Please make changes in the cells that are coloured blue.					
The main sheets in use are:					
Cost assumptions - see here for the breakdown of costs and our monthly burn, including a runway scenario.					
Captable assumptions					
Product lines					
Seed Investment Market Sizing					
Product+Biz roadmap					
Hiring and compensation plan					

ASSUMPTIONS

Convertible notes - wmw		$9,603.00	conversion is based on discount rate	
Contributors' Pool		$6,500,000.00	conversion is based on discount rate	
Convertible notes - angel round tranche 1		$300,000.00	conversion based on valuation cap of	$3,500,000.00
Convertible notes - angel round tranche 2		$1,000,000.00	conversion based on valuation cap of	$6,000,000.00
Convertible notes - seed round		$2,000,000.00	conversion based on valuation cap of	$10,000,000.00
Series A round		$0.00	pre-money valuation of	$20,000,000.00
Series B round		$0.00	pre-money valuation of	$50,000,000.00
Series C round		$0.00	pre-money valuation of	$120,000,000.00
Series D round		$0.00	pre-money valuation of	$400,000,000.00
Series E round - pre-IPO		$0.00	pre-money valuation of	$800,000,000.00
Discount rate on qualified equity financing at Series A round		50.00%	gives an effective pre-money valuation of	$10,000,000.00

CAP TABLE

Investors	Pre-investment			Post-investment		
	S$	num_of_shares	% ownership	S$	num_of_shares	% ownership
Incorporation	$1.00	1,000,000	100.00%		1,000,000	47.54%
Convertible notes - wmw				$9,603.00	960	0.05%
Contributors pool				$6,500,000.00	650,000	30.90%
Convertible notes - angel round tranche 1				$300,000.00	85,714	4.08%
Convertible notes - angel round tranche 2				$1,000,000.00	166,667	7.92%
Seed round				$2,000,000.00	200,000	9.51%
Series A round				$0.00	0	0.00%
Series B round (8M)				$0.00	0	0.00%
Series C round (12M)				$0.00	0	0.00%
Series D round (40M)				$0.00	0	0.00%
Series E round - pre-IPO (80M)				$0.00	0	0.00%
TOTAL	$1.00	1,000,000	100.00%	$9,809,603.00	2,103,341	100.00%

the discount applied to the $6M equity Pie could be linearly time-weighted.
Pie issued at the time of the seed round could have 50% discount and $6M cap, same as the financial investors.
Pie issued closer to the time of the Series A could have 0% discount and no cap.
We can interpolate linearly or we can peg the interpolation to the cash/equity balance points decided monthly by the staff.
Linear is probably sufficient.

modelled using Legalese Investment Terms: https://docs.google.com/document/d/1aFDb9zd3TnBpnHLf7dBUnQivCLZO0aTVH8mtpzelniQ/edit#heading=h.7g8km5gr8pn0

legal industry – an industry valued at $400B. Commercial practice is about $160B. Contracts and finance are about half of commercial – $80B.

Incorporation
rescue
startup financing (angel, seed)
mandatory corporate secretarial service
business operations
esop
employment
startup financing (series A/B/C/D/E)
non-core business operations
international and crossborder transactions (I18n and L10n)
smart contracts (detect conflicts)

