

ADVANCED SYSTEMS INTEGRATION PROTOCOL

ENGINEERING AND MANAGEMENT CONSULTING

BUSINESS REPORT

Table of contents

Table of contents	1
Executive summary	2
Background of funding members	3
Products and services	4
Services	4
Products	5
The market	6
Typical customer	6
Main driver for using ASIP	6
Porter's 5 forces	7
Existing orders	8
Marketing strategy	9
Competition analysis	14
PESTLE	14
SWOT	15
Operations and logistics	16
Costing and pricing strategy	16
Financial forecasts	17
Conclusion	18
References	19

Executive summary

The UK construction industry is a well vascularised branch of the economy (Office of National Statistics, 2017), well regulated and represented by traders of all sizes, from sole traders to small and medium enterprises (“SME”), as well as large corporations.

The level of competitiveness increased gradually, as more regulation was introduced i.e. The Construction (Design and Management) Regulations 2015 (“CDM 2015”), but also as more competition from overseas was established within the UK, securing a substantial portion of the job market (CITB, 2017).

Members of the construction industry have tried to find a balance between engineering, construction and health and safety (“H&S”) on construction sites.

Technology is also a branch of the UK economy, which is strongly developed, driving change and inspiring others worldwide, through entrepreneurial initiatives within the tech, social networking and digital ICT sub-sectors.

This business report evaluates a fictional startup venture, of a hybrid consultancy model providing engineering, H&S and management consulting services, embracing modern digital systems, but also the engineering and legal expertise held by its funding members.

Background of funding members

The business initiative was set up by 3 industry professionals in their 30s, Melania, Jeremy and Vladimir, all foreign born currently naturalised as British nationals.

Melania originates from Boston, Massachusetts and Jeremy originates from Romania. They have both spent their last 10 years as full time employees within the construction industry as a Chartered Project Engineer, respectively as a Health and Safety (“H&S”) Executive.

Vladimir worked as a permanent member of staff for a small consultancy in Switzerland and relocated to London in 2007, acquiring over 10 years work experience within the Information Management and Security (ICT) sector.

The 3 professionals met whilst being seconded for Crossrail West programme, during which they discussed their professional career plans and agreed to create a foundation for a startup called Advanced Systems Integration (“ASIP”).

The funders expressed their interest in moving into consultancy from their current permanent roles. Their vision is to merge their knowledge specific to civil engineering and construction, with principles of H&S and to deliver a comprehensive set of service and products, digitally, to support customers across the UK.

Products and services

ASIP positions itself as a small neutral consultancy aiming to support both property owners and constructing companies by providing them with a framework under which they can operate.

The framework includes both services and products and it is designed to run in parallel throughout the entire period of delivery of the construction project.

ASIP's team are expected to start selling in less than one month from the date their online platform is due to be launched - 1st August 2018.

Services

The services are consisted from a series of interviews to be held at the commencing stage of the contract where the ASIP team will understand the client's intention, i.e. whether the client seeks to embark in a commercial agreement with a future construction company, or whether the client is a construction company and seeks to embrace ASIP's framework to use for its own customers.

After the initial interviews, ASIP will advise the client with respect to the CDM regulations and will provide information which is mandatory for the client to understand, as they are about to organise and commence construction work on one of their premises. This information includes details about H&S, first aid, construction planning approvals and any requirements imposed by the local council, etc.

As part of the services offered, the ASIP team will provide the client with an account for their Enterprise Resource Planning ("ERP") application and when the client is ready, ASIP will create a project plan with milestones and checking points, in collaboration with the construction team, which once met will release funds towards the constructor.

The aim of the services offered by ASIP is to plan as much as possible all details of the project, including the risks and assumptions taken by the project team, to avoid unpleasant situations where during the construction stage the landlord and the construction company enter disagreements, or even worse.

Overall ASIP offers an assurance service where from a neutral stance, it provides a solid framework enabling a landlord and a constructor to start from an equal position. It also protects both parties during the construction stage through early mitigation, declaring milestones, assumptions, risks, interfaces with 3rd parties i.e. material manufacturers, and by monitoring the compliance with the H&S provisions established upfront.

The service is designed to be offered within ASIP's office, which is expected to be established in Central London or remotely using Skype for Business.

Products

As part of the service delivery ASIP will release key products which are tailored to its customer needs. These products originate from templates and are customised during the interview stage, then issued to both the customer and construction team.

The aim of these products is to set the expectations between the landlord and the construction company upfront, to identify the key milestones which will coincide with payment releases and to identify key risks throughout the entire delivery of the project.

Given that not all construction companies or landlords are well equipped with relevant documentation, ASIP aims to overcome this by providing a solid framework and providing both partners with a solid package of details, which once established and completed will increase transparency, mitigate against known risks and reveal most of the unknown risks predictable at this stage.

