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Trading API Comparison- Summary

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Introduction

Changes in Financial Sector were inevitable in the last 20 years. Players as Google, Airbnb and Amazon had an effect not only in their own industry, but triggered changes in basic customer expectations through many major industries. The exposure has been visualized on a great model of Digital vortex, that mapped Financial industry as one of the closest to changes in digital transformation since beginning of 2010. Transformation had different angles; namely changes in customer expectations, changes in regulations; changes in the level of financial and technological literacy and changes in the available technological background. One of the recent interdisciplinary sector that gains more and more attention and earns popularity nowadays is the FinTech sector.

The Client

My client and current company, Brokerchooser is the first fintech start-up company who helps people navigating in the financial market and see where they can invest. Due to the increasing amount of products and providers on the FinTech market, people need guiding points and sites which enable the transparent comparison of the different players on the given market. Similar to Skyscanner and Google Maps. Brokerchooser aimed to give guidance to retail traders on the financial market with which provider, how they can get to their destination, an ideally managed investment portfolio managed by themselves. The borderless scope enables one from Lithuania to check whether an American broker or a German has better conditions to open an account. Brokerchooser aims to make the process as transparent and flawless as possible. Essential part of transparency is the independent technology-focusing evaluation checking over 100 data points the different aspects of the reviewed brokers.

Realizing the growing interest towards APIs, among their readers and the community Brokerchooser decided to carry a new research on how many of its currently listed online broker firms provide an API already and if so, then what are the features of the given API. The aim of the research was to include a new angle to the comparison matrix and present a separate review to the tech minded retail traders who are interested in automatizing trading strategies and algorithmic trading. The latest mentioned step was also meant to attract new type audience for the site, beside the current existing one.

The process

In order to provide a comprehensive analysis, a market research was carried through, first with identifying the potential users. The key triggers were highlighted in terms of sociological and regulation changes as well.

To let the audience understand the importance of APIs and their accelerator role, concept API economy is introduced and discussed in a separate part along with detailed explanation of the REST API design guidelines. The latter mentioned part provides an overview, that let's the reader process the criteria of the main product of the project, which is a comprehensive comparison of the different API providers.

The different angles

First of all, it was important to examine the human aspect of the process. Digitization and digital transformation was not only in transforming the needs of the already existing participants, but having new players in the game as well.

Taking a deeper look in finances, especially the investment market until the classical model of savings and investments, in Europe, the average investor was above 40 years old, had a regular income of 2 500-3 000 EUR/ month gross income, 1 property on his/her name without mortgage and has at least 15 000 EUR of disposable income. In the meantime, nowadays investor generation is rather different. Generally we can talk about a segment where participants are between 28-40, they have a regular income of 2 500- 3 700 EUR / month gross income, property is not typically their concern or if so then they are more willing to rent rather then buy one, and their disposable income is varies between 5 000- 15 000 EUR. Contrary to the classical scheme, they do not will to enter into contracts of 5 years with low relatively low interest rate, but they are willing to take higher risk to have sooner gains'. They tend to be technology minded most of the time, willing to try new digital forms of financial solutions which on the long run can help them to process data better then institutions would do or interpret them and fine tune according to their own preferences.

Parallel in the last 20 years the technology enablers developed a lot as well. Between the 1996 and 2008, the major users of these platforms were the brokers and financial advisors that had an ending with the breakout of the world economic crisis and great market melt down. Till that time the most popular trading platform was the so-called MetaTrader4, but it was still considered to be yet too complex for regular retail traders. Following the Global Crisis between 2008-2010 easier to use interfaces were developed accompanied with charting and technical tools. Nowadays web based, and mobile platforms are more widespread. These platforms are still so-called GUI, graphical user interfaces, but their existence and fast pace is possible because of the APIs running behind them. These APIs have essential role in the focus area of both retail and institutional traders, the automated trading tools and algo trading.

First it is important to define it and examine why and how APIs are important. API is an application programming interface that are getting more and more attention in the mainstream media. With the help of APIs a business can raise its revenues or save a significant amount of its costs. APIs among many other things are tools for those business stakeholders who are looking for new opportunities and operational efficiencies. At the same time API is a new chance for the individuals wish to operate a smaller system tailored according to their own preferences to plug in and execute their commands.