Sell-direct	SG	SG, UK	SG, UK, EU, SEA	SG, UK, EU, SEA, AU, NZ, IN	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US	SG, UK, EU, SEA, AU, NZ, IN, US
	AllTxn2016	AllTxn2017	AllTxn2018	AllTxn2019	AllTxn2020	AllTxn2021	AllTxn2022	AllTxn2023	AllTxn2024	AllTxn2025	AllTxn2026	AllTxn2027
End users												
	5	20	80	320	1280	5120	20480	81920	327680	1310720	5242880	
	$1,750	$7,000	$28,000	$112,000	$448,000	$1,792,000	$7,168,000	$28,672,000	$114,688,000	$458,752,000	$1,835,008,000	
End-users, venture-backed companies, enterprises, industries												
	10	40	160	640	2560	10240	40960	163840	655360	2621440	10485760	
	$1,500	$6,000	$24,000	$96,000	$384,000	$1,536,000	$6,144,000	$24,576,000	$98,304,000	$393,216,000	$1,572,864,000	
End-users, venture-backed companies, enterprises, industries												
	30	120	480	1920	7680	30720	122880	491520	1966080	7864320	31457280	
	$150	$600	$2,400	$9,600	$38,400	$153,600	$614,400	$2,457,600	$9,830,400	$39,321,600	$157,286,400	
End-users												
	10	40	160	640	2560	10240	40960	81920	81920	81920	81920	
	$1,000	$4,000	$16,000	$64,000	$256,000	$1,024,000	$4,096,000	$8,192,000	$8,192,000	$8,192,000	$8,192,000	
End-users, venture-backed companies, enterprises, all industries												
	10	40	160	640	2560	10240	40960	163840	327680	327680	327680	
	$1,000	$4,000	$16,000	$64,000	$256,000	$1,024,000	$4,096,000	$16,384,000	$32,768,000	$32,768,000	$32,768,000	
End-users, venture-backed companies, enterprises, all industries												
	12	48	192	768	5120	20480	81920	327680	655360	655360	655360	
	$120	$480	$1,920	$7,680	$51,200	$204,800	$819,200	$3,276,800	$6,553,600	$6,553,600	$6,553,600	
End-users, venture-backed companies, enterprises, most industries												
	30	120	480	1920	7680	30720	122880	491520	1966080	7864320	31457280	
	$900	$3,600	$14,400	$57,600	$230,400	$921,600	$3,686,400	$14,745,600	$58,982,400	$235,929,600	$943,718,400	
End-users, venture-backed companies												
	5	20	80	320	1280	5120	20480	81920	163840	163840	163840	
	$500	$2,000	$8,000	$32,000	$128,000	$512,000	$2,048,000	$8,192,000	$16,384,000	$16,384,000	$16,384,000	
End users, venture-backed companies, enterprises, all industries												
		10	40	160	640	2560	10240	40960	163840	655360	2621440	
		$300	$1,200	$4,800	$19,200	$76,800	$307,200	$1,228,800	$4,915,200	$19,660,800	$78,643,200	
End-users, venture-backed companies, enterprises, all industries and financial services vertical												
		10	40	160	640	2560	10240	40960	163840	655360	2621440	
		$300	$1,200	$4,800	$19,200	$76,800	$307,200	$1,228,800	$4,915,200	$19,660,800	$78,643,200	
Banking and financial services vertical												
				10	20	40	80	320	1280	5120	20480	81920

					$300	$600	$1,200	$2,400	$9,600	$38,400	$153,600	$614,400	$2,457,600

Insurance vertical

	10	20	40	80	320	1280	5120	20480
	$300	$600	$1,200	$2,400	$9,600	$38,400	$153,600	$614,400

Life sciences and healthcare vertical

	10	20	40	80	320	1280	5120
	$300	$600	$1,200	$2,400	$9,600	$38,400	$153,600

Maritime vertical

	10	20	40	80	320	1280
	$300	$600	$1,200	$2,400	$9,600	$38,400

Real estate vertical

	10	20	40	80	320
	$300.00	$600.00	$1,200.00	$2,400.00	$9,600.00

Family, Personal

	10	20	40	80
	$500.00	$1,000.00	$2,000.00	$4,000.00

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
TOTAL revenue S$	$0	$6,920	$28,280	$113,420	$453,380	$1,832,500	$7,326,100	$29,300,500	$109,006,300	$355,739,000	$1,231,258,800	$4,733,338,400
Expenses:												
- product development	$75,544	$796,176	$1,280,000									
- travel, conferences	$13,800	$55,200	$31,200									
- admin overheads	$40,000	$120,000	$120,000									
- cpf	$5,100	$9,860	$11,220									
- compliance professional fees	$2,500	$2,500	$2,500									
Total Expenses	$136,944	$983,736	$1,444,920									
Profit/Loss of the year	-$136,944	-$976,816	-$1,416,640									

MAJOR ASSUMPTIONS
Changes here will flow into other sheets.