At later stages if the situation arises, the products released as part of ASIP's commercial service will help both parties in a litigation or during Court proceedings by clearly establishing the scope of works, the expectations and interfaces with 3rd parties. They will also determine how these expectations were managed, when payments were due, the means to quantify and measure completeness, what approvals were required and who was responsible for applying for consent from local authorities etc.

ASIP's assurance service requires that these products are complete by both parties under the guidance of the funding members, therefore it will be in their interest to take time and complete the information as accurately as possible.

The products are circulated in digital version from ASIP's online platform and for the purpose of their completion to assist the clients filling in information in a compliant legal manner.

The market

ASIP are addressing their product to both homeowners and construction companies.

ASIP maintains an equidistant position and is aware that errors can be triggered from both sides, therefore the funders are targeting both types of clients - those who are looking for construction work to be carried out at their premises, but also construction companies or sole traders who need a legal framework to protect themselves with against missed payments and unauthorised change of scope, etc.

Typical customer

The typical landlord customer is a small landlord with a portfolio of less than 20 properties who seeks to have construction work done to his house and they were unable to obtain a reference in relation to nearby small construction companies.

Therefore the homeowner now seeks to engage with caution in a commercial agreement and to impose some form of protection by establishing weekly milestones, by working with the contractor to identify the initial assumptions forming the foundation of the construction project, by identifying the risks and issues, the interfaces with other contractors i.e. manufacturer of construction material, etc. and eventually by plotting their findings in a Gantt chart to be able to have visibility and control any delays of the project.

If the client is a construction firm, the typical customer will be a sole trader or a small family business who have very little legal knowledge but are extremely skilled in their trade. Their objective is to know that they are protected against customers changing their mind in the middle of the project or missing payments. The typical customer in this instance will prefer to spend 2-3 hours before starting the project in order to plan how the project should look, agree the above details with the client and gradually work towards that.

Main driver for using ASIP

ASIP delivers an assurance service where it provides a package of best practices to either a client or a contractor, enabling it to gain confidence, protecting it from abuse and substandard services.

The main driver for acquiring ASIP services and products consists from the will to be protected against unwanted commercial challenges and legal complexities or breaches of H&S during the construction phase, which will likely happen if the ASIP framework is not in place for protection.

Porter's 5 forces

The business report contains a Porter 5 forces analysis, indicating where ASIP should position itself into the market with respect to competitors, suppliers and customers.

