

Subject: FINRA Machine-Readable Rulebook Initiative

To: pubcom@finra.org

Response from: Corlytics - John Byrne, CEO and Hazel Dowling, Strategic Account Management

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Corlytics is pleased to submit the following comments in response to FINRA's request for comment on its Machine-Readable Rulebook Initiative including the associated taxonomy, FIRST search tool and Application Programming Interface (API).

Through our close relationship with working with global financial regulators, regulated financial services firms and industry bodies alike Corlytics are uniquely positioned to provide insights and feedback on this valuable FINRA initiative.

Corlytics provided feedback and a response to FINRA's previous special notice in 2018 where they looked to get industry feedback on financial technology innovation. Following that Corlytics was part of the Taxonomy Working Group established by FINRA to assist in developing a machine-readable rulebook prototype.

1.1 Background

Corlytics is a global RegTech (Regulatory Technology) firm which was established in 2013. Corlytics offers a RegTech solution to financial services firms which is utilised by multiple functions across firms such as Compliance, Risk, Legal and the first line. At the heart of the Corlytics solution and expertise is a financial regulatory taxonomy. Corlytics has developed an industry leading multi-tiered taxonomy which allows Corlytics to categorise regulatory documents and rules. Corlytics also works with its clients to both develop and map to their internal taxonomy frameworks.

The Corlytics Taxonomy includes a risk framework covering areas such as Conduct of Business, Market Conduct, Financial Crime, Prudential, Data Protection and Cyber Security. The business line framework covers areas such as Investment Banking, Brokerage, Corporate Banking, Consumer Banking and Insurance. This multi-layer taxonomy has been developed by a team of legal and regulatory experts through years of working with regulated firms and regulators as well as deep analysis of geographical regulatory structures.

Corlytics uses the taxonomy to categorise global regulatory documents in real-time and can be augmented by expert human in the loop if required.

Seeing the taxonomy and machine-readable Rulebook initiative from FINRA is of great interest to Corlytics as we are keen to encourage regulators to develop and collaborate with the financial services industry on taxonomies, digitalisation and making regulatory rules more accessible.

1.2 Case Study – digitising the Financial Conduct Authority (FCA) Handbook

Corlytics worked with the Financial Conduct Authority (FCA) in the United Kingdom to develop a digitised and machine-readable rulebook. The FCA were seeking to make their Handbook more accessible to firms. They wanted to make their rules more interactive and make compliance easier

for firms. Corlytics partnered with the FCA to develop a comprehensive regulatory taxonomy. Corlytics then worked with the FCA to tag approximately 20,000 provisions across the full Handbook. The taxonomy and tagging allowed the FCA to develop a user-friendly interface to allow firms to navigate through the rules in an intuitive manner. This resulted in the number of visitors to the FCA Handbook site increasing and the number of direct queries to the FCA reducing. In addition to the feedback from regulated firms was overwhelmingly positive.

Corlytics unique position in taxonomy expertise, tagging methodologies and understanding the pain points that firms face meant that we could add external industry value to this initiative.

1.3 Corlytics View

As a vendor in this space Corlytics' overwhelming feedback to the FINRA Machine-Readable Rulebook initiative is positive. Both member firms, other regulators and vendors alike will benefit hugely from the taxonomy, tagging and accessibility of the Rulebook.

The need for digitising regulation and rules in the financial services industry is growing year on year. Regulated firms are keen to implement technical solutions to help them manage their regulatory obligations. If regulators implement standard taxonomies and digital methods to access rules, this will make accessing regulation easier for firms. This will in turn make it easier for firms to be compliant and reduce the cost of compliance in the industry.

The growing cost of compliance is an ever-increasing challenge for financial services firms. The industry is keen to reduce the need to throw more people at the problem and introduce smart digital solutions. The work that FINRA has done to date on the taxonomy and machine readable rulebook is leading the way in how firms wish regulators would go. Corlytics encourages FINRA to continue this initiative and roll out the taxonomy, tagging and digitisation across the full Rulebook. Applying the taxonomy and tagging to other related regulatory documents would also be extremely beneficial.

