FINAL REPORT FROM SCIENCE COUNCIL WORKING GROUP ON DATA USAGE AND DIGITAL TECHNOLOGY AND FSA REPSONSE

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1.   Summary

1.1   The Board is asked to:

- **Consider** the final report from the Science Council Working Group on Data Usage and Digital Technology (Working Group 4);

- **Consider and agree** the FSA response to the recommendations.

2.   Introduction

2.1   Science Council Working Group 4 was established in September 2018, chaired by Professor Patrick Wolfe, delivering its final report (Annex 1) in July 2020.

2.2   Working Group 4, as per its original Terms of Reference, aimed to provide independent advice and assurance to the Board on how the FSA might be better equipped for the opportunities (and challenges) associated with the continued digitalisation of our food system.

2.3   This Board paper presents the final recommendations from Working Group 4 and sets out the Executive's analysis and proposed response.

2.4   Whilst the final Working Group 4 report was finished during the COVID-19 pandemic, analysis of how this has impacted FSA and food sector data systems in general, and how it may further change practices and aspirations was not assessed. This would benefit from subsequent consideration.

3.   Evidence and Discussion

Summary of Working Group 4's Approach and Recommendations to the FSA

3.1   Working Group 4 employed a phased approach to its investigation, formulating advice and recommendations informed by a mix of exploratory interviews with FSA representatives and externally commissioned research, supported by the Strategic Evidence Fund (SEF).

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3.2   Commissioned projects were:
  - Road-Mapping Uses of Advanced Analytics in the UK Food and Drink Sector, commissioned with The Alan Turing Institute (Project FS301085);
  - Developing 'Data Trusts' for the Food Supply Chain, commissioned with the Internet of Food Things Network Plus (IoFT) (Project FS301083)[1].

3.3   Working Group 4 has concluded its investigation by providing six high-level recommendations to protect and encourage the FSA's strategic positioning in relation to data usage and data and digital innovation. The top line of these recommendations (as below) are expanded on in the full report provided separately as Annex 1.

3.4   Taken together, these can be summarised as supporting key considerations of governance, capability and culture.

3.5   The Working Group 4 recommendations are to:

  1. Champion an integrated approach to data standards;

  2. Grow the FSA's technical leadership for data;

  3. Champion the principles of permissioned data access and open data where possible and explore options available to mandate improved data access where consumer interest is at stake;

  4. Whilst remaining responsive to rapidly emerging opportunities for innovation, the FSA would benefit from more consistent completion of the 'innovation cycle' and long-term monitoring of impact for data innovations;

  5. Encourage the development of data capabilities and skills across the FSA staff base;

  6. Ensure the FSA is sufficiently equipped to attract, reward and retain internal skillsets, whilst continuing to endorse flexible means of providing data skills and capabilities for the FSA.

Executive's Analysis of the Working Group's Recommendations

3.6   The Executive welcomes the Working Group 4 report and uses the remainder of this paper to work through each of the recommendations and consider the overarching themes of governance, capability and culture.

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[1] This project is ongoing until December 2020 but Working Group 4 has been informed by interim discussion and deliverables.

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3.7   The Executive:

- Agree that data standards are fundamental to our ability to operate in a connected data ecosystem and that the FSA must continue to work with partners, whether government or business, UK or international, to actively influence standards where this is felt to be justifiable in relation to consumer interests. The FSA Data Science Team is finalising a review of data standards, with specific recommendations for prioritised actions with different stakeholders. Ongoing response to Recommendation 1 will also consider how advances in Natural Language Processing[2] (NLP) and semantic data exchanges[3] can alter the discussion of data standards, so data tools themselves can improve data quality. The FSA is already gaining experience in these techniques.

- Continue to press for data standardisation, where it adds value, both across government and business. We are pleased to see the profile of data standards being raised in government by the Office for National Statistics (ONS), announcement of the creation of a Data Standards Authority (DSA), led by the Government Digital Service (GDS), and the Cabinet Office and Number 10 driving for increased data sharing, which is enabled by underpinning data standards. We will also continue to play a key role in the establishment and use of food industry-wide standards and international standards.

