bookkeeping data, or to start with a clean, empty knowledge base.

Learning curve

Honestly, none. There were no changes in user interface at all. To put it simple:

Anna kept working in the very UI she was used to, with a slight, but eyebrow raising change;

The accounting software had started to learn from her own historical bookkeeping – and was now taking over the mundane (and to be honest, rather boring) task of keying in values in the data entry fields.

Thats it folks!

Leveraging historical data

The integration partner can choose to use the end users historical data to offer self-learning automation that hits the ground running. It takes digital documents, and the data entry connected to them. A few documents per vendor typically does the trick.

This is a key benefit for the integration partner – AzoraOne does not crave huge training data sets and the data costs connected to the typical ML model approach!

The situation for the accounting firm after AzoraOne

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Problems

Manual data entry steals time from higher value work

Automation is very limited, enforces standards, takes lots of settings, setup time and app stack hustle

No real driver for digitalization since the data must be keyed in manually anyway

Solution

Data entry is automated - freeing up time for high value work

Automation is hyper precise in accordance with human's own work (not sacrificing important data!) – and integrated in the ERP/Accounting software UI

Digitalization now leads to time saving on a massive scale

Ok, I am convinced, I want this, what do I do?

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At Arkimera Robotics, we master self-learning algorithms. But let´s be honest, we don´t know the first thing about UI! Others are good at that.

We partner with accounting software companies & ERP partner companies that can build solutions that look smooth – so that our technology can just be the back-office machinery doing the dirty work!

If you have the means of production (integration builders, that is!) - either head on to our developer portal and sign up for a free account - or get at us at contact@arkimera.se and we´ll connect and give you an introduction to the integration process!

Regarding partnership with Arkimera Robotics

Our typical partner is a major software company offering accounting software to SMEs and/or accounting firms.

We understand that our partners can have different business models, wants to present a solution built on AzoraOne tech as their own embedded functionality– or as an add on-offering.

We are open minded when it comes to pricing as well as partnership approach: we seek win-win and value adds across the value chain.

Let´s connect – we would love to see more beautiful integrations on the market!

Kind regards,

Markus Mantere, Dep MD, Arkimera Robotics

Feel free to connect with me on LinkedIn!