

DATA MATURITY FRAMEWORK FOR THE SOCIAL SECTOR - SUMMARY VERSION 1, JANUARY 2017.



This Data Maturity Framework has been developed specifically for the social sector. It was created in partnership by Data Orchard CIC and DataKind UK as part of the Data Evolution Project www.dataevolution.org.uk. The framework presents the five stages of progress in data maturity for organisations: Unaware, Nascent, Learning, Developing and Mastering together with the seven key themes: Data, Tools, Leadership, Skills, Culture, Uses and Analysis. It can be read either vertically by stage, or horizontally by theme. The framework is set out over three pages grouping the themes on each page as. 1:Data and Tools; 2: People; and 3: Purpose.

1. DATA AND TOOLS

Stage Theme	Unaware	Nascent	Learning	Developing	Mastering
Data Collection. Sources. Quality. Assets.	<ul style="list-style-type: none"> Limited data (if any) collected. Not checked for validity or accuracy. Infrequently, if ever, updated. Collected manually for specific purpose. No external data sources used. Nobody is aware or interested in the data assets in the organisation 	<ul style="list-style-type: none"> Data collection is patchy and inconsistent. Rarely updated and cleaned. Occasional use of external information sources relating to the wider context of the organisation's work. Data isn't regarded as meaningful or useful beyond meeting legal/funder/contract requirements. Mixed levels of confidence and trust in data. Know where most data is, but there may be more. 	<ul style="list-style-type: none"> Data collected is reviewed to assess how meaningful, relevant and useful it is, though errors remain. Knows how good or bad its different data sets are; and knows which data sources can/can't be trusted. Data becoming richer, more relational and therefore versatile. Internal data usually in siloes. Additional internal and external data is sourced. Data assets known but not formally recorded. 	<ul style="list-style-type: none"> Data requirements defined and consistently collected. The organisation tests how meaningful, relevant and useful data is. Data is monitored for quality including completeness, accuracy, and validity. Tools and systems exist for cleaning and maintenance. Richer data collection with more integration/alignment between systems reduces duplication, inefficiency and error. Open data is occasionally used in some teams/depts.. Recorded lists of all data assets. 	<ul style="list-style-type: none"> Knows its data is meaningful, relevant and useful. Very high levels of confidence and trust in data quality. Invests in resources to collect, clean, maintain, and manage data well across the organisation. Rich, versatile, re-usable data for multiple purposes and audiences. Staff and volunteers are trained in data collection and collection automated where possible. Compares its data with other organisations through shared measures and benchmarks. Regular use of valuable open/public data sets. Maintain full inventory of data assets with data dictionary, clear ownership, review periods, development plans for each.
Tools Storage. Type and quality of tools. Infrastructure.	<ul style="list-style-type: none"> Data is stored inconsistently, if at all. Data mostly held on paper or in spreadsheets. Spreadsheets not used analytically. Tools not available or not fit for purpose. No planned investment in any tools, systems or infrastructure. 	<ul style="list-style-type: none"> Basic database, spreadsheets and paper used for recording data. Spreadsheets and reports in databases may be used for basic analytical tasks. Tools are limited. May not be up-to-date, don't meet current needs, and may not be documented or supported. 	<ul style="list-style-type: none"> Data held in a range of systems all separately managed. Tools likely to include databases, CRMs, spreadsheets. Used as operational rather than analytical stores. Likely to be one off purchases/builds with limited flexibility for growth, change or improvement. Tools may allow some inbuilt analysis and reporting but most often data has to be extracted for analysis. Possible advanced analytical tool e.g. SPSS, R or SAS, used for basic data processing or descriptive statistical analysis. Joining data or analysis across teams requires manual exporting and re-stitching. 	<ul style="list-style-type: none"> Data held in appropriate databases (or other technologies) accessible by expert users. Some integration beginning to occur between systems with automated/aligned reporting e.g. basic use of business intelligence tools. Most tools up to date with support available. Work-arounds understood and replacements planned for poorer tools. Occasional major investment in new tools/integrations. Advanced tools being used for sophisticated analytics in some depts. e.g. R, SAS, SPSS, Python etc Models using batch analytics being used to understand and create efficiencies in processes. 	<ul style="list-style-type: none"> Data held in singly accessible database e.g. data warehouse. Tools able to access internal and external data directly, for both experts and non-experts. Capacity to store manage, and analyse increasingly large volumes of data. Ongoing investment either major/minor in developing and improving tools, systems and infrastructure. Analytical infrastructure is a priority. Advanced analytics and data science tools present throughout the organisation. Analytical models may be deployed in websites and other interfaces. Automated reporting e.g. through dashboards. Self-service analytics available both inside the organisation and in partner organisations.

