AIFS0034

Written evidence submitted by Verint Systems Inc

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Introduction

Verint Systems (“Verint”) welcomes the opportunity to respond to this call for evidence. Verint is a leading provider of communications capture – including call recording – and analytics solutions to major financial institutions globally, both on the trade floor and in banking and insurance call centres. Verint is investing heavily in AI to enable better business outcomes for its customers and is pleased to have the opportunity to provide some insight into how AI is being used today, and how it might be used in the future.

1. How is AI currently used in different sectors of financial services and how is this likely to change over the next ten years?

AI usage in voice communications falls into three broad categories:

1. Transcription: Recognising what is being said.
2. Identification: Finding out who is saying it.
3. Analysis: Understanding what is being said.

Transcription

Transcription is the backbone of any data analysis in the voice channel. Its adoption has varied across the financial services industry as different areas present different challenges. In call centres, the technology is fairly mature. Usually, the conversations are between only two parties at any one time, are recorded on individual channels, are at conversational speed, use limited jargon or terminology, and are usually in a prescribed language. This has allowed companies to build accurate transcription models to suit insurance and retail banking environments.

However, this is very different from the trade floor, where recording is often multiplexed, in noisy environments, using highly technical jargon, and where conversations can traverse multiple different languages in the same interaction.

In modern communications surveillance, the analysis of trade floor conversations is seen as key in protecting against regulatory abuse. Many firms are required by regulators to record all conversations, which include not only trade floor calls conducted using “turrets”, but those that occur on Unified Communications platforms (e.g. Microsoft Teams and Zoom meetings) and mobile phones as well. The COVID-19 pandemic and the move towards home working put considerable strain on companies subject to this recording mandate, but the FCA doubled down on this requirement in Market Watch 66 in 2021 because of its criticality.

Historically, these conversations were monitored using dip-sampling techniques (i.e. a random selection of calls would be listened to by human beings) or searched for key words using phonetic search or transcription tools that had been boosted to seek out certain words. The former approach meant finding misconduct was genuinely a hit and miss affair, and the latter generally led to over-retrieval and too many false positives, incurring wasted time and engendering some mistrust in the technology.

The dramatic advances in speech recognition technology over the last 5 years, combined with widespread adoption of GPU technology in financial institutions, have led to the ability to obtain transcripts of a much higher level of accuracy, even from poor quality recordings. One particular area of advancement has been in the ability to detect rapid changes in language (“code switching”), which can indicate an area of concern. While these transcriptions are still not 100% accurate (the same way a human generated transcription would not be 100% accurate either), they exceed an acceptable accuracy threshold, making them useful for downstream analysis. Therefore, narrowing the set of trade-related voice transactions to be reviewed downstream and isolating the most relevant conversations while doing so saves human resources, time, cost and leads to faster remediation enabling the closing of loopholes exploited by the wrong doer.

As technology advances, we will see an increase in accuracy under a wider variety of conditions and using significantly less computing power than is required today. One of the biggest impacts will be a move towards so-called “live” transcription, where transcription is produced as someone speaks.

Identification

Identity management is an evolving area, and one that presents a unique set of technological and regulatory challenges. Often referred to as “biometrics”, identity management seeks to understand who is talking at a particular point in a conversation. This might be done from context (using a transcript where someone is

mentioned by name), or by analysis of the voice itself to produce a “voiceprint”. The underlying technology to extract the key individual features of the human voice uses Convolutional Neural Nets, a branch of AI originating from computer vision.

It is becoming an increasingly important area of study, particularly with the rapid rise of deepfake audio, which challenges the integrity of almost any audio or video interaction: Not only can humans be fooled by technology, but more and more systems use audio and video as a means of authentication to streamline customer interactions or to do basic identity checks for KYC and AML purposes. Advances in Generative AI mean that voices can be cloned from very few samples of the original voice.