According to best practice the most common interface designs are the REST interfaces (resource-based) ; SOAP interfaces which are method based and the MQTT interfaces those are event-based. REST is an acronym expression stands for Representational State Transfer. REST APIs are integral to web application development and are becoming mainstays if all web development. REST refers to a group of software architecture design constraints that bring efficient, reliable and scalable systems. The logic of its operation is the client/ application submits a request, for example to get a resource, the REST API receives that request, identifies the requested resource, figures out what data needs to be gathered, and in what format, creates a representation of the data matching the requested format. These interfaces are the easiest to interpret for humans because of their chatty format, beside developers also highly favour them nowadays.

The use trading APIs, assume two major knowledge. Financial literacy, with complex knowledge of investment options and a bit of tech knowledge. Naturally, if someone have extent programming knowledge than the gates of algorithmic trading would be wide open for the those individuals. Getting

back to the basics, via APIs one can analyse better his/her own portfolio and investment strategy by downloading his/her complete transaction history or even automate parts of the current existing trading strategy he/ she manages on the classic web or mobile platforms.

Methods used

In the first phase of market discovery only those online brokers were involved in the comparison who are enlisted in Brokerchooser's offering. In a later phase the analysis could be extended, but currently it is restricted to the listed 25-30 broker firms.

As a first step based on a google keyword search (online broker's name+ API) each online broker was checked whether they provide and API at all. In this round out of 25 brokers, 10 were shortlisted. The second filter to narrow the search was checking which of these APIs would be useful for retail customers. Interesting finding was that on the trading API market there are two major types the REST API and the FX API. Basically, they are meant to serve two rather different segment since REST is ready to serve the needs of retail customers, while FX API is rather designed for institutional use. Bearing in mind to focus on REST API providers the list could be further narrowed to 8 companies. The last selection criteria was whether these APIs were public APIs for retail users or only available for limited list of developers or if the API has anything to do with trading or just designed to meet he regulation PSD2 about open banking and shared the info about the account holder's basic profile.

For testing the APIs, anonym test/ demo accounts has been requested, and with each of them a basic set of orders/calls have been tested. The result were saved in Insomnia environment and JSON format files for further detailed examination with the developer team. Based on these account openings and API testing a set of criteria has been collected and a comparison mix been composed.

For the final comparison a mix of business value and customer focus criteria has been included. Including a criteria category does not means automatically that it will be counted in the evaluation. The way how to measure the importance of a given element shall be determined as follows. After selecting what to include, it shall be decided whether the weights and scores want to be determined in a top down or a bottom up method. I our case the top down method was applied, and gave weights to each criteria category as follows:

- API experience 8%
- API lifecycle management 10%
- **Steps to get started 12%**
- Technical requirements 8%
- Authorization 10%
- **Functionalities 18%**
- **Documentation 17%**
- **Education 12%**
- Sources 5%

Checking this list, it becomes clear, Functionalities, Documentation, Education and Steps to get started has critical importance when comparing APIs.

Oanda and Saxo were able to perform better over earlier public API provider IG labs, Forex.com and Tradestation because they addressed and handled their early adopters well. Originally every API provider targeted developer community as potential users of their product/ service. Out of the compared API providers Oanda and Saxo were the ones who realized, providing a seamless and user-friendly REST API with proper education tools will not only increase the popularity of the product

among existing developer users but grab the attention of advanced retail traders as well and make them involved. Both API provider operates a very active community.

Conclusion

Beside the question which trading API provider will be the best one over the upcoming years an even bigger question is in the air nowadays. There is solid appearance of retail traders in the early adopter community beside developers in trading API market. The question is whether the number of adopters has reached the 13.5 % of the total adopters as it is said in Everett Rogers theory. The question has critical importance because if it did so or if it will soon then it means the trading API as innovation has reached its CHASM. In order to get the next bigger group of adopters after CHASM, the early majority, the way of communication has to be changed; the importance should be switched from scarcity to popularization. Anyway, the upcoming years will be interesting to follow and the timing to carry this research about the stage of trading APIs on the market was well defined.

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