Vendors and regulated firms are also keen to work closely with regulators in this area and we see this as an opportunity for bodies to collaborate and hopefully see more regulators following the innovation of FINRA.

2 Response to Special Notice questions

The following are Corlytics's responses to FINRA's specific queries:

2.1 Interactions with the FINRA Rulebook

1. *Will your interaction with the FINRA rulebook change now that FIRST, the prototype search tool, and the related API have been launched? If so, how will it change? Do you plan to use FIRST or the related API? If so, which are you more likely to use, or are you likely to use both?*

Regulated firms will now have a clear starting point when accessing the FINRA rulebook. Rather than being presented with a book/chapter style starting point, firms will be able to utilise the FIRST search tool to identify rules that may be relevant to them. This will be particularly useful for compliance officers who may not be familiar with the specific rule number they need to refer to. As a vendor Corlytics will use both the FIRST search tool and the API. The FIRST tool allows vendors to identify relevant rules for particular types of financial firms depending on what areas they operate in for example. The API allows vendors to access the FINRA taxonomy in a machine readable way to link to other industry regulatory taxonomies.

2. *Are there other challenges that you currently encounter when searching for content on the FINRA rulebook that FIRST could help address?*

The current method to access the FINRA rulebook is in a very linear manner and forces users to have to drill down by module, chapter, section, rule etc. The FIRST tool allows users to quickly and efficiently access a specific rule(s) that may be relevant to them. This smart filtering technique is much more in line with how people use digital content currently.

3. *Are you more likely to use the summary topics or the detailed topics in FIRST to conduct your searches?*

From a vendors perspective the higher value is in the summary topics. The level 1, 2 and 3 terms in this taxonomy align with how both a regulated firm and other industry bodies would structure their own internal regulatory taxonomies and frameworks.

Corlytics also see value in the detailed topics as they include some specific legal and technical terminology and jargon. However as a vendor Corlytics may suggest additional methods to achieve the same goal which may be more efficient for FINRA – optimising the use of technology to identify the relevant detailed topics is recommended here. We believe that the 'Related Laws, Rules & Regulations' section of the detailed taxonomy has the highest value as it quickly identifies other related rules both internal and external to the specific FINRA rule the user is currently viewing.

2.2 Uses of FIRST and FINRA's API

1. *Who will be the primary beneficiaries of FIRST and the related API? Are there concrete use cases that market participants could use that have not been contemplated above?*

The primary users of FIRST will be compliance, legal, first line teams within a regulated firm. For vendors the prime use for the FIRST tool will be when working with regulated firms and industry bodies to identify what FINRA rules are relevant. The API has a broader benefit and use case to both regulated firms and vendors. The API allows firms to ingest the FINRA rules and associated taxonomy and access rules in a digitised manner. This will assist firms in mapping relevant rules to their own internal frameworks and processes and also to keep up with amendments to rules. This will significantly reduce or remove the need for manual steps to select specific rules and link to internal frameworks. The API also allows service providers to more readily build on this and offer additional features in technology tools to the industry.

2. *After reviewing this Special Notice and using FIRST and the related API, do you believe that your firm would use these tools to enhance its compliance procedures or practices? For example, how much do you believe that your firm would save annually in operational, compliance, legal or related costs? More broadly, what would be the tangible benefits to the industry as a whole?*

From Corlytics experience in working directly with large and medium regulated firms we believe that firms will absolutely use these new FINRA tools. Corlytics hears consistent feedback from regulated firms around the difficulty in identifying which rules are relevant to their firm. Firms use significant man hours of effort in reading through multiple rules all of which may not be relevant. In addition, when it comes to the task of attesting both internally and externally that the firm is compliant with relevant rules, regulated firms rely on very manual and menial tasks to achieve this. Having access to an API which is published by a regulator will allow firms to begin to automate this process and subsequently allow them to spend their valuable time on ensuring they have the appropriate processes and controls in place.