Because of the significant variations in the human voice even from the same individual, any means of identification has to be multi-faceted and so the term “voiceprint” oversimplifies the technology required to undertake this with any degree of accuracy. Even the channel that a voice is recorded on (e.g. mobile phone or Zoom) can have a significant impact on the ability of a machine to detect a person’s identity.

Also, for the purposes of GDPR/DPA 2018, the extracted biometric data is considered special category data, which places an extra burden on businesses to demonstrate that processing is legal and fair.

It is important, particularly for regulatory purposes, that individuals can be accurately identified from their voices. On the trade floor, many conversations are recorded on so-called “open lines” (private wires) where many-to-many communications take place with multiple people captured speaking, but the metadata associated with the recording does not indicate who was on that call, let alone when they were speaking. Regulators, particularly in the US, are now demanding that technology solutions are put in place to provide automated attribution.

In the coming years, while the ability to identify individuals will become increasingly accurate, deepfakes will also become increasingly hard to detect. Today, it is often possible to identify audio deepfakes by looking for high-frequency “muddiness” in spectrograms, or by using biometric technology to isolate the specific vocoder used by a particular deepfake engine. But it will be a constant cat and mouse game on the technology front. On the human front, these voices are already almost indistinguishable from real voices. So, the need for AI-based identity becomes ever more important.

Analysis

Analysis of audio calls takes a number of different forms, many of which are now enhanced by AI. Some of these are very much anchored in compliance, while others offer significant productivity gains or help protect vulnerable customers. In this section, we will look at how AI is being used in compliance, specifically surveillance of traders in banks or brokerage organisations. As mentioned above, analysis has historically been done by flagging key words and phrases that might indicate a regulatory breach, then sending them for human review.

Today, AI is being used in the following scenarios:

1. Flagging calls holistically for regulatory and conduct breaches: Analysing the whole call to see if there is evidence of front running, for example, rather than relying on key words.

2. Meta-analysis of calls: As Large Language Model context windows become significantly longer, transcripts from multiple calls can be analysed to look for patterns of wrongful behaviour.
3. “Compliance co-pilot”: Allowing compliance officers and reviewers the opportunity to ask structured questions of a call or group of calls.
4. Continuous learning: Using Machine Learning (a branch of AI) to learn from human feedback to better detect potential future anomalies.
5. Risk scoring: Developing patterns of behaviours across multiple interactions to see which traders might need more intensive surveillance

We also anticipate AI being used to help further identify gaps in communication, to detect, for example, where conversations may not have been captured, possibly due to machine failure, or because it has been taken offline deliberately to avoid detection.

However, there is some hesitancy in the widespread adoption of this technology on the trade floor:

- **Implementation costs and infrastructure:** The integration of AI-driven surveillance systems is perceived as requiring significant investment in both technology and infrastructure, particularly if institutions want to maintain control of infrastructure for security or resilience purposes. This can be mitigated by careful technology choices and the use of specialist partners.
- **Fear of job displacement:** As with many AI-driven innovations, there is a fear that the implementation of advanced surveillance technology could lead to job displacement. Compliance officers and surveillance staff may worry that AI will render their roles obsolete, leading to job insecurity and resistance to adopting the new technology. The purpose of the technology is not to replace humans, but to make their jobs more effective, reducing false positives, eliminating repetitive work, and catching more issues, more quickly. Many organisations are currently overwhelmed with the mass of data and lack of resourcing.
- **Regulatory and legal challenges:** The use of AI in compliance surveillance is subject to various regulatory and legal considerations. Financial institutions must navigate complex regulatory frameworks to ensure that their AI systems comply with data protection laws, privacy regulations, and industry standards, as well as EU legislation such as DORA and the new EU AI Act, which affect many institutions doing business in Europe. The evolving nature of these regulations can create uncertainty and hesitation in adopting AI-driven surveillance solutions.
- **Perceived accuracy and reliability:** While AI has made significant strides in natural language processing and anomaly detection, there are still concerns about the accuracy and reliability of these systems. False positives, where benign activities are flagged as suspicious, can lead to unnecessary investigations and strain resources. Conversely, false negatives, where genuine compliance breaches go undetected, pose significant risks. Both of

these issues are inherent in current solutions in any event, so the goal is to use AI to reduce their occurrence.