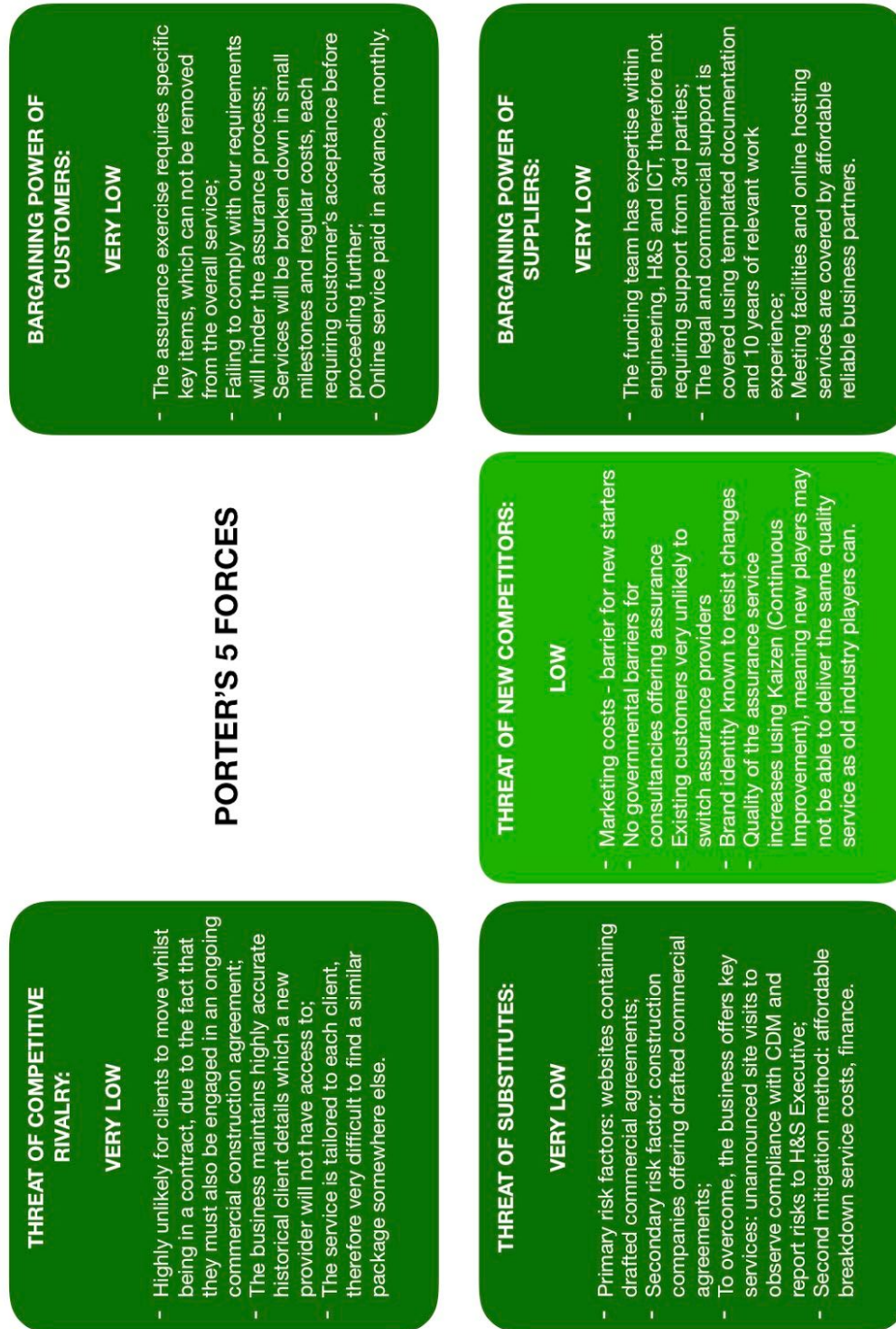


Figure 1: Porter's 5 forces (1979)

According to the findings, ASIP is in a very stable position with respect to suppliers and customers. The only potential area of risk consists from the risk of new competitors entering the market. However, this can also be mitigated using the power of brand and the quality of services offered.

Existing orders

ASIP is expected to start offering their services in less than a month after the online framework is launched. The platform is in development at the moment and will act as the main system which will exchange documents with its clients.

ASIP funders have prepared a number of email based campaigns to announce within their circles of contacts in the construction and engineering industries, the launch of the entrepreneurial initiative. This marketing boost is expected to kick start the business in August 2018.

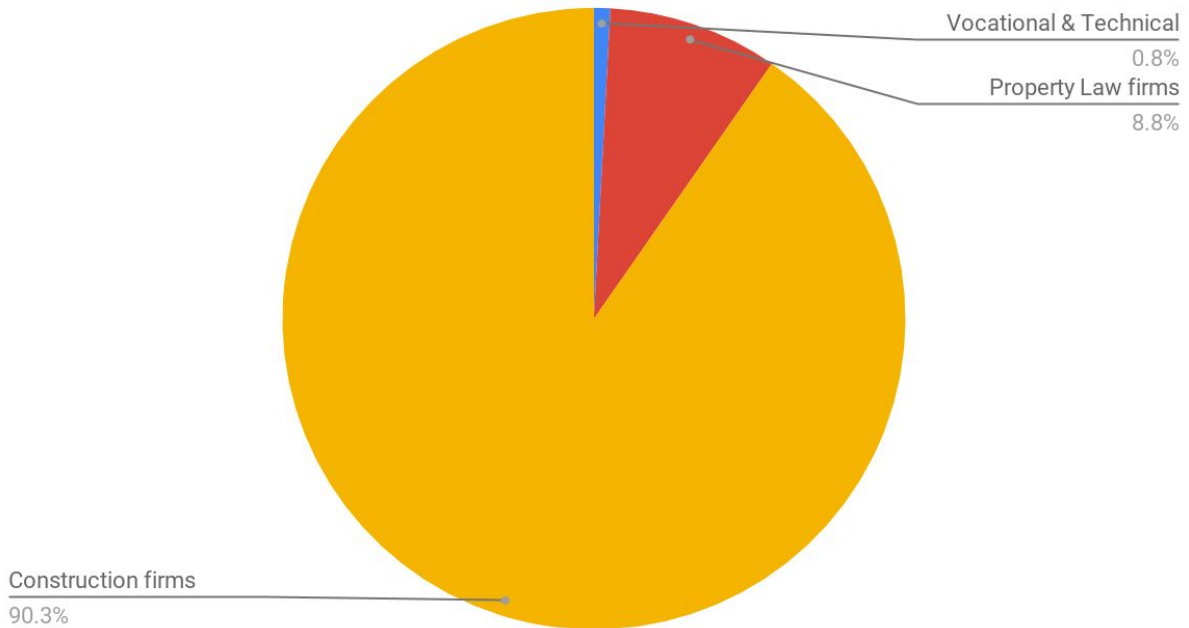
Marketing strategy

For the purpose of establishing a marketing strategy, detailed marketing research was conducted on 3 distinct geographical areas: London, Manchester and Brighton.