3. *Does your firm currently rely on a taxonomy developed internally or by a third-party vendor? If so, how can existing taxonomies built by your firm most efficiently interact with a taxonomy developed by FINRA? Do you believe that the existence of a taxonomy developed by FINRA will make it more likely for your firm, and the industry as a whole, to incorporate new technologies into compliance functions?*

Corlytics works with many tier one and two financial institutions globally and specifically works with firms in reviewing and mapping to their regulatory taxonomies. The majority of regulated firms develop their own taxonomies internally, some may do so with the assistance from input from a consulting or 'big four' firm. Regulated firms will welcome a taxonomy which is designed and developed directly by a regulator. This will give them a grounding and starting point when creating or reviewing their own internal taxonomies and will allow them to align their own taxonomies to regulators frameworks going forward. As a vendor in this space Corlytics sees the need from firms to consolidate regulatory obligations globally. Firms are currently struggling in an effort to have a framework in place that reflects regulations from different regulators and across different jurisdictions. Seeing FINRA taking a step in this direction is industry leading and will be positively welcomed by regulated firms and service providers alike.

2.3 Feedback on Taxonomy Terms, FIRST and the API

1. *Are the taxonomy terms organized in a clear and intuitive manner? Is the distinction between the summary topics and the detailed topics clear to users?*

From viewing the FIRST tool the taxonomy terms are organised clearly and intuitively. The summary topics are structured well and intuitive in how the level 2 and 3 terms relate to the parent terms.

From working with FINRA in the external taxonomy working group Corlytics are very familiar with the detailed topics, however there may be benefit in making the value of these topics clearer to users who are not as familiar. For example, should the user search for both summary and detailed topics or just choose one? It may also be useful for a user to be able to search for a term in the detailed topics if they wish to check if a specific term is already available as a taxonomy term.

2. *Are there steps that you believe FINRA should take to explain more clearly to users how to use FIRST or the related API? For example, seminars, online tutorials, Q&As or virtual workshops?*

The video tutorial for the FIRST tool is very useful and informative and a quick way for a user to get up to speed. We suggest that a similar approach may be taken for the API also. Although the developer portal does contain technical information on how a developer may connect with the API, it is difficult for a non-technical person to understand the benefit of the API. In both regulated firms and service providers the initiation of a project to connect with such an API would usually be instigated by a business/compliance person or team. Therefore some practical information in plain English on what is available in the API and how it could practically be used to potentially integrate with other systems within an organisation would be very beneficial.

3. *FIRST and the related API documentation provide a disclaimer to users that it is meant to serve as an informational tool, or an aid, to help identify potentially applicable rules, rather than to offer regulatory or compliance advice. Ultimately, it is incumbent upon firms to ensure that they remain compliant with their regulatory obligations. Further, use or reliance on the search tool is not a defense to a failure to comply with FINRA rules. Would additional information or context regarding these issues be useful?*

The disclaimer information is clear, concise and very visible.

4. *Are there specific aspects or functionalities of FIRST or the related API that you find particularly beneficial? Are there any that you find not to be beneficial?*

In the FIRST tool the dynamic nature of the filtering is very useful. Upon selecting a topic(s), the rules on the right hand-side update immediately. This allows a user to select and de-select other topics on the left and see the variation of potentially relevant rules.

When in the details of a rules page and a user clicks one of the topic tags on the right, the user is brought back to the search results screen where it lists all rules where that tag has been applied. This is a very useful feature, however I am not sure it is clear to a user what is happening.

5. *With respect to the browse functionality, do you find the selection process to be intuitive? As noted, this functionality allows users to expand or refine searches by selecting across, or within, the first-level terms. Do you find this feature to be useful for conducting searches?*

The browse functionality is very useful and intuitive. As stated above, in particular the fact that the results update immediately is a good user experience. It may need to be clearer to a user if they can only browse using the summary topics or the detailed topics or if they can select a combination of both.

