# Social Value Procurement in Policy Creation: Development of a Social Value Framework for Public Procurement Systems.

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**1. Abstract.**

In conjunction with academia and local government, Data Performance Consultancy Ltd. (DPC) is developing a Smart Social Value Procurement Platform (WASP – Workflow Analytics and Social Procurement). The aim of WASP is to electronically connect suppliers to local authorities, where the value will be delivered by superseding the current manual input systems with an online model. Furthermore, it will generate benefits from an included social value matrix, which defines and measures social value within the procurement process of the public sector.

**Keywords:**

Social Value, Local Government, Procurement Systems

**2. Introduction.**

Public procurement represents 17% of the GDP of EU Member States [1]. As a result of the recent economic downturn, it has become essential to achieve efficiencies through optimisation drives aimed

at maximising value from public spending. In addition, the importance of social value in public service delivery is widely documented. In 2010, the European Commission (EC) published a report highlighting the importance of procurement whilst accounting for social and labour rights, social inclusion, ethical trade issues, corporate social responsibility (CSR) and the promotion of SME's [2]. This was consolidated the following year with the EC's CSR strategy, which stated that enterprises should have processes in place to integrate social value into their core strategies and business operations [3].

Therefore, there remains a strong need for integrated procurement systems that can effectively incorporate social value frameworks and policy creation. Current systems used for public procurement are constrained in this regard, resulting in disparity of data as well as a lack of transparency and integration. In addition to that, some organisations typically tend to source public procurement services separately e.g. through outsourced providers. Concerns are raised, mostly by SME's [6] over issues associated with data control and data inaccessibility, which tend to tie organisations into contracts for long periods.

This paper therefore aims to demonstrate how local government can improve their procurement systems whilst implementing a social value matrix into their sourcing process. This will be achieved by giving an overview of platform which is currently developed by Data Performance Consultancy Ltd. (DPC) in cooperation with academia and local government.

**3. WASP.**

WASP (Workflow Analytics and Social Procurement) is a Smart Social Value Procurement Platform, which aims to supersede the current manual input systems with an online model. Furthermore, it will generate benefits from an included social value matrix, which defines and measures social value within the procurement process of the public sector. Therefore, the project must be compliant with the Social Value Act 2012 and relevant standards. Additional objectives of the projects are to:

- Connect the supply chain with authorities;

- Improve efficiency for suppliers and authorities through a more transparent and less bureaucratic solution of the tendering process;
- Achieve economic, environmental, and social value/ social impact benefits throughout the supply chain;
- Enable authorities to gain real-time information about their suppliers;
- Help authorities to advance in Smart City and Internet of Things (IoT);
- Share best practices across authorities to improve processes;
- Support SMEs;
- Facilitate job growth and improved academic and vocational attainment.

### 3.1. Design of WASP.

The design of WASP is planned as shown in Figure 1.

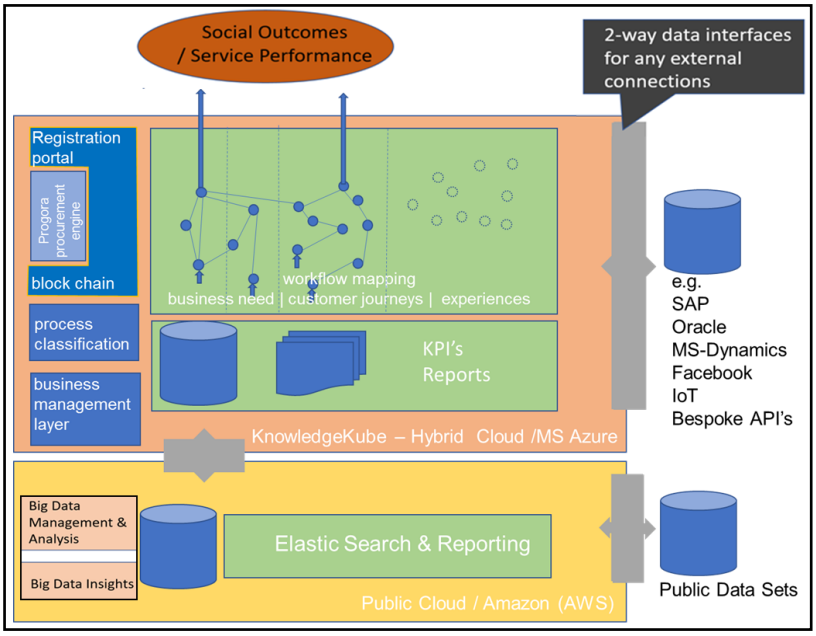


Figure 1: Platform architecture (DPC, 2017).