2. PEOPLE

Stage Theme	Unaware	Nascent	Learning	Developing	Mastering
Leadership Attitude. Investment. Plans. Capability	<ul style="list-style-type: none"> Not interested and do not invest in data and analytics. Don't use data for decision making, instead use experience and gut feeling. No data or analytics expertise or understanding. 	<ul style="list-style-type: none"> Some awareness, don't see the value. Little investment. Typically use data about what happened in the past and verbal accounts of what's happening for decision-making. Limited data and analytics experience and expertise. 	<ul style="list-style-type: none"> Know data is important, but not entirely convinced. Invest small amounts. Business plan with some defined and measurable targets though data collection/analysis may not align. Might use past and current data for decision making with some simple trends analysis. Learning through experience, building adequate skills. 	<ul style="list-style-type: none"> Becoming engaged and supportive as a whole and beginning to plan and commit significant investment. Ask the right questions of their data, aligned to overarching business plan and desired impact. Monitor what's happening in the present as well as past trends. Some exploratory forward-looking research and predictions. Data champion within senior management. Addressing skills gap in leadership as a whole. 	<ul style="list-style-type: none"> Value, plan and prioritise data as a vital organisational resource. Invest substantially in continuously improving data collection and analysis aligned. Fully understand how to use data to improve what the organisation does. Drive questions and influenced by what data tells them. Use past, present and forward looking data for business planning and decision making. Range of people with data analytics expertise in leadership including at Board level.
Skills Internal capacity. Skilled roles. Access to knowledge and expertise	<ul style="list-style-type: none"> No staff commitment beyond basic administrative level and finance roles. Mostly count up what they do, minimal data recording. Little or no internal skills, training or expertise. 	<ul style="list-style-type: none"> Responsibility for data collection and control is at administrator level. Most analysis done by admin, finance and/or multiple staff using own systems aligned to their role/projects. Basic/adequate skills and training. Occasional support from trustee/volunteers relating to database/finance or reporting. Data literacy is patchy, mostly low, amongst staff. 	<ul style="list-style-type: none"> Dedicated person/team in charge of data as well as other skilled data people in different teams or roles. Adequate data analysis/reporting skills as part of their jobs with some investment in more advanced skills development. Fairly regular use of external support and advice, mostly around specific tools, systems or projects with some skills development. 	<ul style="list-style-type: none"> Understand different skill sets within data and analytics. Dedicated skilled analytics roles established with several people responsible for data in different roles/teams. Possibly a senior person/team bringing organisation-wide data together. Increased data literacy/ responsibility across the organisation. Ongoing use of advanced external expertise. Regular engagement in learning. 	<ul style="list-style-type: none"> High levels of staff commitment at senior, specialist, technical, and administrative levels. Senior data strategist embedded at heart of leadership decision making. All staff trained in data skills with high levels of data literacy across the organisation. Specialist staff regularly update skills and knowledge. Able to independently manage/drive and maximise data analytics to an advanced level. Use range of suppliers providing advanced expertise e.g. data scientists. Becoming experts that others use as a resource.
Culture Team approach. Self - Questioning. Openness and Sharing. Governance.	<ul style="list-style-type: none"> Nobody is interested in data. Data only accessible to a single person or team, usually junior staff. Opinion, observation, passion and belief are used for decision making. Data requirements are seen as a chore and data rarely shared internally or externally. Don't have any policies related to data. 	<ul style="list-style-type: none"> Data is seen as the responsibility of 'someone else'. Recognition that data should be collected but it is not seen as a whole team activity. Data mostly sought out and used to support and evidence what the organisation already believes or knows. Organisation's culture doesn't encourage data sharing across teams, though this may occur occasionally verbally or via reports. Basic policies for data protection and security may be in place but not monitored or enforced. Little/ no staff/volunteer training. 	<ul style="list-style-type: none"> Data is starting to be recognised as important at a more senior level. Beginning to ask more challenging questions of the data. People would like to share more but are constricted by access/permissions/barriers. Some data insights are shared with partners and in the public domain. Data protection and security policies in place. Access to data limited by default (rather than design). Staff and volunteers have basic training. Senior management have a limited understanding of legislation and best practice. 	<ul style="list-style-type: none"> Whole organisation starting to use and share data. People from different teams/levels regularly discuss what it says and how to act. Specialist staff in some teams are starting to use data to ask difficult questions. Use forecasts to challenge views of future performance. External data sharing is done on an aggregated basis and insights are shared inc shared measures and benchmarks. Data protection and security policies and practices well established. Individuals responsible have advanced training and skills. Trustees and senior management keep abreast of current legislation and best practice. 	<ul style="list-style-type: none"> Data seen as a team effort and critical asset for every part of the organisation. Very comfortable using data to ask difficult and complex questions, to challenge practices and preconceived notions about past and future. Internal openness and data sharing fundamental to the culture, subject to data protection/security Data insights and evidence are publicly available. Extensive data sharing, with protocols in place with partners, networks, stakeholders to address shared problems and solutions. Data may be shared with beneficiaries as part of service/support. Data governance policies and practices are robust. Widespread knowledge and skills. Trustees and senior management keep abreast of future changes in legislation and best practice.

