1. Introduction about Aire

Aire is a credit reference provider based in UK. We provide a service that allows banks & lenders to enhance their creditworthiness assessments about consumers. We do this by leveraging deep technology and algorithms that allow us to emulate decision making of human loan officers (credit underwriters). This enables banks & lenders to serve a wider population base in the UK and not be restricted to just those they can see in the branches or in-person.

**Our mission is to enable financial access for the population who are typically underserved due to a lack of credit footprint in the system.** Research from high street banks has demonstrated the work at Aire helps nearly 2 out of 10 adults in the UK get up to the same starting line when it comes to financial access. Over time we believe this can also streamline the risks of high-cost short term credit and debt traps as consumers can access more types of mainstream financial products.

We deliver an online interactive interview to allow consumers an opportunity to demonstrate their creditworthiness by submitting additional information. After analysis, we algorithmically determine various credit risk parameters and those outputs (data) is passed to our clients (banks & lenders). This process is important as we are bringing in contextual decision making back into credit decisions that was lost in the move to automation since the 1970s.

In effect, we are giving consumers the ability to fill in the gaps in their profile that traditional automated decision systems were unable to decipher. Our newer algorithm techniques therefore help the whole ecosystem move forward by making better decisions. Often the consumers we help tend to be self-employed or contractors, a category that has dramatically increased over the last few years in this new economic climate — and yet we found them to be penalised by the financial system.

We were authorised by Financial Conduct Authority in September 2016 to provide credit references, marking a notable new entrant in the credit reference sector which has typically been dominated by the ‘big 3’ bureaux for several years. The company has received significant recognition from the media and also various UK government bodies including internationally as a disrupter in the financial services. The company is privately held and funded its initial research through venture capital and investments from foundations focussed on improving financial access globally.

This diagram briefly illustrates the vital position Aire occupies in the financial ecosystem.
Section 2.1: Use of Algorithms and role of them in Aire’s business

At Aire, we use a suite of algorithms on the consumer submitted data. The algorithms used come from the fields of machine learning, artificial intelligence, stochastic modelling and reinforcement learning.

Collectively these algorithms perform various tasks such as:

- Validation of inputs for accuracy and regulatory requirements
- Suspicious application tracking (a form of fraud monitoring)
- The main credit risk assessment which several includes subcomponents such as forecasting affordability of a consumer amongst other well established credit-worthiness metrics

Opportunities: The use of algorithms and risk models allows Aire to address the uniqueness in every customer and add the context behind an application in lending decisions. Using adaptive algorithms allow us to respond to applicant’s response and tailor the user journey accordingly.

Aire stands on the premise that consumers have sufficient data about themselves that can help eliminate mis-classification errors (that currently exist). Therefore a consumer might be currently classified as a higher-risk (incorrectly) if there is very little credit repayment data about them (often colloquially said to “not have enough credit history”). However, consumers can bring in alternate data records such as repayment history for utilities and even
Written evidence submitted by Aire (ALG0066)

demonstrate strong affordability metrics to show creditworthiness. Aire helps bring this additional data in to help re-assess these consumers (where they are genuinely ready to handle credit). Aire is clear in its mission that it does not want to encourage people to take on more credit. Our creditworthiness decisions are based on the fundamental credit theory of Capacity + Character (and therefore Aire lays no claim to possibly uncovering new credit theory, we simply have created advanced techniques to apply these credit theories at scale across a wide population).

In addition, Aire has taken a stance to limit the use of types of data it takes into consideration for credit decisions — most notably social media data. A primary reason for this is to ensure that we can establish that our algorithms are not picking up a bias for Race, Religion, Ethnicity or Gender. We strongly believe in the equal opportunity for credit and therefore we found through research that social media data was not reliable enough at this stage to provide any creditworthiness insight and brings in the risk of bias as mentioned above. Therefore, at this stage we are not looking at any social media data for credit decisions.

Aire is a research-driven company, and we know that our long-term success depends on ensuring we do not make short-term decisions that creates a negative outcome for consumers. As such we also try to create dialogue and best-practices within our sector to ensure other startups also observe such practices to safeguard the interests of consumers when working with data & algorithms.
Section 2.2: Details of Transparency in decisions via algorithms at Aire

One of the key criticisms aimed at proliferation of advanced algorithms into commercial world is how equipped they are to deal with the variety of criteria a business needs to cater to when they deliver a service. In our industry, credit is so fundamental to the way we live right from education to establishing a shelter in the form of a home ownership (mortgages).

This makes the algorithms and the data points used to be highly accountable and transparent.

