FSA Science Council Meeting Minutes; 27th Sept 2018

Framing a Working Group Investigation into FSA Data Usage and Digital Technology

Regus London Victoria, 10 Greycoat Place, Victoria, London, SW1P 1SB

Meeting Attendees;

Science Council Attendees
Sandy Thomas (Science Council Chair)
Patrick Wolfe (Working Group 4 Chair)
Mark Woolhouse
Mark Rolfe
Science Council Apologies
John O'Brien
Sarah O'Brien
Laura Green
Paul Turner
Food Standards Agency Attendees
Guy Poppy (Chief Scientific Adviser)
Patrick Miller (Head of Science Strategy and Governance)
Sian Thomas (Head of Data, Information Governance and Security)
Gwen Aherne (Science Council Secretariat)
Ben Goodall (Private Secretary to CSA)

Summary of Actions;

Number	Action	Owner	Deadline
Sept 18-1	Table future WG4 discussion on how the FSA can best facilitate/develop cross-talk between data experts and FSA practitioners.	Secretariat	Spring/Summer 2019, as appropriate to Science Council investigation
Sept 18-2	WG4 should look at whether FSA has the structures in place to provide assurance that FSA will pick up data/digital opportunities in a consistent way.	WG4	Ongoing as part of WG4 output
Sept 18-3	FSA Data and Digital leads to consider whether the FSA should commission a skills audit run in parallel to the WG4 investigation.	Julie Pierce, Sian Thomas and Britt Kritzler	Science Council Meeting; 12th December 2018
Sept 18-4	Raise WG4 intensions among the Governmental CSA Network, inviting further input and collaboration.	Guy Poppy	As appropriate before end of 2018.
Sept 18-5	Acknowledge and gather information from external sources to inform WG4 discussion on an ongoing basis.	Secretariat	Ongoing throughout WG4 investigation
Sept 18-6	Incorporate a question on data collection into the draft WG4 ToRs.	Secretariat in conjunction with	Science Council Meeting; 12th December 2018

		Patrick Wolfe and Sian Thomas	
Sept 18-7	Draft a SEF funded tender outline for an external project on the use of data in the regulatory context and consequences in relation to data standards and collection, for approval at the December Science Council meeting.	Secretariat in conjunction with Patrick Wolfe and Sian Thomas	Science Council Meeting; 12th December 2018
Sept 18-8	Develop a WG4 recommendation that one of the five CPD days allocated to FSA staff annually should go on improving data handling.	WG4	Ongoing as part of WG4 output
Sept 18-9	Plan a series of exploratory discussions for WG4 to better understand FSA data usage and the need of individual workflows, as part Phase 1. Supporting briefing documents should be prepared.	Secretariat	Science Council Meeting; 12th December 2018

Summary of Meeting

Introduction

1. Council Member Patrick Wolfe welcomed all to the first meeting of the new Science Council Working Group 4 (WG4) and reminded participants of the background to how and why this group is being established;

2. Data and advancement of data usage influences the Food Standards Agency's ability to carry out its mission; ensuring food is safe and authentic.
3. The data/digital sphere continues to rapidly evolve, lending itself to independent Science Council review and the Science Council's leveraging influence in the support of further FSA development/innovation/preparedness.
4. Patrick Wolfe was commissioned by Sandy Thomas, and Guy Poppy, to produce a Steering Paper to frame a discussion on a potential future Council Working Group on data.
5. The Steering Paper was discussed at the Science Council meeting on the 27th of June and an action generated for the creation of WG4-

Action June-18-2 – CSA, Council and Secretariat to develop proposals on a new Working Group for agreement by FSA

Review of current FSA position

6. Guy Poppy noted the valuable work the now closed General Advisory Committee for Science (GACS) previously contributed in their 2014 Data Exploitation Report. Nevertheless, a refreshed look to incorporate recent advancements is welcomed for a top Cross-Governmental area of interest. The intention is for the Science Council to supplement, rather than to reinvent previous efforts.

7. The UK Agri-Food Sector generates some $113bn for the UK economy each year[1]. It is our biggest Manufacturing Sector yet considered to be of low productivity; employing nearly 4 million, often low payed individuals, frequently delivering small profit margins.
8. Data and Technology are means to up productivity; the Science Council's interest is representative and timely to wider 'mood music' [Guy Poppy referenced discussion within the wider Chief Scientific Adviser Network]. However, there are frequently gulfs of both understanding and advancement between that of technologists, policy makers and 'everyone else'.