Going forward, we will see a more “agentic” approach where the AI has a limited amount of autonomy to seek out regulatory and conduct issues in a semi-supervised way, pursuing areas of investigation that are not pre-programmed. From both an ethical and legal standpoint, it will be important to ensure that there is always a human in the loop of decision making, especially where a report is to be made to a regulator, or where HR action might be appropriate.

2. To what extent can AI improve productivity in financial services?

Above, we have outlined the areas in which compliance and regulatory investigations might be improved using AI. However, data which has been captured initially for regulatory purposes also has the potential to be used to enhance productivity at a number of levels.

1. **Trade data extraction:** There is still a significant amount of trading done via non-electronic means, particularly using traditional voice channels. Very often, this will involve negotiation, followed by a trade being agreed. This trade then needs to be entered manually into an order system, with that trade being reconciled manually at the end of a business day. Unfortunately, mistakes are made in the order entry and disputes arise as to the details of a particular transaction. Advanced transcription, allied with LLM technology, allows for much of this data to be extracted in real – or near real – time, to pre-populate the trading system, reducing errors and speeding up execution. Also, the negotiation data can be used to help other traders keep track of the current state of the market.
2. **Notes/actions/summaries**: As many interactions between customers and clients, as well as between colleagues, have moved online, much of it has fallen within the scope of recording regulations. As a result of this, data which has been captured for regulatory purposes can be repurposed for other means. One of these is to summarise a meeting, and gain insights into what was said. This can be as simple as preparing meeting notes, and a list of actions for further follow-up. It could also be used to prepare a draft email response to a client or colleague. Banks are already looking to this technology to allow them to gain significant time savings for these types of repetitive task, which not only frees up staff time, but adds in a level of consistency of output never seen before.
3. **Dealing with customer complaints**: Customer complaint handling is a cumbersome process in most organisations. However, much of this can be automated by using systems that pull together all relevant data (which could be a series of phone calls and emails plus account information), to analyse the data and present a series of possible options to the reviewer of the complaint to provide a consistent, explainable outcome to the customer.

4. **Real-time agent assistance:** Not every person dealing with a customer has the same level of experience, and they certainly do not have deep level of knowledge of a customer’s affairs. Using real-time transcription, along with AI to analyse the customer's account, in conjunction with knowledge of the products and services that the company offers, agents can be given recommendations to help answer customer queries and to recommend appropriate products for them. This same technology can be applied to chatbots, as well as in the call centre.
5. **Quality management/call adherence:** Quality management and call adherence are critical components of customer service. AI can be used to analyse calls to ensure that agents adhere to company policies and standards. AI can provide feedback on areas such as tone, compliance with regulations, and adherence to scripts. AI can identify training needs for agents by highlighting recurring issues or gaps in knowledge, enabling targeted training and continuous improvement.
6. **Anonymised trend analysis:** Larger banks see the possibility of using anonymised transcripts to produce structured information from conversations. By analysing these anonymised datasets, banks can identify trends and patterns in customer interactions, which can inform strategic decisions, product development, and service improvements. This process can help banks understand common customer pain points, preferences, and emerging issues. Anonymised trend analysis ensures that sensitive customer information is protected while still leveraging the valuable insights that AI can provide.
7. **Predictive analytics:** AI can use historical data to predict future customer behaviour. For instance, predictive analytics can help identify customers who are at risk of financial difficulties and suggest proactive measures to assist them (see below also regarding vulnerable customers). This can include tailored financial advice, personalised product recommendations, and early intervention strategies to prevent issues from escalating. Predictive analytics can also forecast customer needs and preferences, enabling banks to offer timely and relevant services.
8. **Fraud detection and prevention:** AI can enhance the detection and prevention of fraudulent activities by continuously monitoring transactions and identifying unusual patterns. Machine learning algorithms can analyse vast amounts of data to detect anomalies that may indicate fraud, such as unusual spending behaviour or unauthorised account access. Behavioural AI systems are becoming increasingly powerful, to allow for fraud to be detected at the point of first contact.
9. **Trader stress and associated risks:** Traders often operate in high-pressure environments, leading to significant stress and associated risks. AI can help mitigate these risks by monitoring traders' behaviour and identifying signs of stress or fatigue. For instance, voice analysis technology can detect changes

