**Project Brief**

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| Programme | Data Analytics |
| Project Sponsor | Anna Spender |
| Author | Annabel Francis |
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# Document control

**Versions**

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| Mine Tullgren | Head of Digital Strategy | 0.1 | 19 Feb 2019 | Initial draft |
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**Approvals** - This document has been approved by:

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| --- | --- | --- | --- | --- |
| Name | Title | Version | Date | Method of Approval |
| Anna Spender | Director of Data Analytics & Actuarial | 0.3 | 15 August 2019 | Email |
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# Executive Summary

As part of the Analytics and Insight offering to client, Psyon will create a portal (“Psyon Analytics”) which delivers easy, online access to different insights products including standard dashboard and reporting products, tailored and bespoke reports and analysis, contextual content in the form of whitepapers, case studies and reports, news and blog feed, and in-product messaging to drive interest in other products, events and services.

The portal will be optimized for both a desktop and tablet experience, with individual users’ views determined by a set of role-based permissions and paid for services.

Users with appropriate role-based permissions will be able to upload data, securely, and the upload functionality will include real-time feedback to help the end user correctly structure and map data to the underlying data repository as part of a high-quality digital experience.

Primary users have different needs depending on the customer segment within which they fall but in all cases, may not have a great degree of technical data or analytical skill so the overall goal is to deliver an efficient, straightforward but actionable set of insights for each client commensurate with their needs.

The five major components of the portal include:

* A business intelligence software that delivers high-quality visualization and enables transformation and analysis of data including capabilities in predictive, multi-source integrations, R and Python programming and embedded analytics
* ETL/ELT (wrangling) tools that enable data to be uploaded, cleaned, piped and transformed
* A SQL data warehouse enabling a data layer for efficient analysis and data aggregation for summary tables
* A staging environment, possible no-SQL environment, for holding structured/unstructured data for ad hoc/bespoke analysis
* A content management system that enables product configuration, efficient creation and publishing of content including pages, videos, embedded analysis, form data capture e.g. for registration/more information

The Psyon Insights team will author and deploy all reporting and analysis products in the business intelligence software as well as being responsible for producing content.

**Product Vision**

For [*intermediary partners, corporate clients, insurers, service providers*] decision-making depends on accessing, analyzing and understanding rapidly expanding workforce- and workplace-related data, Psyon Analytics is an interactive and visually compelling environment that delivers powerful analytics to its end users and removes the challenge of preparing, modelling and visualizing data across multiple sources in a meaningful and practical way. Different from source system reporting tools, Psyon Analytics offers a suite of plug-and-play dashboards delivering insight into the past, current and future performance alongside industry and organizational benchmarking.