- Has recognised the increasing importance of data in all its guises, in the delivery of the FSA's mission. High level sponsorship has been established from the FSA Board and EMT, and our successes in publication of so much open data[4] and implementation of GDPR are examples where that sponsorship was critical. Underpinning governance structures in the FSA have been established such as Information Governance Board, the IT Management Board and Strategic Surveillance Steering Committee.

- Recognises the importance of leadership (Recommendation 2) in such a critical, fast moving and broad subject. Brigading all "data related" teams from statisticians to data scientists, from operational research to data architecture, under one Director has strengthened that overall leadership within the FSA. EMT also strongly supports the continued role the FSA plays in for example, membership of the Data Leaders Network, reporting into the Data Advisory Board[5], and our contribution to the National Data Strategy[6].

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[2] NLP covers a wide range of techniques for the extraction of information from unstructured data, like that in free text.

[3] The ability of different systems to exchange and interpret data with a shared meaning.

[4] https://data.food.gov.uk/catalog

[5] https://www.gov.uk/government/groups/data-advisory-board-and-data-leaders-network

[6] https://www.gov.uk/guidance/national-data-strategy

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- Agree that improved access to external data, and its timeliness, led by a clearly identified user need has significant potential to improve the trustworthiness of our food system. Our food system is complex and the FSA welcomes Working Group 4's contribution to this space in commissioning the Data Trusts project with Internet of Food Things. This is an area where there has been significant evolution in the data tools available e.g. Blockchain, but more importantly, the business operating models that are enabled. The Executive is taking forward Recommendation 3, with a cross governmental pilot on an 'Open Ecosystem Federation' that explores the development of data 'protocols' to enable sharing of intelligence across multiple parties, with the first use case being considered on intelligence sharing for food freight arriving into the UK.

- Agree that long-term monitoring and evaluation of applications developed in FSA data 'sprints' need to evolve to the next stage. The approach was taken to demonstrate value to users quickly and to meet the then fast-emerging needs of EU Exit. Many products have been implemented into service, and there is a growing catalogue of material benefits. The resourcing challenge of maintaining and undertaking subsequent user-driven development/optimisation of each application is of course increased as each new 'problem' is presented, and 'asset' created. We need to be more explicit with the consideration of development of new tools vs continuous improvement of existing ones. This may help create a more balanced 'mixed portfolio' of effort but requires consideration of associated resourcing (Recommendation 4).

- Will consider how to improve the data skills of the FSA staff base (Recommendation 5), as new applications increasingly modify the ways we all work. There remain cultural barriers within this that will likely require a sustained and blended approach to address. Our ongoing response will consider existing support, how to improve on this and the need to consider a mix of generic skills training and wide range of role specific training. The Executive may consider drawing on experience from the Government wide Data Leaders Network and resources such as the Open Data Institute Data Skills Framework[7]. The wide range of user needs should be considered before constructing a general training programme. This should be considered within the work to understand the wider strategic capabilities of the FSA.

- Remains aware of the need to consider appropriate resourcing for data within its own resources, based on the Board prescribed ambition (Recommendation 6). The skills we need are in scarce supply, and COVID-19 has demonstrated their value even more. The FSA has a good core team and strong relationships with several specialist suppliers and academia but needs to be live to the risk we could suddenly lose those skills. The FSA seeks to continue to use its position of strength, its strong

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[7] http://theodi.org/wp-content/uploads/2020/05/2020-05-Data-Skills-Framework.pdf

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reputation and critical purpose, to influence and leverage others to help achieve its aims.

3.8 The Executive will update the Science Council on FSA progress made against the Working Group 4 recommendations within twelve months.

4. Conclusions

4.1 The Board is asked to:

- **Consider** the final report from the Science Council Working Group on Data Usage and Digital Technology (Working Group 4);

- **Consider and agree** the FSA response to the recommendations.

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ANNEX 1: FINAL REPORT FROM THE SCIENCE COUNCIL WORKING GROUP ON DATA USAGE AND DIGITAL TECHNOLOGY

This Report is provided separately.