Default currency unit is	SGD	
Our primary compensation model for staff will be	a combination of cash and equity.	
The typical staff member will take up to	$4,000	in cash component, to represent basic income requirements – rent and food
The remainder of their total compensation will be equity – say,	$3,000	worth of equity

V2.0 INFRASTRUCTURE PROJECT-BASIS COSTING
The v2 project can be divided into infrastructure versus modules. We will keep adding new modules over time. Those are dealt with in a separate section below.

To develop the v2 product infrastructure, we need to make a buy vs build decision.

If we do v2 out-sourced we estimate a cost of	$16,772	per iteration
iterations takes	0.5	months
building v2.0 will require	6 to	12 iterations
for a cost of	$112,632 to	$225,264
and a time of	4 to	8 months
but we should still want to hire at least	2	in-house staff to maintain institutional knowledge of the codebase so they can maintain it
who will be	1	full-stack developer with good front-end skills
and	1	product manager, architect, and documentation writer – 3 roles in 1 person
and will cost	$8,000	a month
for a total cost of	$144,632 to	$289,264
and an average monthly cost of	$45,544	

If we do v2 entirely in-house we will need to staff	1	full-stack developer with good front-end skills
	1	graphic designer who will not take the cash-equity deal, but will want it all in cash, for $6,000 a month
	1	back-end developer responsible for the internals – the dependencies, and business logic, and semantic model
	1	product manager, architect, and documentation writer – 3 roles in 1 person
	1	data visualization specialist
for a total cash cost of	$22,000	per month
it will probably take about	1	month to get new hires up to speed, so
if the project takes us	5 to	9 months
then it will cost us	$110,000 to	$198,000

V1 MAINTENANCE COSTING
In any event to maintain the v1 system (which v2 uses) we need	1	v1 maintenance engineer
for the standard cost of	$4,000	per month
for a monthly total of	$4,000	

V2.0 INFRA MAINTENANCE COSTING
After v2 infra is built we will need to maintain it.

We will need to continue	1	full-stack developer with good front-end skills
and	1	back-end developer responsible for the internals – the dependencies, and business logic, and semantic model
and	1	product manager, architect, and documentation writer – 3 roles in 1 person
and	1	data visualization specialist
for the standard cost of	$4,000	per month
for a monthly total of	$16,000	per month

V2.X CONTINUING DEVELOPMENT
We want to output to Microsoft Word, we want to output to Google Docs, we want to add visualization and education

If output to Word and to Google Docs each requires	2	months to add
we will need to double up with an additional	1	full-stack developer with good front-end skills
but we can reuse the existing		back-end developer responsible for the internals – the dependencies, and business logic, and semantic model
and		product manager, architect, and documentation writer – 3 roles in 1 person
		who already have on staff

We can in parallel add visualization and education using the existing		data visualization specialist
		who already have on staff
So the net additional load of completing the v2.x roadmap is	$4,000	per month
For a total monthly burn of	$20,000	

Which means we fire the graphic designer after the v2.0 product is done.

V3.0 RESEARCH AND DEVELOPMENT
We are working with NUS, NTU, I2R, on some R&D.

Herding the cats is half a full-time job	0.5
Grant application and reporting is the other half	0.5

An NLG role will build the DSL compiler backend to English.	1
Customer advocate, user doc tech writer, and v2-to-v3 translator.	1
Formal methods specialist to write the verifier.	1
Ethereum specialist to write a compiler backend to Ethereum.	1

This core team needs to gel for a few months. After that, we can double up with some new hires to bring fresh thinking onboard. We'll represent that below.

Total R&D headcount for the first	4 to	6 months
will cost	$20,000	per month

Subsequently, we will 2x the research roles, for a total of	10	heads
bringing the total v3 R&D team cost to	$44,000	per month

Total Product staff	17

OUR MODULES ARE GROWING
Each major workflow is lumped into a single module. Relationships between sub-modules and modules are approximate.