6. *What is your view on the overall depth, quantity and quality of the taxonomy terms? Could it be improved and, if so, how?*

The depth and quality of the taxonomy terms is comprehensive and impressive. The level 1 summary topics are clear and self-explanatory. The level 2 terms provide the extra granularity and allow users to drill down to more specific topics. The multi-level structure aligns with how most regulated firms will structure their own internal taxonomies. There may be merit in the FIRST tool in having a screen to allow users to navigate the taxonomy itself on its own in order to become familiar with the terms. Although we see the value in the abbreviated level 1 names for internal FINRA purposes, it is not clear if this will hugely benefit the end user of the FIRST tool e.g. 'ACC', 'BU'.

Having access to filter using the detailed topics is beneficial. The level 1 groups Defined Terms and Terminology are very extensive however they may be a little too vast for a user to navigate through. There may be merit in reviewing the approach to tagging these terms.

7. *To what extent would you benefit from conducting a reverse search by selecting a rule tag term within a particular rule, which will then list other rules to which that term has been applied? How likely are you to discover additional relevant rules based on such searches?*

In Corlytics experience this type of two-way search is very useful. The information is there as all of the tagging is complete – the challenge is identifying the most intuitive and efficient way to visualise this for an end user. I think this feature would also be useful in the API.

8. *Where would you like to see FINRA prioritize its focus in the future: (a) facilitating the ability of others (including an open source community) to enhance the taxonomy and tag additional content; (b) applying taxonomy terms to additional rules; (c) applying taxonomy terms to other FINRA content (e.g., enforcement actions, regulatory notices and guidance); (d) revising the taxonomy terms that have been currently applied (and if so, how?); or (e) other steps?*

Through Corlytics experience in working with global regulated firms and in developing a compliance RegTech solution we believe the areas for FINRA to prioritise are to apply the taxonomy terms to additional rules and to apply the taxonomy terms to other FINRA content.

The value in the taxonomy and tagging will increase exponentially in the more rules it is applied to. This will also allow regulated firms to use this as their first port of call. If the tagging is only applied to a sub section of the rules, firms will be forced to reverse to more traditional ways of accessing relevant rules.

Another core need Corlytics see in the industry is the challenge faced by firms to monitor, track and action other regulatory publications such as notices, guidance, enforcements. Firms rely on either manual internal effort or external vendors to classify this information for them in order to identify the impact and action appropriately. If the regulator could provide

this information already tagged with specific taxonomy terms, this would be huge benefit to regulated firms and would complement the tagged rulebook hugely.

9. *Does your firm currently use APIs? How likely is your firm to use the FINRA API now that it is being offered with the taxonomy terms for 40 rules as a way to help streamline the automation of compliance functions?*

As a service provider Corlytics uses API's and we also connect to API's within our client firms. Corlytics would use the API to allow us to access the rules in a machine readable format and also access the rule categorisation using the taxonomy tags. This would allow us to identify which rules may be relevant to particular firms.

From discussing the area of rules and regulation with many regulated firms Corlytics sees the challenges firms face on a daily basis to access regulations in an accessible manner. Firms need to use a combination of many manual tasks to access rules and identify what is relevant. If a significant part of this process could be solved through technology that would be wholly welcomed by the industry. Most firms will have API's in place already with other third party systems so it would make sense to connect to a regulator API also.

2.4 Future Development

1. *Are there any lessons that FINRA should account for based on experiences of other parties (regulators, industry participants, associations, etc.) that have considered the development of a taxonomy-based machine-readable rulebook? What types of collaborations or partnerships would be beneficial in this space?*

Taking feedback from member firms in relation to the depth, quality and relevancy of the FINRA taxonomy is highly advised. As a service provider in this industry Corlytics is very keen to validate that regulated firms agree and align with the proposed FINRA taxonomy.

There would be significant value with collaborating with other regulators particularly in the same jurisdiction and markets. The value of a regulator taxonomy would increase exponentially if multiple regulators were using a similar structure to tag their own rules. Firms are obliged to comply with multiple acts, rules, regulations across many different regulators, so it would be hugely beneficial if regulators collaborated or if other regulators followed the lead that FINRA is taking.