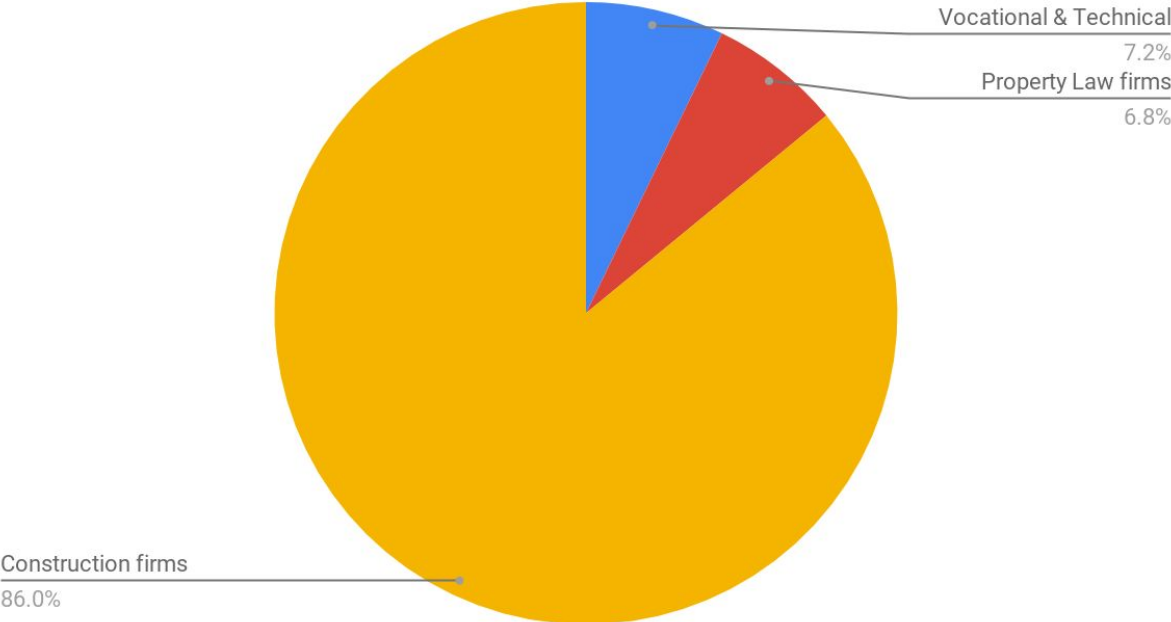
The research enquired Yelp.co.uk (2018) directory of businesses and looked into the preponderance and distribution of firms offering what ASIP aims to deliver under the same umbrella: construction or engineering services, legal services and and H&S (specific to construction) services.

	London	Manchester	Brighton
Vocational & Technical Schools (providing H&S and first aid courses specific to construction sites)	13	21	0
Property Law firms	136	20	7
Construction firms (builders)	1390	251	52