# Definition

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| Background | Currently, the Psyon Insights team undertakes discrete reporting and analytics projects for clients, delivering the end product as a series of files and presentations, often including PDF versions of report visualization that has been created in Power BI.  This does not meet the needs of the clients because they are unable to interact with the report data/visuals on an as-needed basis.  Further, this does not meet the needs of the Insights team as it is lacks operational efficiency, limits scope and can make it difficult to deliver added value.  The current approach carries a number of different categories of risk:   * **Operational** - It is largely dependent on 1 team member and the end-to-end execution is labour-intensive and by its nature, inconsistent * **Compliance** - It proliferates the excessive copying of personal data which is a risk to Psyon’s position of compliance with regard to GDPR * **Strategic** – the current approach limits scope for developing products that meet customers’ needs which put us at risk from competition winning the business * **Financial** - the current approach obstructs scaling and therefore limits revenue opportunities |
| Main Goal | Provide a portal that will form a core part of the Data Analytics offering to clients, delivering market-leading employee benefits & wellbeing related analytics and insight, reducing resource required in verifying, analyzing and publishing data. |
| Desired Outcomes | A data analytics publishing and communication tool which will engage clients in the data analysis output, allowing them to view and tailor the site to best fit their needs. Provides an easy and tangible way to get clients to start or evolve their data journey.  The portal structure needs to be flexible to accommodate a number of audiences, and an increasing/evolving analytics offering.  Clients should be able to request/access to further services/offerings through the portal. |
| Scope | The following were part on the initial request, they are now out of scope for this project:   * Teasers - guide the user to upload more data to unlock more comprehensive insights * Integration into client portal   Building a solution that meets the needs of customers and supports the strategic direction of Psyon Insights for the next 2 years is critical; advanced capabilities that support a longer term vision are out-of-scope although the phased and iterative approach would allow for scope change in line with customer/market needs. |
| Business Critical Factors | The nature of the data being collated, stored and analyzed is personal and sensitive so compliance with relevant regulations e.g. GDPR, is critical.  Further, understanding and implementing control and security procedures aligned to group security and compliance policies will be critical.  Product analytics are a key feature i.e. our ability to track and monitor what individuals are doing which may be impacted by changing legislation (EPrivacy). |
| Minimum sellable product (MSP) | Go-to-market with a limited set of *standard* dashboard products accessible by users with role-based security controls; informed by sales strategy and customer/user panel feedback on proposed features on an ongoing basis.  See MVP canvas. |
| Product hypothesis | We believe intermediary consultants have a problem readily accessing key information and discovery in a real-time setting ‘on-the-go’. The standard dashboards in the Analytics Portal will address that problem. We will know this is successful if there are reduced requests for ad hoc reports to support client meetings, for example.  We believe corporate clients have a problem gaining insight from disparate data sets because of the nature of multiple systems being used to manage workforce related data. The standard dashboards will address that problem. We will know this is successful if there are more clients purchasing Psyon Insights’ services. |

# Delivery

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| Project Approach | For expediency in route to market and to take a lean approach to the products’ development, Psyon Insights will seek to launch a Data Analytics Portal MSP (minimum sellable product) at the end of Q3 2019/beginning of Q4 2019; the approach will enable Psyon to go-to-market in a commercially acceptable timeframe whilst establishing a customer/user panel to test, measure and validate learning that will inform the future product roadmap.  Psyon will establish a customer/user panel consisting of users from each of the different customer segments with whom Psyon will work to test and learn in order to develop features iteratively that address specific customer groups’ needs.  The priority is to launch standard dashboard products which create opportunity for client revenue development i.e. standardized, lower cost products that have upsell/cross-sell potential for bespoke, tailored insights and consulting, audits and strategy development.  The current approach uses Power BI and Excel to deliver the end product (which is then reproduced in a PDF). The portal is dependent on Psyon identifying and implementing an appropriate solution that enables clients’ access to dashboards and reports.  The solution is likely to require the below (or similar) components:  **Power BI Embedded & .NET Portal**  The building of the site, with branding, setup of user groups and authentication, content management, Power BI subscription and the creation of the data request and upload tool will be delivered by the Psyon development team utilizing  The design and configuration of dashboards, adding of content and defining of the data model and data validation will be delivered by the Insights team.  **Azure SQL and Table Storage**  **Drupal**  Psyon Insights are undertaking a trial of Alteryx in late Q3/early Q4 which may form part of our overall tooling and support bespoke analytics work moving forward. |
| Interfaces/  Dependencies | The current approach uses Power BI and Excel to deliver the end product (which is then reproduced in a PDF). The portal is dependent on Psyon identifying and implementing an appropriate solution that enables clients’ access to dashboards and reports. Using Power BI Embedded is the preference – there will be an ongoing need to configure and deliver bespoke products for clients which will be surfaced through the portal. For the standard product suite, once products have matured it is possible that building these using Angular would be a suitable evolution but this is at least 18-24 months in the future. If this route was considered however clear agile processes and resources would need to be identified to allow for timely publication of any further dashboard updates required.  Establishing how the Analytics Portal project interfaces with Project Eden will be critical. Development of the Analytics Portal should consider Project Eden and where possible, development should align to overall technology, product and service strategy, |
| Constraints and Assumptions | **Time**   * This project is required as soon as possible in 2019 as it is needed for the Client work carried out by the Insights team and to scale the offering commensurate with business strategy. * The National Workplace Wellbeing Week is 1st – 5th October and an initial launch aligned to this date would strengthen go-to-market plans (from a content marketing perspective).   **Resourcing**  There is a limited amount of development team resource allocated to this project; any further resource requirements will have an impact on other prioritized work. This should be considered not just in relation to an initial launch but ongoing phased delivery and enhancements.  The Insights teams are expanding resources but the time period for delivery of the initial phase coincides with all of the new joiners which will impact productivity. It is assumed that this project is the priority for the Analytics Proposition and Technical Lead and projects beyond the scope of this and a reporting upgrade will be adequately resourced, even if on an interim basis.  **Infrastructure and Architecture**  Unless the solution is an all-encompassing SaaS product, the components of the portal must be delivered using applications/software that is compatible with Microsoft Azure. |
| Timelines | It is estimated that an initial MVP/MSP (viable/sellable) implementation of the portal with one or more standard dashboard products would launch end of Q3 2019 (September) and ideally, to enable go-to-market execution coinciding with the National Workplace Wellbeing Week w/c 1st October 2019. |
| Key resource area(s) | Development Team – Daniel Vincent (R/S - depending on solution)  Insights Team - Annabel Francis (R) and Anna Spender (A) |