in tone, speech patterns or content that may indicate stress. By flagging these indicators, AI can help managers intervene and provide support to traders, reducing the risk of mistakes and maintaining a healthier working environment.

10. **Conduct monitoring (e.g. bullying, coercion, etc):** Conduct monitoring is crucial in maintaining a safe and ethical workplace. AI can be used to detect and prevent inappropriate behaviour such as bullying, coercion and harassment. By analysing communication data, including emails, chat logs and voice recordings, AI can identify patterns of behaviour that may indicate misconduct. This proactive approach allows organisations to address issues before they escalate, ensuring a respectful and professional environment for all employees.

3. What are the benefits and risks to consumers arising from AI, particularly for vulnerable consumers?

AI can be used to help protect vulnerable customers. Behavioural AI, when applied correctly in customers interactions, can help detect signs of vulnerability. Some measures are easy to spot, e.g. someone talks about a recent bereavement or a job loss. However, others are more subtle, such as an increase in the use of filler words, or agitation, or showing signs of not really understanding what is being said. Agents can also talk far too quickly for people to really understand what is being said to them. This technology can be used to look back over historic calls to triage and rectify issues (in line with the FCA's Consumer Duty).

AI can also be implemented to help agents in real time to assess the understanding of the person they are talking to by highlighting areas of concern and suggesting appropriate responses. This also allows the possibility to offer tailored advice and support based on an individual's specific needs.

AI-driven technologies can improve accessibility for consumers with disabilities. For example, text-to-speech and speech-to-text technologies make information more accessible for visually impaired customers.

Risks of AI for Vulnerable Consumers

1. **Bias and discrimination:** AI systems can inadvertently perpetuate biases present in the training data. This can lead to discriminatory practices and unequal treatment of vulnerable consumers. It is important to not just rely on a generic Large Language Model to assess vulnerability and risk. Instead, it requires a multi-tiered, explainable approach that looks at objective psychological markers, combined with an LLM approach to provide a refined assessment.
2. **Over-reliance on technology:** While AI can enhance customer service, there is a risk of over-reliance on technology at the expense of human judgment. It is important to strike a balance and ensure that human oversight is maintained to address complex and sensitive issues.
3. **Misinterpretation of behavioural cues:** AI may misinterpret subtle behavioural cues, leading to incorrect assessments of vulnerability. For example, nervousness or agitation might be mistaken for confusion, resulting

in inappropriate responses. Again, as described above, any Behavioural AI approach must be trained on objective psychological data, that is capable of producing an explainable output, for both regulatory and ethical reasons.

About Verint

Verint® (NASDAQ: VRNT) is a leader in customer experience (CX) automation. The world's most iconic brands – including more than 80 of the Fortune 100 companies – use the Verint Open Platform and our team of AI-powered bots to deliver tangible *AI Business Outcomes, Now*™ across the enterprise.

Verint, The CX Automation Company™, is proud to be Certified™ by Great Place To Work®. Learn more at Verint.com.

About Verint Financial Compliance

Verint® Financial Compliance™ is a comprehensive compliance communications insights platform designed to help financial organizations maintain compliance with financial regulations, avoid legal sanctions and reputational damage, and increase productivity through best-of-breed communications capture and AI-powered speech transcription and analytics. Learn more at https://www.verint.com/financial-compliance/.

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