Module	Sub-Module
Rescue	Setting up Cap Table from ACRA (API or manual PDF)
	Education about what the cap table was supposed to be, even before seed
	Stock Split
	Transfer to Other Shareholder e.g. Trust
	Add a Forgotten Shareholder
	Replace a Founder
	Get rid of existing shareholders
Seed Funding	Establishment of ESOP
	Employment Agreement
	IP Assignment
	Confidentiality & Noncompete
	Education: what does the deal mean for everyone?
	Debt subscription agreement
	Equity subscription agreement
Employment ESOP Agreements	ESOP
	Assignment of IP
	Noncompete
	Nondisclosure
	Actual employment agreement
Business Operations	sales contract
	saas contract
	service contract
	CLA
	EULA
	NDA
	IP agreement
	website
	terms of sale/use
	letter of intent
	commercial partnership agreement
	distribution agreement
	software reseller agreement
	software licensing
	franchise agreement
	office/asset/equipment lease agreement
	novation
	sale or purchase of assets contract
Series A/B/C/D financing	
Factoring (financial services)	
Life sciences and healthcare	
Insurance	
Conveyancing	
Maritime industry	
Rental lease	
Pre-Nups & Divorces	

Module/Submodules are developed by the core v2.x team, then handed to	1	module manager/engineer to maintain, for a total of 3 module engineers

We hire that additional body at the beginning of the development cycle, so they are conversant with the module by the time development is complete, and can take over.

That means the marginal break-even per module is about the cost of one engineer, so we have to do something like	40	txns/month at $100 per transaction

Suppose each sub-module takes	0.3	months to develop, document, integrate, and test
We have a total of	37	submodules
Grouped into	6	modules
module 1	Rescue	will need 0.3 months to develop, document, integrate, and test
module 2	Seed Funding	will need 2.1 months to develop, document, integrate, and test
module 3	Employment ESOP	will need 2.1 months to develop, document, integrate, and test

Total module dev staff	3

MONTHLY EXPENDITURE
So, what do the expenses look like on a monthly basis?

month calendar	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017	January 2018	February 2018	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	TOTAL
month num	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
milestone	start																										
V1 MAINTENANCE COSTING	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$104,000
V2.0 INFRASTRUCTURE PROJECT-BASIS COSTING																											
inhouse			$22,000	$22,000	$22,000	$22,000	$22,000	$22,000	$22,000																		$154,000
outsourced – in			$22,000	$22,000	$22,000	$22,000	$22,000	$22,000																			$132,000
outsourced – ext			$45,544	$45,544	$45,544	$45,544	0	0																			$182,176
V2.0 INFRA MAINTENANCE COSTING									$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$288,000
V2.X CONTINUING DEVELOPMENT					$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$84,000
V3.0 RESEARCH AND DEVELOPMENT					$20,000	$20,000	$20,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000	$44,000			$808,000
OUR MODULES ARE GROWING																											
module 1			$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$96,000
module 2				$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$92,000
module 3					$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$88,000

Let's assume after we figure out our initial business model on our first product line, we add a new module every three months which means a new product line every six to nine months

a new product line requires one new product manager and three new modules, which is	4	staff

| product line 2 | | | | | | | | | | | | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | | | $192,000 |
| product line 3 | | | | | | | | | | | | | | | | | | | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | $16,000 | | | $96,000 |

ADMINISTRATIVE OVERHEAD
investor relations		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
evangelism		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
community relations		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
general management		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
accounting		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
cpf 25		$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$12,500	$312,500
support services (AWS, webhosting, github, mosquo, xero, TI 182		182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182	182
professional fees		$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$12,500
TRAVEL		$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$100,000
USER CONFERENCES		$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600	$15,000
Total admin 5																											
IF WE OUTSOURCE		$41,782	$113,326	$117,326	$117,330	$125,326	$99,782	$99,782	$115,782	$117,782	$117,782	$117,782	$117,782	$117,782	$133,782	$133,782	$133,782	$133,782	$133,782	$149,782	$149,782	$149,782	$149,782	$149,782	$149,782	$149,782	$3,120,730