As a vendor in this industry, Corlytics also sees huge value in FINRA collaborating with service providers like Corlytics. Corlytics focuses solely on providing solutions to financial services firms which are fit for purpose and use intelligent data to reduce the amount of manual effort. Corlytics is a technology firm who specialises in developing taxonomies and digitising regulation so we are well placed to collaborate with FINRA in this space.

2. *Are there readily available technological tools that FINRA can consider to automate the identification and application of taxonomy terms to its rulebook?*

Yes there are technical methods and tools that could be used by FINRA to automate and/or partly automate the identification and tagging of taxonomy terms. Corlytics would be delighted to discuss the relevant options with FINRA as part of the special notice response.

Corlytics use a variety of similar methods currently within our own RegTech solution to automatically categorise and tag global regulatory documents with a multi-tier taxonomy.

Corlytics do recommend that a technology-alone approach will not be sufficient. We recommend the best method is that the technology is driven by experts in the area. This combined approach of human in the loop and technology is a method we believe would work best to allow FINRA to extend the taxonomy and tagging across the rulebook in a fuller manner.

3. *FINRA is considering how to avoid potential risks associated with the proliferation of regulatory taxonomies and user interfaces that regulators, firms and technology vendors use. What are the risks and challenges in this area? Would some form of harmonization or standards for regulatory taxonomies be beneficial, and if so, how can FINRA best contribute to such outcomes?*

In developing a taxonomy it is absolutely wise to consider these risks. Careful consideration needs to be taken when developing a taxonomy to ensure the granularity and context are maintained at the appropriate level. We believe the summary topics created by FINRA to date reflect a very considered approach. There is a risk with the detailed taxonomy that it is too large to manage and maintain the value for each term.

Harmonising standards and identifying collaborative ways of developing taxonomies is a valuable approach. Seeking input and feedback from other regulators and understanding if they are taking similar initiative would open up discussions in this area. At Corlytics, having worked with the FCA in the UK and other large regulators across the globe we know that there is demand and appetite from other regulators to digitise rules and make rules more accessible. FINRA in its status of a key global regulator is well placed to lead this initiative and gain input from other regulators.

4. *Do you support making the taxonomy available through an open-source manner for public-private collaboration for further development of a taxonomy-based machine-readable rulebook? How could this initiative, on a going forward basis, benefit from open-source collaboration? Who could FINRA best collaborate with and how?*

Collaboration on the taxonomy and tagging would be very valuable. Further analysis and discussion would be needed to identify if making the taxonomy available through an open-source manner would be the best approach here. Deep regulatory, legal and taxonomy knowledge is needed in order to build and tag using a regulatory taxonomy. The risk of making the taxonomy open source is that the open nature would lead to a dilution of the taxonomy and it may grow unnecessary limbs quite quickly. There may be other similar collaboration methods that could be used to allow FINRA to get input from both public and private bodies, but still giving FINRA the control and discipline it would require to allow them to stand over the taxonomy and rules tagging.

5. *Alternatively, should FINRA devote additional resources to further building out this search tool and keep development largely internal?*

The value moving forward is in having more rules tagged and ensuring the taxonomy is reflecting a larger set of rules. Increased value also comes in tagging other FINRA content with this taxonomy. The building blocks are in place and the FIRST tool and API have already been successfully built by FINRA. These could be incrementally improved but Corlytics see

the real value in tagging more rules and other FINRA content. This could be achieved through a combination of both FINRA internal investment partnering with service providers and/or other regulators. There are multiple options and approaches here which Corlytics would be happy to discuss further.

6. *What other forms of future collaboration from FINRA would best serve the objectives of this initiative? What role should vendors and member firms play in the adoption, development and ongoing maintenance of a taxonomy-based machine-readable rulebook?*

Rolling out the taxonomy and tagging across as much of the rulebook as possible is where the most value will be added. Member firms play an important role here. Along with the feedback receive from this special notice, we also see huge value in continuing the approach in having an external review committee being involved in the initiative on a longer term basis. Vendor firms and other industry bodies will also provide valuable feedback in relation to the API and the options as to the benefits this can provide to the industry.