# Proposed Solution

## Description

Develop Psyon Analytics, in a .NET portal on Azure infrastructure, enabling the delivery of Power BI analytics dashboards to clients.

The five major components of the portal include:

* A business intelligence software that delivers high-quality visualization and enables transformation and analysis of data including capabilities in predictive, multi-source integrations, R and Python programming and embedded analytics (Power BI)
* ETL/ELT (wrangling) tools that enable data to be uploaded, cleaned, piped and transformed
* A SQL data warehouse enabling a data layer for efficient analysis and data aggregation for summary tables
* A staging environment, possible no-SQL environment, for holding structured/unstructured data for ad hoc/bespoke analysis
* A content management system that enables product configuration, efficient creation and publishing of content including pages, videos, embedded analysis, form data capture e.g. for registration/more information

This proposed set up assumes the ‘app owns data’ approach to embedding Power BI as:

* the data set(s) will be embedded within the Analytics Portal (the ‘portal’)
* the users are not required to have their own Power BI application (or their own Power BI licenses)
* the portal will handle authentication and access
* users may not be AD users i.e. client users

**Phase 1 (MSP + subsequent delivery stages) development should include:**

* User access management:
  + Secure user logon/authentication
  + Setup of access groups controlling dashboard/content access (hierarchical organisations) - supporting a tailored user view
* Secure data upload functionality (with data validation ability to review data)
* Template dashboards for quick setup of new clients
* Email reminders and notifications to users and administrators
* Product analytics
  + Who has accessed Psyon Analytics
  + When
  + How many times in x timeframe
  + Which products have they used (reports and dashboards)
  + How many requests for more information
* Data warehouse for analytics data - requires data architecture design
* Document storage
* Data capture capability for leads (users asking to request more info)

**Dashboards**

1. **Corporate Clients (Personas: HR, Reward and Bens, Wellbeing, C-Suite)**

* Standardised Dashboard Set\*
* Standardised Dashboard Set with a small amount of customisation (to be defined)
  + Branding / colours
  + Addition a limited number of extra benefits / data set
* Full bespoke dashboards – designed to specific client requirements