IF WE INSOURCE		$41,782	$89,782	$93,782	$93,786	$101,782	$121,782	$121,782	$115,782	$117,782	$117,782	$117,782	$117,782	$117,782	$133,782	$133,782	$133,782	$133,782	$133,782	$149,782	$149,782	$149,782	$149,782	$149,782	$149,782	$3,070,554
minus administrative overhead - outsource		$4,000	$75,544	$79,544	$79,548	$87,544	$62,000	$62,000	$78,000	$80,000	$80,000	$80,000	$80,000	$80,000	$96,000	$96,000	$96,000	$96,000	$96,000	$96,000	$112,000	$112,000	$112,000	$112,000	$112,000	$112,000	$2,176,180
minus administrative overhead - insource		$4,000	$52,000	$56,000	$56,004	$64,000	$84,000	$84,000	$78,000	$80,000	$80,000	$80,000	$80,000	$80,000	$96,000	$96,000	$96,000	$96,000	$96,000	$96,000	$112,000	$112,000	$112,000	$112,000	$112,000	$112,000	$2,126,004
actual headcount, insource	1	6	14	15	15	17	22	22	36	25	25	25	25	25	29	29	29	29	29	29	33	33	33	33	33	33	
actual headcount, minus overhead	1	6	9	10	10	12	17	17	21	20	20	20	20	20	24	24	24	24	24	24	28	28	28	28	28	28	
total headcount, estimated, insource		21	45	47	47	51	61	61	58	59	59	59	59	59	67	67	67	67	67	67	75	75	75	75	75	75	
total headcount, estimated, minus overhead		2	26	28	28	32	42	42	39	40	40	40	40	40	48	48	48	48	48	48	56	56	56	56	56	56	

DEPENDING ON HOW MUCH WE RAISED = RUNWAY, WE COULD SPEND ON:

V1 maintenance cost	for a monthly total of	$4,000	
V2 product infrastructure			
- if outsource	for an average monthly cost of	$45,544	
- if build inhouse	for a monthly total of	$22,000	
V2 maintenance cost	for a monthly total of	$16,000	
V2.x continuing development	for an additional monthly load of	$4,000	
Modules engineers	for a monthly total of		$12,000
V3 research and dev	for a monthly cost of		$20,000
Marketing cost	for a monthly cost of		$4,600
Administrative overhead	for a monthly cost of		$33,182

		V1	V2 + Vx	Modules	V3	Marketing	Admin	TOTAL PRODUCT ONLY	TOTAL PRODUCT+MKT+ADMIN
TOTAL	if outsource, for a **monthly burn** of	$4,000	$65,544	$12,000	$20,000	$4,600	$33,182	$101,544	$139,326
TOTAL	if inhouse, for a **monthly burn** of	$4,000	$42,000	$12,000	$20,000	$4,600	$33,182	$78,000	$115,782
TOTAL - outsource	9 months	$36,000	$589,896	$108,000	$180,000	$41,400	$298,638	$913,896	$1,253,934
TOTAL - inhouse	6 months	$24,000	$252,000	$72,000	$120,000	$27,600	$199,092	$468,000	$694,692

We expect that getting v2 out the door and positioning to Series A will take 1 to 2 years, and SGD1-2 million

Description	Monthly S$	Number of months	Total requested for S$	ISIF budget S$	Angel Tranche 1 budget S$	Equity
Proteus tech - v2	S$28,158	4	S$112,632		S$112,632	
Aravind and team - v2	S$14,250	12	S$171,000		S$171,000	
v1 backend maintenance and dev	S$3,800	12	S$45,600	S$17,640	S$27,960	
v1 backend maintenance and dev	S$1,300	12	S$15,600		S$15,600	
webhosting, aws, software ops cost	S$3,200	1	S$3,200		S$3,200	
Accounting, tax, corpsec	S$9,000	1	S$9,000		S$9,000	
TOTAL					S$339,392	

Stringlabs						
L4 researchers stipend						
academic papers, reports and books						
travel, conference fees, accomm, data roaming, SIM						
TOTAL				S$12,140.84		
ISIF						
Software Engineer						S$18,000
Research (books, papers etc)						S$800
International Travel						S$9,600
Data Roaming, SIM						S$600
Upkeep and administrative and support service fees (Amazon web server fees, web hosting, corporate, compliance and administrative fees, etc)						S$1,747
TOTAL						S$30,747