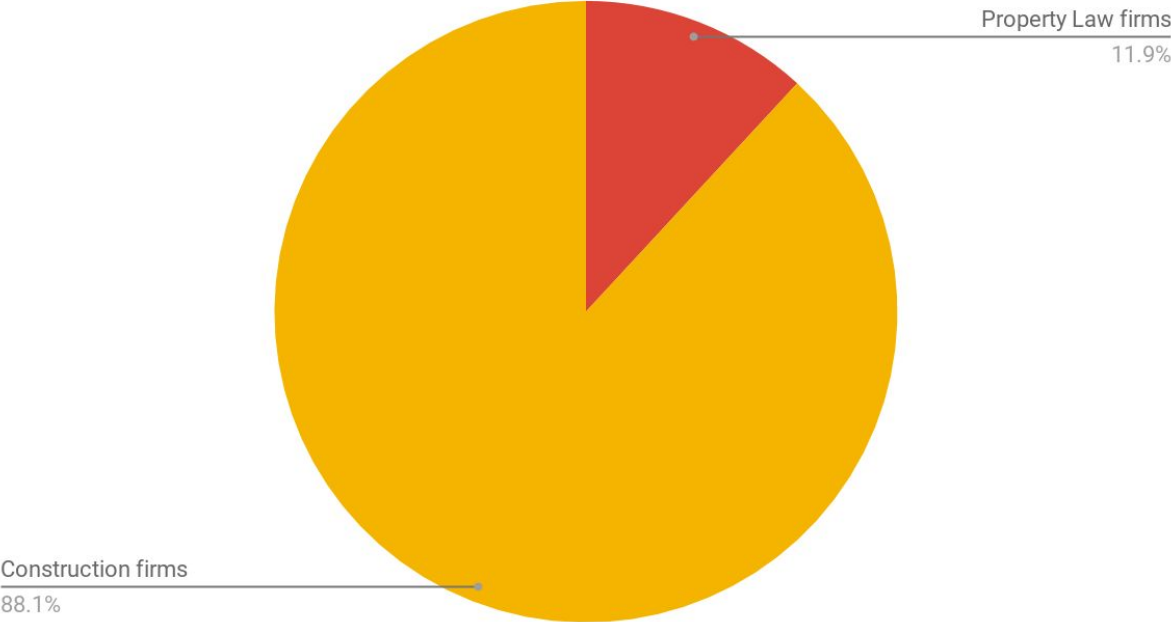
London



Manchester



Brighton

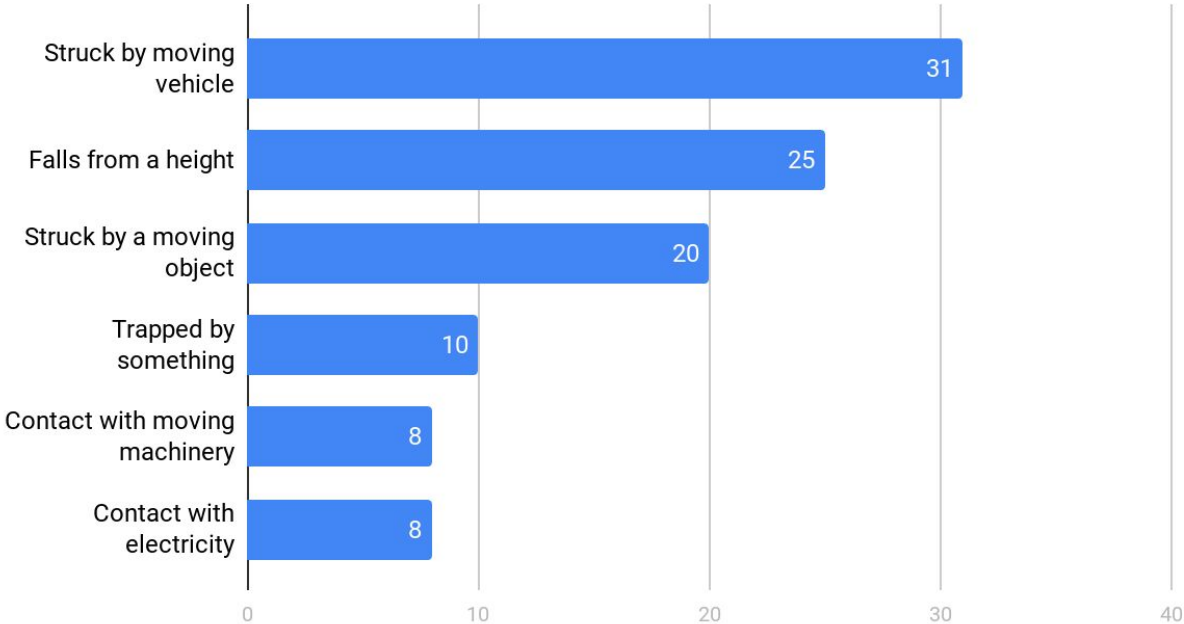


The market research shows in all 3 distinct areas, over 86% of the businesses are specialised in construction, less than 8.8% are concerned with legal disputes specific to real estate projects and a variety of 7% and 0% in small towns such as Brighton specialise in H&S and first aid.

The market research shows the disproportion between the companies delivering construction work compared to companies concerned with mitigation and H&S, in both large and small UK areas.

Further market research shows the top 6 reasons for fatal accidents recorded in the UK last year, which could have happened in residential construction projects and could have been avoided.

Main kinds of fatal accident for workers



Health and Safety Executive (2017)

The above market research findings strengthen the idea that the multitude of companies offering construction work are taking over the construction market, diminishing any attempts to control the measures set up by H&S Executive or Design and Construction Board to make sure the construction process takes place with a safe method.

The above findings are imperative for clients to work only with responsible contractors or prepare themselves by signing up to frameworks similar with ASIP and by making sure that the documentation they are operating under is assured by a neutrally experienced consultant.

The marketing strategy targets 2 main categories of leads:

1. Individuals seeking a certain construction company or construction companies seeking clients;
2. Individuals seeking advice and guidance i.e. documentation and references about construction companies or construction companies seeking methods to protect themselves against commercial disputes or H&S incidents.

The marketing strategy generated over 80 keywords which in the course of the first month after the website is launched, will be tested using a rotation system and prioritised based on their performance.

