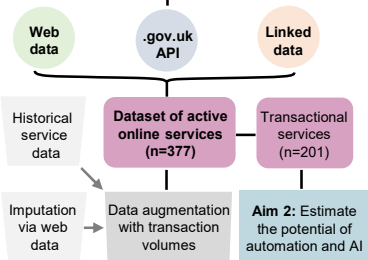


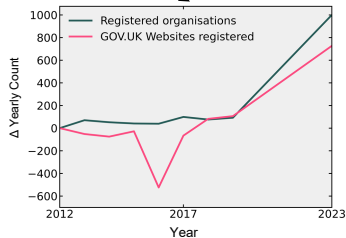
A

Analysing UK government services

1 domain (.gov.uk)
57 central government organisations
(i.e., 22 departments, 35 executive agencies and public bodies)



Aim 1: Construct network of government organisations and quantify scale of administration



B

AST equations

$$(1) AST_{raw} = RC_k + RM_k - NRA_k - NRI_k - NRM_k$$

$$(2) AST_k = AST_{rescaled} = (AST_{raw} + 1) / 2$$

where RC_k , RM_k , NRA_k , NRI_k and NRM_k are computed using the equation:

$$T_{jk} = \frac{\text{number of tasks in task group } j \text{ in service } k}{\text{total number of tasks in service } k}$$

where T is the task content, j indicates the five task groups, and k stands for each of the 201 transactional services.

Example service task content

Task group	Count
NRA	0
NRI	1
RC	8
RM	1
NRM	0
Total	10

D

Example service tools and methods of work description

Tool or method	Description
Interpersonal Interaction	There is some degree of interpersonal interaction between individual users and service providers, but this is limited in scope and volume (e.g., a call-in to the relevant department to request information)
Team Structure	Internal administrative staff: civil servants in the respective government department or agency
Manual document checking	None
Form types	Webpage (e.g., HTML) and document-based forms (e.g., PDF)

PGenAI rubric scoring guide schematic

Grade	Description
High potential	GenAI applicable to $\geq 75\%$ of tasks; there is no interaction; only internal administrative staff
Medium potential	GenAI applicable to $\geq 50\%$ of tasks; some interaction; internal administrative staff or tribunal
Low potential	GenAI applicable to $< 50\%$ of tasks; some/high degree of interaction; internal administrative staff or tribunal
No potential	GenAI applicable to $< 50\%$ of tasks; high degree of interaction; internal administrative staff and tribunal

C

$$AST_k = 1$$

AST = 0.9

Get a passport urgently: Renew or replace a passport urgently with the 1 day Premium service or the 1 week Fast Track.

$$AST_k = 0.75$$

AST = 0.57

Apply for a basic criminal record check: How to apply for a basic DBS check to get a copy of your criminal record, and what you must provide.

$$AST_k = 0.5$$

AST = 0.38

Appeal against a visa or immigration decision: You may need a visa to come to the UK to visit, study or work. You can appeal to the First-tier Tribunal (Immigration and Asylum Chamber).

$$AST_k = 0$$

Distribution of AST index scores



High-volume services graded with rubric (n=20)

Transactional public services (n=201)