How big is the market? … for all legal services today

top-down

World Domination Future

references

	Low	Medium	High	dollars in USD billions	assumptions	
	$250	$325	$400	US		http://www.statisi http://www.marke http://businessoflawblog.com/2015/01/addressable-us-legal-market/
		$43		UK		http://www.tmaa.l http://www.elephi http://www.legals https://www.sra.o https://www.sra.g https://research.l https://research.l http://www.lawsociety.org.uk/news/stories/future-of-legal-services/
		$172		Europe ex-UK	"The UK accounts for around 7% of the global market for legal services. It is the largest market in Europe accounting for around a fifth of European fee income."	http://www.barco https://www.lawsociety.org.uk/policy-campaigns/public-affairs/our-current-work/documents/legal-profession-and-the-eu/
		$74		Legal Services ex-US/UK		
		$614		Globally		
	$921	$1,229	$1,843	total potential global market, including current nonconsumption		

How big is the market? … for our initial segment: angel/seed investments.

top-down

First Application Domain

references

	Low	Medium	High		assumptions	
	4,000	37,500	71,000	angel / seed deals done in the US		http://www.angel http://www.angel https://www.quor http://blog.gust.com/how-many-start-ups-in-the-us-get-seedvc-funding-per-year/
	9	25	40	in Singapore		

What can we charge? All revenues net of govt fees; automated product, no consulting.

bottom-up

High-volume, low-margin strategy

references

	Low	Medium	High	dollars in SGD	assumptions	
	$20	$100	$200	incorporation	$1/signature, $20 minimum	https://www.quora.com/How-much-should-a-startup-expect-to-pay-in-legal-fees-to-do-a-family-and-friends-round
	$20	$100	$200	pre-investment cleanup	$1/signature, $20 minimum	
	$60	$200	$600	ESOP establishment and vesting plan for founders, pre-inves	$1/signature, $20 minimum	
TOTAL	$100	$400	$1,000	per angel/seed investment deal	low-cost strategy: $1 per signature or $100 per deal, whichever is higher	

Initial market: angel deals in SG, direct

bottom-up

Early Adopter

references

	Low	Medium	High		assumptions	
	3	8	12	deals by BANSEA members		
	2	5	8	deals by TIE members		
	4	12	20	independent angel deals		

Initial revenue experiments – revenue max on direct sales

bottom-up

Early Adopter

references

	Low	Medium	High		assumptions	
	$300	$3,000	$12,000	deals by BANSEA members		
	$200	$2,000	$8,000	deals by TIE members		
	$400	$4,800	$20,000	independent angel deals		
TOTAL	$900	$9,800	$40,000	if we can hit this target we should be able to hit other targets. this will tell us what penetration we can expect, what elasticity, what price sensitivity		

Initial market: seed deals in SG, indirect

bottom-up

Bowling Pin

references

	Low	Medium	High		assumptions	
	6	33	60	channel: equity crowdfunding		
	12	24	36	channel: accelerators		

Initial revenue experiments – revenue max on channel sales

bottom-up

Bowling Pin

references

	Low	Medium	High	dollars in SGD	assumptions	
	$600	$13,200	$60,000	channel: equity crowdfunding		
	$1,200	$9,600	$36,000	channel: accelerators		
TOTAL	$1,800	$22,800	$96,000	if we can hit this target we should be able to hit other targets. this will tell us what penetration we can expect, what elasticity, what price sensitivity		

Geographic Expansion: angel deals in UK

bottom-up

Bowling Pin

references
Beauhurst, The Deal, 20160212

	Low	Medium	High	dollars in USD	assumptions	
	100	200	300	channel: equity crowdfunding		
	120	240	360	channel: accelerators		
	1300	2,000	2700	independent angel deals		
TOTAL	$152,000	$976,000	$3,360,000	assuming 100% penetration of the relevant market		

Geographic Expansion: angel deals in SEA

bottom-up

Bowling Pin

references
need to ask Peng / Monkshill

	Low	Medium	High	dollars in SGD	assumptions	
	6	33	60	channel: equity crowdfunding		
	12	24	36	channel: accelerators		
	40	120	200	independent angel deals		
TOTAL	$5,800	$70,800	$298,000	assuming 100% penetration of the relevant market		