The keywords follow the following general model:

- General keywords:
 - *Construction requirements CDM,*
 - *Construction safe practices,*
 - *Construction guidelines for landlords;*

- Specific trades:
 - *Bricklayer legal guidelines,*
 - *Bricklayer assurance service,*
 - *Bricklayer safety requirements (..)*
 - *Gas / heating engineer guidelines,*
 - *Gas / heating engineer Bricklayer assurance service,*
 - *Gas / heating safety requirements (..)*
 - *Carpenter / joiner guidelines,*
 - *Carpenter / joiner assurance service,*
 - *Carpenter / joiner safety requirements (..)*

The marketing strategy includes the following 3 marketing channels which will utilise the above keywords as indicated below:

Google Search Engine Optimisation ("SEO")	The SEO channel consists from various internal and external articles with inbound pages pointing towards ASIP's website. The aim is to produce content whilst factoring Google Ranking Factors where appropriate. It is expected that this passive campaign will produce ROI after 4+ months after the launch of the main platform. After 4 months of SEO developments it is forecasted an influx of 200 unique viewers per day.	£300 /month
Google Pay Per	The PPC campaign will only use 20 keywords at a time and it	£200

Click ("PPC")	will be expected to produce instantaneous results by means of inbound engagements from potential customers through email or over the phone. After 2 months of PPC developments it is forecasted an influx of 150 unique viewers per day with a substantially higher conversion rate than SEO-generated leads. The age bracket is 20-40.	/month
Facebook Ads	Facebook adverts are addressed to traders and Facebook construction groups and it aims to raise awareness around the risks traders are facing if not equipped with the right legal and H&S knowledge when embarking in commercial agreements. Forecasts show Facebook ads generate 30 inbound engagements per day, with a conversion rate similar to the SEO marketing channel. The age bracket is 20-40.	£50 /month
Word of mouth and referencing system	<p>ASIP will implement a referencing system which will provide a free first interview if the potential customer came through an existing customer.</p> <p>ASIP is also in the process of defining more advanced payment structures and fidelity systems for construction companies requiring ASIP services for all their future customers.</p>	-
Local newspapers	ASIP will advertise within the local newspaper in small towns in England, through a rotational system, using a fixed monthly budget, targeting homeowners seeking to undertake construction work on their properties. The age bracket is 40+.	£50 /month

Competition analysis

The market research identified a very small number of companies offering consultancy services, with no involvement in the construction stage.

However, further research shows a small number of extremely large consultancies serving multi million pounds programmes (Building Awards, 2017), which are not involved in construction. However, these consultancies are relying on selling design and engineering services and their target market is consisted from major or infrastructure projects.

The competitor analysis positions ASIP in a niche area where the two main real competitors are websites from where construction regulatory information can be downloaded or websites from where H&S information specific to construction websites can be obtained. Both options involve very little human interaction, meaning it is very likely that ASIP will become a preferred option.

The competitor analysis includes a PESTLE evaluation, with the view to understand how ASIP should position itself in relation to the external factors.

PESTLE

In order to position ASIP in relation to the external or environmental factors, a PESTEL analysis was conducted by the funders.

Political	<ul style="list-style-type: none">- Brexit: expected a decrease in the number of traders operating in Britain, remaining industry representatives will seek to gain competitive advantage;
Economical	<ul style="list-style-type: none">- Minor effects of recession: market will be reluctant to engage in commercial work, without a solid reliable contractual framework in place;
Social	<ul style="list-style-type: none">- Word of mouth, fidelity costing mechanisms, referencing systems: the mission of such marketing tools is to educate the audience to consider due diligence, best practices and an assurance service prior to commencing construction work;
Technological	<ul style="list-style-type: none">- ASIP is designed to work on portable devices i.e. tablets, iPhones to offer flexibility and portability;- The online platform will provide a Gantt chart project progress tracking of outstanding risks and project assumptions;- Text and Apple notifications triggered automatically upon milestone completion and release of payments to maintain contractual parties in loop at all times ;- Integration with Skype for business to tap into remote customers.

Legal	<ul style="list-style-type: none"> - ASIP will focus on current construction and H&S regulations stipulated under CDM 2015; - The products released will assist the clients with disputes and litigation and will try to mitigate escalation to Small Claims or local Court;
Environmental	<ul style="list-style-type: none"> - ASIP framework contains a module capturing environmental provisions, waste management, planning consent and noise mitigation.

SWOT

The funders evaluated ASIP using the SWOT analysis.