9. Sian Thomas outlined the FSA's current data work and capability;
   Considering the FSA's overall capacity as a small independent Government Department, FSA data usage and data innovation are already good. The FSA has previously been a Governmental leader in applying innovation; using Twitter as an early warning tool to predict *Norovirus* outbreaks and a live Blockchain pilot to improve the collection and communication of meat inspection results at abattoirs, adding additional value to both the FSA and producers, as primary examples.
10. However, the 'data culture' and organisation/distribution of data science skills across the FSA is variable. Innovation and modernisation is sometimes met with cultural barriers to the adoption of new ways of doing things.
11. Council members agree that it is important that digital/data should be embedded throughout FSA and all should think about its potential use. There continues to be a need to encourage people with operational focus to see how digital/data can help in their work where this has not already been acknowledged.
12. Council members and FSA participants agree that Council interest should raise the level of expectation and impetus to action. However, the recommendations of WG4 should not be at a pace that sets them up to fail upon implementation. Consideration of how to best facilitate cross-talk between data experts and practitioners may be a key deliverable WG4 of impact.

Action Sept 18-1; Secretariat to table future WG4 discussion on how the FSA can best facilitate/develop cross-talk between data experts and FSA practitioners.

13. Guy Poppy described how on its own, data carries little intrinsic value. It becomes more valuable as it moves up the 'data pyramid', firstly generating information. Information is intended to grant knowledge or insight, for the delivery of impact through action.
14. Collecting data is expensive. There are statutory monitoring requirements within some areas of the FSA remit; the meat supply chain for instance, absorbing a significant proportion of the FSA's total budget. Previously, little added value has been gained by some such collections beyond fulfilling legal requirements.

[1] https://www.gov.uk/government/publications/food-statistics-pocketbook-2017/food-statistics-in-your-pocket-2017-food-chain

15. Sian Thomas stated that a fundamental change is ongoing within the FSA in the asking of more intelligent data questions, looking for better methods of collection, adding more targeted, strategic data, to deliver FSA's statutory responsibilities in a smarter way.
16. For instance, could use of Machine Learning help optimise the distribution of effort for Official Veterinarians, so that focus is better targeted where most required?
17. The Food and You Survey[2] is an example of a mature [>8 years], strategic dataset of significant value for the trends and changes it plots.
18. Sian Thomas explains that no new data sets are collected without consideration of why they are required, what value they will provide and how their utility can be maximised by the FSA's IT Management Board. If value is not sufficiently demonstrated, approval is not granted. However, this applies only to newly proposed collections; there is no process or requirement to review the need and approach for work commissioned before these processes were implemented, or on an ongoing basis.
19. The challenge of data collection and analysis is made more complex when we move to interaction with Local Authorities; potentially representing more than 380 different ways of doing things.
20. Council members noted that data interoperability will need careful consideration but is a grand challenge extending well beyond the Food chain.
21. Patrick Wolfe reminds the group that the focus isn't necessarily just on new, high-tech solutions or systems, low-tech approaches that reliably deliver quality data are equally valuable. New tools that continue to collect bad data are pointless; bad data in, bad data out. Data quality is key.

Implementation of the 2014 GACS report

22. Council members asked what progress had been made against recommendations made by the GACS 2014 Data Exploitation report?
23. Sian Thomas explained that: the FSA's data and information governance position has improved significantly. In lines with the GACS recommendations, the FSA has a publicly available data strategy[3], 70% of FSA data is openly available in our data catalogue[4]; each dataset with a dedicated 'owner'. The introduction of the EU General Data Protection Regulation has driven/superseded several the GACS recommendations; with supporting policies and processes available. With respect to engaging with external expertise, the 2016 IT as a Utility Network+ project that lead to the creation of Internet of Food Things (IoFT) consortium is worthy of mention. External engagement is something to be continuously worked on in line with other Science Council WG recommendations. Senior data leadership is now provided by Julie Pierce; Director of Openness, Data and Digital, ensuring strong 'buy-in' at Director level. Julie is supportive of the WG4 investigation and will join future Science Council discussion.
24. The GACS report previously provided a level of confidence, but there has been no formal 'refresh mechanism'. Relying on earlier success or opportunistic, individual

[2] https://www.food.gov.uk/research/food-and-you
[3] https://www.food.gov.uk/our-data
[4] https://data.food.gov.uk/catalog

developments rather than systematic, strategic oversight leaves the FSA vulnerable. The FSA is improving in this respect but raising the 'baseline' has required much capacity. Examples include use of machine learning to predict a *Salmonella* outbreak linked to cucumbers, and modelling Vibriosis from shellfish.