Geographic Expansion: angel deals in US

bottom-up

Chasm

references
check angellist

	Low	Medium	High	dollars in USD	assumptions	
	600	3,300	6,000	channel: equity crowdfunding		
	1,200	6,800	12,000	channel: accelerators		
	2,200	27,600	53,000	independents		
TOTAL	$400,000	$15,000,000	$71,000,000	assuming 100% penetration of the relevant market		

How much do startups currently spend on their seed deals?

bottom-up

Status Quo

references

	Low	Medium	High	dollars in USD	assumptions	
	$1,000	$3,000	$10,000	traditional legal fees for drafting and negotiation	lump sum	https://www.quora.com/How-much-should-a-startup-expect-to-pay-in-legal-fees-to-do-a-family-and-friends-round
TOTAL	$4,000,000	$112,500,000	$710,000,000	market for US angel deals	US only figures	

What do fixed-fee offline law firms / service providers currently charge? Including governm

bottom-up

Status Quo

references

	Low	Medium	High	dollars in USD	assumptions	
	$600	$1,000	$2,000	incorporation		http://elishatan.com/2010/incorporating-in-singapore-diy-secretarial-firms-law-firms/#.V1nwzJMrLeQ
	$500	$900	$1,500	pre-investment cleanup		
	$1,200	$3,500	$6,000	ESOP establishment and vesting plan for founders, pre-investment resolutions and pre-emptive paperwork, and investment paperwork and related filings		
	$1,200	$2,000	$3,000	education and advisory		
	$300	$450	$1,000	disbursements, time-costs		
TOTAL	$3,800	$7,850	$13,500	TOTAL		

What do non-lawfirm service providers currently charge? Including government fees.

bottom-up

Status Quo

references

	Low	Medium	High	dollars in SGD	assumptions	
	$600	$888	$1,800	incorporation		http://web.archiv http://elishatan.c/ http://oronomos.com/jurisdiction/singapore/
	$200	$500	$800	pre-investment cleanup		http://web.archive.org/web/20150731223445/https://www.futurebooks.com/singapore/services/company-secretarial-service/secretarial-rescue/
	$1,200	$2,100	$3,000	ESOP establishment and vesting plan for founders, pre-investment resolutions and pre-emptive paperwork, and investment paperwork and related filings		
TOTAL	$2,000	$3,488	$5,600	TOTAL		

UNIT ECONOMICS

	Low	Medium	High	dollars in SGD	assumptions	references
	$60,000	$120,000	$180,000	cost of content marketing		
	$60,000	$120,000	$180,000	cost of social media manager		
	$60,000	$120,000	$180,000	cost of end-user community manager		
	$60,000	$120,000	$180,000	cost of legal developer community manager		
	$120,000	$180,000	$240,000	cost of software product development		
	$120,000	$180,000	$240,000	cost of software product operations team		
	$120,000	$180,000	$240,000	cost of maintenance		
	$120,000	$180,000	$240,000	cost of legal domain experts and advisory		
	$120,000	$180,000	$240,000	cost of legal reference content development		
	$120,000	$180,000	$240,000	cost of legal regulatory and legislative encoding		
	$60,000	$120,000	$180,000	administrative overhead - accounting and finance		
	$60,000	$120,000	$180,000	administrative overhead - project management		
	$60,000	$120,000	$180,000	administrative overhead - grant application & reporting		
	$120,000	$180,000	$240,000	cost of R&D department for DSL, formal methods, NLG		
	$0.01	$0.06	$0.10	marginal cost per deal, CPU time		
TOTAL	$1,260,000	$2,100,000	$2,940,000			
	12,600	5,250	2,940	number of deals/year needed to break even		
	315%	14.0%	4.1%	fraction of US market		