Strengths	<ul style="list-style-type: none"> - ASIP positions itself as an independent partner; - ASIP funders have legal knowledge, engineering and H&S hands on experience; - The services and the products will provide a strategy, a structure and will constrain the construction to a programme, protecting both parties from misunderstandings; - ASIP funders will offer commercial services remotely via Skype for Business; - Project team will have full visibility over all risks and assumptions at every stage of the project; - ASIP framework will act equidistant between both the landowner and the construction company.
Weaknesses	<ul style="list-style-type: none"> - ASIP team is offsite and will rely on input from client or construction company; - Homeowners may be reluctant to contract their construction services through ASIP - the business may be perceived as the middlemen.
Opportunities	<ul style="list-style-type: none"> - Trader ranking system can be introduced at later stages; - ASIP can engage with local events and local markets; - ASIP can develop it self as a brokerage company, mediating payments similar with the escrow services.
Threats	<ul style="list-style-type: none"> - Risks of private engagements between the client and the service provider bypassing ASIP; - Local disputes are time consuming and there is a risk of catching ASIP team between the two ends.

Both PESTLE and SWOT analysis are setting ASIP in a good position in relation to external factors to the business.

Operations and logistics

Given the structure of the business model there are not many interfaces between ASIP and 3rd parties in terms of operations and logistics.

ASIP staff will conduct a number of meetings with its clients for which one of the funders rented a small room in a block of offices at £500 per calendar month in London. Alternatively ASIP funders will utilise Skype to make sale calls and maintain contact with their client base.

Overall costs for all other expenses (telephone system, services, cleaning, web site hosting, Internet, etc.) are expected to be approximately £200 per month.

For document management purposes the team will utilise an internal bespoke document management system which one of the funders has produced in the last 12 months.

ASIP may conduct site visits during construction stages, for which the service provider will use public transport and will support the costs from the associated consultancy services.

ASIP activities do not include manufacturing products, nor delivering materials. However for processing payments, the team will integrate Paypal payments method for both online and offline support.

Costing and pricing strategy

The online platform involves a monthly subscription of £10 which enables the customer to access their personalised files including up to date Gantt schedule, the incoming risks, incoming mitigation actions and interfaces with 3rd parties i.e. manufacturers, etc. The online platform will also send notifications by text when certain milestones are complete. Amongst other features the platform will also upload images with the progress of the construction.

Depending on the level of comprehensiveness of the construction, each project will benefit from a set of documents based on 3 levels of information: bronze, silver and gold. The difference consists of the number of templated documentation each client will receive and the amount of time the ASIP team will spend in documenting each contract. Costs vary from £50 (bronze), £100 (silver) and £200 (gold) per client per project.

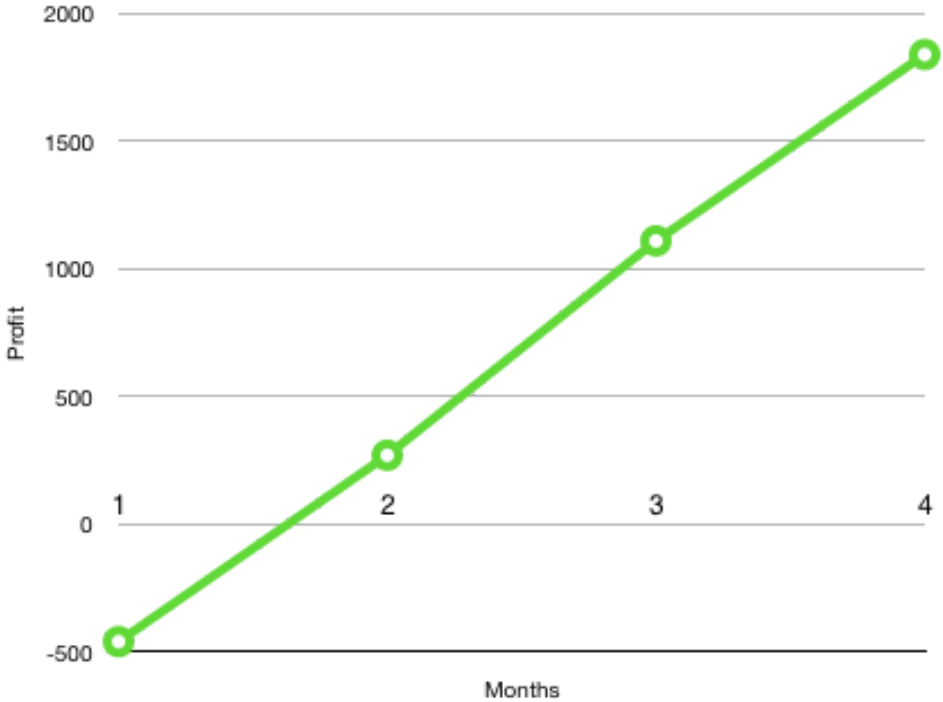
ASIP team also offers a bespoke consultancy service covering construction, H&S and engineering disciplines, for which potential customers can request a independent quotation.

Financial forecasts

The following forecasts indicate the volume of standard sales through the web platform, one month after its launch on 1st August 2018.