Aire has adopted a posture to ensure it is serving consumers without bias. We establish accountability by ensuring that we are able to clearly explain why a credit decision is made and the criteria used by the model can be explained to various stakeholders such as regulators, auditing firms, lending partners and most importantly consumers themselves. The company has a strict model governance process that ensures a strict sequence of checks before a version of the algorithm is put live — this includes full involvement of the senior management of the company including review if needed by an independent Ethics panel.

Every feature or factor used by the risk model for the is checked for its ability to not only differentiate credit risk but also its exposure or sensitivity to a particular segment of applicants such as age groups, regions so that the decisioning is done without any biases within the input segments. Aire has been very vocal about the need to ensure such careful vigilance in credit models and leads the industry in its transparency efforts for consumers as well.

Early in our history we engaged pro-actively with the relevant regulators (the Financial Conduct Authority in the UK, and others in various international jurisdictions) to demonstrate our work does not lead to a negative consumer outcome (detriment).

Aire also has hired senior loan officers (credit underwriters) who manually review large samples of our data to create tags to ensure that our algorithms are performing within reason of human intelligence. This is a very critical research initiative at Aire that is expensive but ensures we are manually reviewing outcomes and also keeping our algorithm evolution in line with human decision making. The company invests actively in understanding human decision making as a core part of its long term intellectual property.

Section 2.3: The importance of data protection in Credit Industry and at Aire

Working closely with the various regulators we have established a strong framework for data protection that allows us carefully protect consumer data and yet work on it to effectively help them. We didn’t want to create the situation that one often hears about legacy systems
that the data is so carefully preserved that it is almost inaccessible to the institution to use even if to the consumer’s benefit!

We work through a careful process to establish:

1. Data usage in a research context
2. Data that will be used in a commercial context
3. The Ethics of using said data (eg: social media for credit decisions)
4. Establishing the data owner and data controller in every engagement
5. Enabling transparency for the data for the consumer (ie: allowing them free and unrestricted access to their own data).

In that sense, we believe that we are mere custodians of the data on behalf of the consumer and take the utmost care of protecting it. And as publicly stated by Aire before, we always make the credit data about consumers available for free to them (unlike other market participants who charge consumers to access their own data!).

Section 2.4: Practices for oversight of algorithm decision making

The most important element in any oversight has to be the core operating ethos of a company. Aire has taken the posture that we need to respect the privacy and ethics of the data we are working across. Therefore, we have a series of practices for our own oversight (in addition to the guidelines from various regulators that we engage with).

As part of our governance framework, before we deploy the algorithm and models in our lending partners environment for an evaluation or commercial deployment, a series of technology readiness levels tests are carried out by our management and the product owners to ensure that the oversight of credit assessment produced takes place. This includes written policies to ensure that the oversight process is consistent across the organisation:

a. Credit product design policy (for research and commercialisation)
   - This policy sets out guidelines about the data sources that we use for the risk assessment.
   - It also sets out the practice guidelines for every credit research in terms making sure we have the necessary permissions to use the dataset for the risk models.
   - This is reviewed periodically and closely accounts for the regulatory requirements as well (including regional laws across countries)

b. Model governance framework on credit assessment and decisions
   - Each lending partner engagement will include a calibration stage to verify that the model scores appropriately for the lending product and the target segment and
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- Scores can mean a Score or Insights or Features, depending on the project and Partner requirements.
- The Research Team publishes the pre-live calibration data to the Executive Committee prior to partner launch.
- Test results for product releases are continually reviewed and approved by the Executive Committee.
- Aire undertakes ongoing monitoring of performance with the lending partner.

c. Ensuring the Policy and procedures on credit assessment and decisions respects the notion of Treating Customers Fairly (TCF)

The core mission of the company is to enable fair access to financial products and this can only be achieved by treating the customers fairly. We have taken extensive care in setting out guidelines in making sure we operate with TCF principles in mind. As first step in this direction, we are using consumer’s full consent for any of the data used for credit assessment.

d. We have set up an independent Ethics panel

This is to review the business functional and the panel members are chosen to be independent members so that they can review and advise our management team to operate with high degree to ethical values.

Section 3: Conclusive Remarks

As a company, we at Aire will continue to operate with respect for consumers, and letting consumers have immediate transparency to the data we collect about themselves. We believe the above practices will enable us to serve the consumers and the lending partners who rely on the customers for sustainable in a consistent and trusted manner.

This coupled with Model governance process will allow Aire to be able to deliver value to the community and the customers. The ‘moral compass’ of the company a major factor which while hard to measure does ensure that the company is acting in the best interests of the consumer. At Aire we treat consumers with the same care that we would like as citizens. This is baked into our motto as a company.

We are available to provide further clarification on the topics above or host a delegation at our premises to dive deeper into our practices around data & algorithms.

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