Action Sept 18-2; WG4 should look at whether FSA has the structures in place to provide assurance that FSA will pick up data/digital opportunities in a consistent way.

25. Patrick Wolfe noted that the recent WG3 Horizon Scanning Workshop (12th September 2018) highlighted 6 areas where technology is/can be used, impacting the food system;
    -To mitigate external circumstances e.g. climate change
    -To better predict; supply & demand planning, anticipating real-time scenario impacts
    -To improve/transform infrastructure
    -To promote transparency authenticity and trust
    -To improve measurement accuracy and data interoperability
    -To minimise loss and waste
26. The 6 areas align well to the Science Council's own initial discussion, providing reassurance that both the Science Council and FSA are 'on the right track'.

Framing the draft questions for Working Group 4

27. Patrick Wolfe introduced the three questions outlined in the Working Group 4 Terms of Reference (ToRs) for consideration.
28. These were collaboratively developed by Patrick Wolfe, informed of FSA need by Guy Poppy, Julie Pierce and Sian Thomas.
29. This varies from WG1, WG2 & WG3 where questions were directed by the FSA Board. Drafted WG4 ToRs were shared with the FSA Chair; Heather Hancock, ahead of this meeting.

30. Council members discuss that WG4's challenge is to hone into pieces that will likely have the biggest impact on the FSA's mission. Question 3 goes beyond the FSA's remit; pre-disclosure and pre-disposition in relation to machine learning and artificial intelligence considers to what extent is it acceptable for data to drive decision making in a regulatory scenario; at what point is human oversight required, whilst still gaining technological advantage?
31. Council members agree that both they and FSA should acknowledge and consider work being done elsewhere; the announced Centre for Data Ethics and Innovation[5,6] or Learned Societies for instance.
32. Sian Thomas highlights that the Department of Health & Social Care, the Department for Business, Energy & Industrial Strategy and the Home Office are also active in this space. Frequently, larger Governmental Departments find it

[5] https://www.gov.uk/government/news/search-for-leader-of-centre-for-data-ethics-and-innovation-launched
[6] https://www.gov.uk/government/consultations/consultation-on-the-centre-for-data-ethics-and-innovation/centre-for-data-ethics-and-innovation-consultation

challenging to trial new ideas/innovations, but they have greater capacity with respect to systematic review and evaluation.

33. The FSA's data capacity is limited; Sian Thomas explains that there are currently 8 dedicated data scientists. Other Govenmental departments have orders of magnitude more.
34. Patrick Wolfe noted that the FSA's in-house skills gap may alter naturally over time; much of University training incorporates significantly more data handling development than ever before though that does not address current need to bring existing staff up to date. WG need to explore how FSA can get access to a critical mass of expertise.

Action Sept 18-3; FSA Data and Digital leads to consider whether the FSA should commission a skills audit run in parallel to WG4's investigation.

35. Council members and the FSA agree that WG4 may find it challenging to independently conduct or commission work in this space and should look for opportunities to gather or collaborate effectively.
36. Guy Poppy will enquire within the Cross-Governmental CSA Network about relevant work and where there are good examples, consider inviting to input to future WG meetings.

Action Sept 18-4; Guy Poppy to raise WG4 intensions among the Governmental CSA Network, inviting further input and collaboration.

Action Sept 18-5; Secretariat to acknowledge and gather information from external sources to inform WG4 discussion on an ongoing basis.