Month	Number of clients			Cost per package (consultancy)			Subs. (£10x)	Total income	Outgoings	Profit
	Bronze	Silver	Gold	Bronze (£50x)	Silver (£100x)	Gold (£200x)				
1	5	3	1	£250	£300	£200	£90	£840	£1300	-£460
2	10	5	2	£500	£500	£400	£170	£1570	£1300	£270
3	15	8	3	£750	£800	£600	£260	£2410	£1300	£1110
4	20	10	4	£1000	£1000	£800	£340	£3140	£1300	£1840

The forecast shows the venture will make a profit from the second month after its platform launch and will maintain a sharp trend in terms of increasing profits for the first quarter, allowing further expansion and investment in staff and regional offices.



Conclusion

The current paper evaluated a fictional startup venture to be established within London between 3 funding members, all specialised in 3 different sectors: engineering, H&S and ICT.

Overall ASIP follows a promising mixed business model relying on both products and bespoke professional services.

The market research puts the initiative in a safe place where the competitiveness is low and it will therefore allow ASIP to develop itself without external pressures.

The financial forecast in line with the ability of the business to sustain itself from resources produced by the funding members, indicates it will generate profits from the second month of existence.

References

1. Building Awards (2017) Building Awards 2017 shortlist, Available at: <https://www.building-awards.com/building-awards-2017-shortlist/> (Accessed: 2018-04-14).
2. Belleflamme, P., Lambert, T., & Schwienbacher, A. (2013). Crowdfunding: Tapping the right crowd, *Journal of Business Venturing*, 29(5), pp.585-609
3. British Business Bank. (2014) Equity Crowdfunding in the UK: Evidence from the Equity Tracker, March.
4. British Business Bank. (2016) Small Business Finance markets 2015-16, February
5. Bruton, G., Khavul S., Siegel D., & Wright, M. (2014). New Financial Alternatives in Seeding
6. Culkin, N., Murzacheva, E., & Davis, A. (2016). Critical innovations in the UK peer-to-peer (P2P) and equity alternative finance markets for small firm growth, *The International Journal of Entrepreneurship and Innovation*, 17(3), pp.194-202.
7. CITB (2017) MIGRATION AND CONSTRUCTION: The view from employers, recruiters and non-UK workers, city.co.uk: CITB.
8. Entrepreneurship: Microfinance, Crowdfunding, and Peer-to-Peer Innovations, *Entrepreneurship Theory and Practice*, 39(1), pp.9-26
9. Feller, J., Gleasure, R. & Treacy, S. (2013) "Crowdfunding: Past Research, Future Directions." Available at: http://opennessandtransparency.net/sites/default/files/2013_TOTO_Crowdfunding_Seminar_Report.pdf
10. Health and Safety Executive (2017) Fatal injuries arising from accidents at work in Great Britain 2017, www.hse.gov.uk/statistics/: Health and Safety Executive.
11. HOGAN, S. J. & COOTE, L. V. 2014. Organizational culture, innovation and performance: a test of Schein's model. *Journal of Business Research*, 67, 13.
12. JONES, R. & ROWLEY, J. 2011. Entrepreneurial marketing in small businesses: a conceptual exploration. *International Small Business Journal*, 29, 25-36.
13. MORRIS, L., MA, M. & WU, P. C. 2014. *Agile Innovation: the revolutionary approach to accelerate success, inspire engagement, & ignite creativity*. Wiley Publishers.
14. Scottish Parliament (2014) 3rd Report: Access to Finance and Alternative Financing Models <http://www.scottish.parliament.uk/parliamentarybusiness/CurrentCommittees/74286.aspx>
15. Office of National Statistics (2017) Construction statistics: Number 18, 2017 edition, ons.gsi.gov.uk: Office of National Statistics.
16. OSTERWALDER, A., PIGNEUR, Y. & CLARK, T. 2010. *Business model generation : a handbook for visionaries, game changers, and challengers*, Hoboken, N.J., John Wiley & Sons.
17. OSTERWALDER, A. A., PIGNEUR, Y. A., BERNARDA, G. A. & SMITH, A. A. 2014. Value proposition design.

18. TSVETKOVA, A. & GUSTAFSSON, M. 2012. Business Models for Industrial Ecosystems: a modular approach. *Journal of Cleaner Production*, 29-30, 8.
19. Yelp.co.uk (2018) Top safety, Available at:
https://www.yelp.co.uk/search?find_desc=safety&find_loc=London&start=0&cflt=vocation (Accessed: 2018-04-14).
20. Zhang, B. Baeck, P., Ziegler, T., Bone J., & Garvey, K. (2016). Pushing boundaries: the 2015 UK Alternative Finance Industry Report, Nesta Research Report, February.