WASP enhances current methods of procurement, by utilising big data models and providing centralised architectures that bring together cloud services, big data sets and legal frameworks. The

novel algorithms and embedded frameworks will allow for data mining to extract and measure social value, something that cannot currently be measured in its singularity. It will have at its core the principles set out in the Collaborative Framework Standard BS11000 [4], [5] and will provide the building blocks for the development of a new Process classification Framework for Public and Private Sector Organisations. This will then be managed through the Business Process Management layer creating unique referencing points for delivering a business analytics approach to achieve process efficiencies and positive outcomes.

Amazon Web Services (AWS) is a secure platform for cloud services, which offers various functionalities including compute power, database storage or content delivery [6]. For WASP, AWS will host the platform whilst being responsible for elastic search and reporting. Mercato Solutions is an enterprise application provider, offering four core products: KnowledgeKube, KnowledgeBus, Progora, and PreSalesAdvisor [7]. As shown in Figure 1, WASP aims to deploy Progora - a leading-edge e-procurement platform and KnowledgeKube. KnowledgeKube is an app development platform with full access to AZURE services like PowerBI, Natural Language Processing (NLP), IoT Data Lakes and so forth. As opposed to other similar coding platforms, KnowledgeKube is a low-code solution, which delivers applications in weeks, complex workflows in days and likewise allows users to extend the solution or develop applications themselves. Additionally, it is flexible and extensible, e.g. can integrate Blockchain technologies or native programming languages [7].

### 3.2. Social Value Matrix.

To identify and test the above, DPC have been working with Liverpool City Council in the development of its pilot system (RSV Portal) for the last two years. From this study, an understanding about the complexity of delivering social value metrics was achieved. It became apparent that there was a need for a more transparent and a less bureaucratic solution to the current tendering process for suppliers to engage more effectively. This was done through consultation with the supply chain. Furthermore,

it was identified that some key outcomes would align the council's social value policy to the outputs of procurement, these being as follows:

1. Jobs and skills.
2. Business.
3. Green spaces and bio-diversity.
4. Equality and diversity.
5. Transport and energy.
6. Waste and natural resources.
7. Wellbeing.
8. Energy.

Therefore, WASP mainly focuses on 'jobs and skills', which is reflected within the social value matrix: Suppliers will register to a subscription service recording details about the company (Table 1) which can be applied to a social value matrix and result in a scoring system. Suppliers can see results in a visual gauge (Figure 2). Knowing the score and improving it, enhances the chance of a successful tender.

Big data widens the scope for analysis by measuring potential supplier impact on areas such as health care, transportation, environment, and community. A cloud-based platform using AWS will form the foundation of the prototype application highlighting big data analytical tools such as Hadoop and/or Spark.


Figure 2: Social Value Scoring Gauge.

| Supplier Policy Areas (for SV matrix scoring): |
| --- |
| • Equality |
| • Diversity |
| • Corruption/Bribery |

Table 1: Supplier Policy.

This will lead to a diagram like Figure 3. The aim will then be to adjust the total spent according to the social value index of the suppliers, which results in a graph like Figure 4. This will be used to create a risk profile.


Figure 3: Suppliers' distribution before the adjustment.

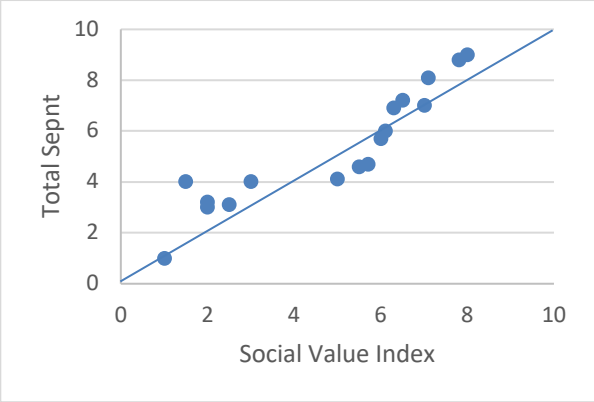


Figure 4: Supplier's distribution after the adjustment.

As a customer-centric development of the platform is aimed for, DPC continuously seeks input from suppliers and authorities through various meetings and conversations. To engage with suppliers, an online survey was conducted to:

- Facilitate a better understanding of their requirements;
- Identify where the current tendering process for public sector contracts can be improved;
- Determine the degree of cooperation which supplier are prepared to give;
- Request their involvement in the overall design of the platform.

The survey was supported and endorsed by LCC, the Association of Greater Manchester Authorities, and Blackburn with Darwen Local Council and was sent to 1867 suppliers of LCC. The results display that the current pre-qualification questionnaire (PQQ) process is rather complicated than straight forward in terms of its complexity and rather time-consuming than brief in terms of the time required to complete the PQQ (Figure 5).