37. Patrick Wolfe noted Data collection has been a significant component of discussion, though is not represented amongst the three questions currently set within the drafted WG4 ToRs.
38. Patrick Wolfe raised concerns with respect to 'scope creep'; should Science Council activity include a piece on data collection or maintain focus on data standards and usage?
39. Council members agree that considering where alternative data collection might be appropriate should feature within the WG4 ToRs, as a parallel stream of work to compliment assessment of dataset quality and standards.
40. Guy Poppy noted that The FSA's Strategic Evidence Fund (SEF) has previously supported Science Council investigation; the commissioning of RAND Europe for WG3's food system horizon scan. The SEF will be available to support future WG4 investigation.
41. Council members commented that experience has shown that commissioned projects still require significant guidance. It should not be expected that an external body will have sufficient expertise/capacity to fully understand FSA needs without ongoing support. This must be given consideration in commissioning specifications. Academic involvement generally takes longer than private consultants but the products are frequently more bespoke.

Action Sept 18-6; Secretariat to work with Patrick Wolfe and Sian Thomas to incorporate a question on data collection into the WG4 ToRs.

42. The Science Council will review proposed commissioning bids for approval at the next Council meeting and begin the exploration of FSA data usage.

Action Sept 18-7; Draft a SEF funded tender outline for an external project on the use of data in the regulatory context and consequences in relation to data standards and collection, for approval at the December Science Council meeting.

WG4 ways of working/approach

Are the drafted WG4 ToRs fit-for purpose, what should the Science Council aim to achieve, how best to progress, and how to maintain clear, focussed objectives within such an expansive domain?

43. **To Note;** Patrick Wolfe formally Recognised as Working Group 4 Chair.

44. Council members agreed that the drafted WG4 ToRs are generally fit for purpose, subject to recommendations made during meeting.
45. Science Council discussion and contributions should remain high level rather than becoming overly concerned with the technical detail of any specific data application/approach.
46. WG1 and WG2 resisted much focus on the operationalisation/ownership of issues, providing high level recommendations and principles.
47. However, Guy Poppy noted that feedback on the recommendations of WG1 and WG2 suggests the FSA would like to see some of the Science Council output include elements of greater specificity.
48. Council members propose that one early, specific recommendation WG4 could make is that one of the five Continuing Professional Development (CPD) training days allocated to FSA staff per year should go on improving data handling.

Action Sept 18-8; Develop a WG4 recommendation that one of the five CPD days allocated to FSA staff annually should go on improving data handling.

49. Sandy Thomas notes that WG4 is in a far more technical space than previous Working Groups. There is a concern that this may detract from the ability of Council Members to contribute. The Council must remain vigilant of 'scope creep' to ensure work remains manageable.
50. Council members agree the proposed phased study approach, use of SEF commissioning and a year-long study period are useful to ensure the intensity of work is not too great at any one point. A shorter length of time would prove challenging to both the Science Council and FSA support.
51. Mark Rolfe reminded the Council that even when looking at a technical project like that of WG4, it is important to keep consumer interest at the forefront of the mind; the 'so what'; how will data benefit/enrich decision making in support of public wellbeing? The actionability of data should be a guiding principle to the FSA.
52. Council members suggest the model established for WG2 whereby representatives of FSA workstreams present to the Science Council to better understand FSA activity and need, would be advantageous to replicate for WG4. Briefings should be prepared in advance.

53. Guy Poppy noted the FSA's Advisory Committee for Social Science review of the Food and You Survey, has a data aspect to it, representing a good opportunity link the ACSS and Science Council. Exploratory discussions might also include external bodies; other Governmental Departments or relevant networks; the Internet of Food Things Consortium for instance.

Action Sept 18-9; Secretariat to plan a series of exploratory discussion for WG4 to better understand FSA data usage and need of individual workflows, as part of WG4 Phase 1. Supporting briefing documents to be prepared in advance.

Other Business;

54. Guy Poppy updated the Council on the implementation of WG1 & WG2 recommendations. The two reports with the Executive's proposed responses to them will be discussed by the FSA Board on 5th December, so they will receive attention and action at the highest level of FSA. The FSA will report back to the Science Council on progress implementing the responses in the future.
55. The WG3 Horizon Scanning Workshop on the 12th September 2018 appears to have been a success. There is interest in making this an annual occurrence.
56. The FSA is developing plans to expand its use of Scientific Advisory Committees in 2019. Remuneration to members of all FSA Scientific Advisory Committees (SACs) will increase, and a recruitment campaign to boost capacity in the SACs carrying our risk assessment is expected to begin in November 2018.