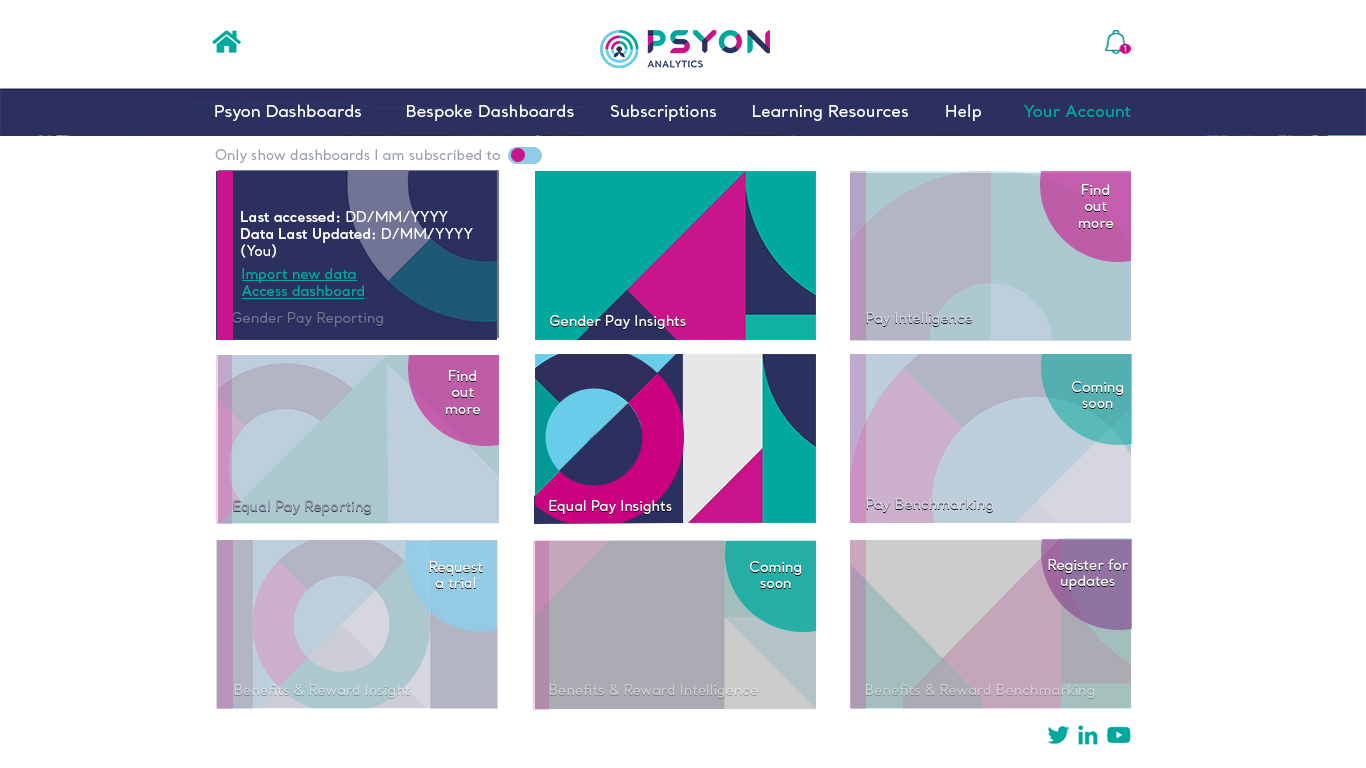


Figure 1 Illustrative mock-up for client dashboard overview

1. **Intermediary Consultants / Management**

* Psyon standardised dashboard set (Accounts Data Quality, Scheme Design Benchmarking, Client Dashboard Aggregation)
* Client view
* Intermediary standardised dashboard set (Bespoke for intermediary but standardised across consultants)

1. **Insurers**

* Psyon standardised dashboard set (Business overview, Trends, Quote Feedback)

1. **Providers – TBD (but likely future phase).**

\* The Standardised Dashboard Set will is topic-based and will cover Benefits (Overview figures, Benchmarking); Data Quality & Assessment; Employee Analytics (Demographics, Absence, Turnover & retention, Gender Pay Gap); Wellbeing.

There are two core types of dashboard: (1) Insights and (2) Intelligence.

*Intelligence* is the higher value product and incorporates more advanced statistical modelling for future performance prediction.

*Insights* is the standard offering and delivers powerful insights largely focussed on past and current performance.

A client may upgrade from Insights to Intelligence but would not benefit from subscribing to Insights and Intelligence for a topic (although they may subscribe to Insights for one topic and Intelligence for another).