7. How would you rate the current pre-qualification questionnaire (PQQ) process, in terms of the complexity of completing the PQQ?

| | Response Total | Response Percent |
|---|---|---|
| -2 (very complicated) | 3 | 30% |
| -1 (complicated) | 2 | 20% |
| 0 (neutral) | 2 | 20% |
| 1 (straight forward) | 3 | 30% |
| 2 (very straight forward) | 0 | 0% |
| **Total Respondents** (For this Question) | 10 | 100% |
| (skipped this question) | | 30 |

8. How would you rate the current pre-qualification questionnaire (PQQ) process, in terms of the time required to complete the PQQ?

| | Response Total | Response Percent |
|---|---|---|
| -2 (very time-consuming) | 4 | 40% |
| -1 (time-consuming) | 2 | 20% |
| 0 (neutral) | 2 | 20% |
| 1 (brief) | 2 | 20% |
| 2 (very brief) | 0 | 0% |
| **Total Respondents** (For this Question) | 10 | 100% |
| (skipped this question) | | 30 |

Figure 5: Results from SelectSurvey (SelectSurvey.net).

When applying the sentimental analysis of IBM Watson based on questions 18 and 20, similar characteristics were displayed (Figure 5). It demonstrated that the overall sentiment is negative with a score of -0.03, while respondents were mainly 'sad' with a score of 0.62. That again demonstrated that there is a great need to restructure current processes to on online model.

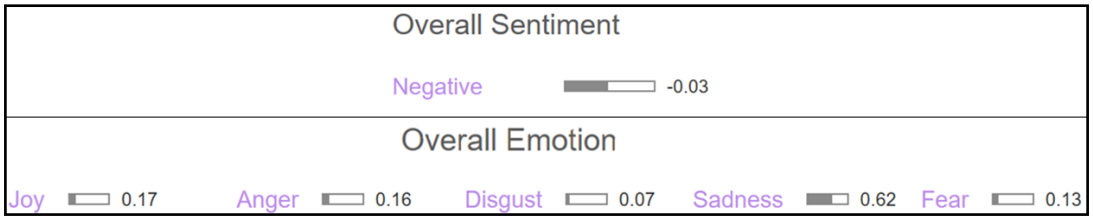


Figure 5: Results from the sentimental analysis (adapted from Watson, 2017).

In addition to that, it was found out if the respondents are content to provide certain information that are needed to identify and measure social value across the supply chain. It was made clear that the suppliers would display most information, but the postcodes of their employees. This information will be incorporated into the design of the platform.

19. This final question is looking at considerations that might be useful for identifying and measuring social value across the supply chain. Would you be content to provide information about the following:

| | yes | no | unsure | prefer not to say | Response Total | Points | Avg |
|---|---|---|---|---|---|---|---|
| view Number of employees | 77.78% (7) | 0% (0) | 22.22% (2) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of female and male employees | 66.67% (6) | 22.22% (2) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of full time and part time employees | 66.67% (6) | 22.22% (2) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of employees in an apprenticeship or internship scheme | 66.67% (6) | 22.22% (2) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of employees with a disability status | 66.67% (6) | 11.11% (1) | 11.11% (1) | 11.11% (1) | **9** | **n/a** | **n/a** |
| view List of the different ethnic groups | 66.67% (6) | 22.22% (2) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view The postcodes of the employees' home addresses | 22.22% (2) | 44.44% (4) | 33.33% (3) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of employees on living wage or above | 77.78% (7) | 11.11% (1) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of employees on minimum wage or above | 77.78% (7) | 11.11% (1) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Number of employees on Zero-hour contracts | 77.78% (7) | 11.11% (1) | 11.11% (1) | 0% (0) | **9** | **n/a** | **n/a** |
| view Qualifications of employees | 55.56% (5) | 0% (0) | 44.44% (4) | 0% (0) | **9** | **n/a** | **n/a** |
| | | | **Total Respondents** (For this Question) | | **9** | | |
| | | | | (skipped this question) | 31 | | |

Figure 6: Results from SelectSurvey (SelectSurvey.net).

## 4. Future Development.

Future research will centre around system architecture, frameworks, processes, Big Data sets, open application programming interfaces (APIs) and strategy. In addition to that, the development phase of the project, including the social value matrix, shall be completed by mid of November. The project will then be finalised through a testing phase during December 2017. The Minimum Viable Product is targeted to be completed by the end of the current year.

## 5. Conclusion.

This paper aimed to identify how local government can improve procurement systems while implementing a social value matrix into their sourcing process. Therefore, a platform called WASP, was introduced which aims to supersede the current manual input system of local governments with an online model. WASP furthermore has an in-built social value matrix.

Thus, the platform generates several benefits: Firstly, it enables suppliers to more easily view and bid on public sector contracts; secondly, improves the transparency of the complete procurement process; thirdly, helps to identify where social value in the supply chain is created, as per the aims of the Public Sector Social Values Act 2012; and lastly, supports small and medium-sized enterprises to

be more comparatively competitive, not just in terms of cost and quality, but also in terms of the local social value they create.

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