3. PURPOSE

Stage Theme	Unaware	Nascent	Learning	Developing	Mastering
Uses Reasons for collecting and analysing data, benefits and rewards	<ul style="list-style-type: none"> • Collect and use data only for requisite purposes e.g. legal/ financial/ funder compliance • Record clients and activities in order to operate and to fulfil external reporting requirements. • Little or no benefits or rewards. • Continued funding may be seen as the only reason for collecting some data. 	<ul style="list-style-type: none"> • Collect more data than required by legal/funders/contracts. • Most data is based around activities and outputs and basic financial analysis and forecasts. • Raising income likely to be key focus for additional data collection e.g. fundraising events, donors, sales to understand performance. • Rewards mostly around improved understanding of beneficiaries, income generation. • Able to feedback information to funders around specific projects. 	<ul style="list-style-type: none"> • Collect a lot of data on clients and how they engage, and capture some outcomes data. • Historical service user/ project level analysed to evaluate performance within depts. • Use data for income generation and some forecasting of sales and donations leading to more effective fundraising and commercial income. • Better able to adapt to changes in external environment. • Able to demonstrate work being done for specific user groups in specific projects. • Can start leading conversations with funders, partners, clients using data • Use own data as well external sources to evidence need and some outcomes and impact. 	<ul style="list-style-type: none"> • Data routinely used to measure outcomes and impact. Beginning to test assumptions on difference made and to understand why clients behave in certain ways. • Services/products/campaigns are monitored to show performance on how, when and where these are used by whom. • Monitor what's happening in present as well as what's happened in the past. Some forward looking analysis. • Operations and services are more effective and efficient. Staff/volunteer performance is managed and improved. • Starting to differentiate between approaches, and understand what's working and what's not. • User group segmentation allows better understanding of needs, enabling development of services/ products /campaigns. • Can coherently make the case to funders/investors/clients for existing and new services/products/campaigns. • Services/ products/campaigns targeted and optimised at project/ dept level. 	<ul style="list-style-type: none"> • Used extensively and in inter-linked strategic ways for wide range of purposes. • Evidencing and improving outcomes and impact is primary focus. Experiment to identify differentiated impact and how to optimise this. • Predict user needs and service/product options. Understand why users behave in certain ways and how to influence behaviours. • Learn, evaluate and build knowledge. • Influencing policy makers, funders and partners to create positive change. • Outcomes and impact are understood and effectiveness can be predicted and optimised • Improve efficiencies (resources, processes, services/product delivery). • Products, services and campaigns are continuously improved. • Robust evidence builds credibility and influence. • Partnerships and networks are strengthened. • Effective planning and decision making. • Design and delivery of services/products campaigns is optimised at an individual/personal level.
Analysis Type, technique, means of reporting	<ul style="list-style-type: none"> • Limited analysis of financial and contracted data. Mainly counts. • Data is not used in reports – anecdotes are preferred. 	<ul style="list-style-type: none"> • Analyses starting to explore service users/customers and target audiences. • Analyses may include external data e.g. to evidence scale of need/problems. • Basic analysis, using counts and spreadsheets. • Use of basic charts. • Analysis and report creation skills variable. 	<ul style="list-style-type: none"> • Whole organisation analyses are beginning to be performed on an ad-hoc basis. Reports are collated manually using different sources of descriptive data. • Comparative trend analysis conducted over time (perhaps on an annual basis). • Some routine automated analysis and reporting. • Data is arduously reworked for presentation in static reports for different internal/external audiences. • Variable quality of analysis and presentation. 	<ul style="list-style-type: none"> • More consistent and regular approach to data reporting and trends analysis. • Aware of difference between correlation and causality. • Some real-time dynamic reporting done for different audiences. • Some use of more advanced analytics to understand where/why things happen e.g. clustering and root cause analysis. Some attempts at A/B testing. Occasional use of predictive analytics in some areas. • Complex, analysis and querying done by some specialists in the organisation. 	<ul style="list-style-type: none"> • Data brought together in automated way to provide an organisation wide analysis. • Forecasting and predictive models are used to plan for the future needs of beneficiaries, to target services and to maximise income. • Advanced approaches are available and used: network analysis, deep learning, text analytics. • Non data specialists are able to explore, analyse and report on the organisation's data. • Data visualisation delivers meaningful analysis to different internal and external audiences. • Analysis extends beyond the organisation to its wider context with cooperative analyses performed with partners/other agencies.