Additional, there is a reporting product for Pay which supports regulatory reporting of Gender Pay Gap and CEO Pay Ratio.

**Data upload, validation, transformation**

Psyon Analytics offers client data import and validation tools allowing the client to correct data as is necessary. Features of the import tool to include:

* Evaluation of completeness i.e. is all of the required data present
* Validity checks i.e. does data meet business logic rules/syntactic rules
* Accuracy checks i.e. data is correct in context e.g. a date of birth is in an appropriate range
* Mapping of data to standard list values and groupings which the client can review and agree to or alter
* Storing of import preferences for future data imports, per product.

**Data model (semantic layer)**

**Data standard templates**

**Portal – content, look and feel**

**Client access / view management**

Our clients would be non-Power BI users so the Power BI embed token would be configured for a user and role.

Portal authentication and product entitlement is to be controlled within a SQL database.

Power BI row-level security is used to define roles and related rules. [This document](https://docs.microsoft.com/en-us/power-bi/developer/embedded-row-level-security) summarises the concepts of users, roles and rules and some further context is in the below table.

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| **Concept** | **Description (from Microsoft documentation)** | **Psyon examples (under development)** | **Security data model comments** |
| Users | End users viewing the artifact (dashboard, tile, report, or dataset). In Power BI Embedded, users are identified by the username property in an embed token | * End users within a corporate client | Users are not held in Power BI, users are Portal users held in a SQL database, for example |
| Roles | Users belong to roles. A role is a container for rules and can be named something like *Sales Manager* or *Sales Rep*. You create roles within Power BI Desktop | * Client [Client ID-Name] Key Contact * Client [Client ID-Name] End User | Roles are mastered within Power BI (also where reports are developed); our own client user role relationships need to be stored at application level to enable the creation of the embed token |
| Rules | Roles have rules, and those rules are the actual filters that are going to be applied to the data. The rules could be as simple as “Country = USA” or something much more dynamic. | For the key contact – they can access everything related to that client ID so the rule might be Client ID = [client ID]  For an end user within the same client company, they might only be able to access data related to employees within | Rules are configured within Power BI |

**Dashboard / report specification**

**Processes & governance**

## Benefits, Goals and Measurement Criteria

What are the tangible and intangible benefits to the company upon implementation of the solution?

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| Benefit | Value |
| Increased revenue (already accounted for in 2019/2020 budget) | Estimated £80-100k in year 1 |
| Enhanced service, positioning ourselves as employee benefits and wellbeing analytics leaders |
| Improved operational efficiency compared to bespoke dashboard projects; the bespoke market will still exist so this isn’t saving realized on existing resources but enables us to grow client base efficiently and target regular income streams instead of ad hoc pieces of work. |

# Costs and Funding Plan

# Risks

* Timely selection of right vendor tools to deliver the Analytics Portal in the event that we need to select and procure new software and services
* Resource availability from the Development team; the degree of risk depends on chosen approach
* Resource availability from the Insights team; the degree of risk depends on chosen scope and competing priorities
* Sufficient support/knowledge of how to implement the Power BI Embedded solution –we have had a demo from Pramati and believe we are close to validating the proposed approach.
* Knowledge/skills levels in terms of configuring and deploy/publish standard dashboards in chosen BI/Analytics software
* Data warehousing approach e.g. SQl vs No SQL, table storage etc.
* Data warehousing architecture – it may take time to understand and finalise as the type of data being analysed varies and the range is likely to grow.
* Products do not address client needs/problems and fail to sell

# Key Stakeholders and Project Roles

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| --- | --- | --- |
| Name | Job Title | Note |
| Anna Spender | Director of Actuarial & Data Analytics, Psyon | Project Sponsor |
| Annabel Francis | Analytics Proposition & Technical Lead | Project Lead |
| Nicky Dunderdale | Director of Digital, Psyon |  |
| Shirisha Musthyala | Technical Business Analyst |  |
| Cheryl Brennan | Director of Corporate Consulting |  |