Timeline	Q1 2016	Q2 2016			Q4 2016	Q1 2017		Q2 2017		Q3 2017	Q4 2017	2018			2019
Legalese versions	v1.0	v1.2	v1.3	v1.4	v1.6	v2.0	v2.1	v2.2	v2.4	v3.0	v3.1	v4.0	v4.2	v4.7	v5.0
Technical															
UI															
google sheet UI usable by assistance	✓	✓	✓	✓	✓	■	■	■	■	■	■	■	■	■	■
google spreadsheets UI is usable by a determined end-user		✓	✓	✓	✓	✓	■	■	■	■	■	■	■	■	■
fully automated UI linked to google sheets backend	■	■	■	■	✓	✓	✓	✓	✓	■	■	■	■	■	■
fully automated UI linked to google sheets backend + API integrations	■	■	■	■	■	✓	✓	✓	✓	✓	✓	■	■	■	■
Features															
captable and ESOP classes - googlesheet usable by determined end-user	■	■	✓	✓	✓	✓	✓	✓	✓	■	■	■	■	■	■
captable and ESOP classes - interactive & educational d3	■	■	■	■	■	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
enhancements to Singapore workflows				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
unit tests to verify workflows				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
enhancements to Singapore workflows				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
workflows for our partners				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
execution workflow logic					✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
a simple and beautiful front-end with defaults that pre-fills and wraps the v1.0 spreadsheet						✓	✓	✓	✓	✓		✓	✓	✓	✓
general release end-user ready						✓	✓	✓	✓	✓		✓	✓	✓	✓
Output to Microsoft Word XHTML format								✓	✓	✓		✓	✓	✓	✓
Output to Google Docs format									✓	✓		✓	✓	✓	✓
Visualisation and education									✓	✓		✓	✓	✓	✓
A simple working DSL used for at least three seed investment agreement types										✓		✓	✓	✓	✓
A compiler to English										✓		✓	✓	✓	✓
A sophisticated DSL that outputs to English and other languages (Galois?)												✓	✓	✓	✓
Compile to Ethereum and/or Hyperledger													✓	✓	✓
Support for maintained fork/branches														✓	✓
automate translation from English to DSL															✓
Product															
Singapore workflow:						✓	✓	✓	✓	✓		✓	✓	✓	✓
- incorporation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
- NDAs / confidentiality						✓	✓	✓	✓	✓		✓	✓	✓	✓
- ESOP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
- adding a co-founder	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
- employment agreement						✓	✓	✓	✓	✓		✓	✓	✓	✓
- volunteer agreement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
- seed fundraising round	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Develop Australia workflow + import major agreements in US, EU, IN						✓	✓	✓	✓	✓		✓	✓	✓	✓
To register as a chartered corporate secretarial firm							✓	✓	✓	✓		✓	✓	✓	✓
Test revenue models:										✓		✓	✓	✓	✓
- sold one workflow										✓		✓	✓	✓	✓
- prove direct sale model										✓		✓	✓	✓	✓
- charge for conversion of agreements to xml										✓		✓	✓	✓	✓
- charge for conversion of agreements to word doc										✓		✓	✓	✓	✓
- charge for conversion of agreements to google doc										✓		✓	✓	✓	✓
- wordpress theme marketplace model										✓		✓	✓	✓	✓
Monetization at scale												✓	✓	✓	✓

2016	10	1,000	125,000	-124,000
2017	40	4,000	400,000	-520,000
2018	100	10,000	800,000	-1,310,000
2019	400	40,000	1,600,000	-2,870,000
2020	1,600	160,000	2,000,000	-4,710,000
2021	12,800	1,280,000	2,000,000	-5,430,000
2022	102,400	10,240,000	6,000,000	-1,190,000
2023	819,200	81,920,000	18,000,000	62,730,000
2024	6,553,600	655,360,000	54,000,000	664,090,000

Role	Person	Role Base Rate	Personal Adjustment	Equity	Cash	market value	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017
Inhouse Lawyers	Alexis/Yochi	1000		100.00%																						
Community Manager	Alexis	1000		100.00%																						
Compensation Committee	Alexis	500		100.00%																						
Project Manager	Alexis	1000		100.00%																						
	Andras				0																					
v1 Dev	Anuj	2000		25.00%	1500	USD 3k–6k, now requesting for USD 2,700																				
Academic Liaison	CL	1000		100.00%																						
Compensation Committee	CL	500		100.00%																						
Grants Liaison	Alexis	500		100.00%																						
Investor Liaison	CL	1000		100.00%																						
Strategy Advisor	Colin	500		100.00%																						
Horizon Scanner	Yochi/ChiahLi	500		100.00%																						
					0																					
L4 researcher		1500	0	100.00%		smart pays full post docs: S$72k salary + $12k housing																				
Agda	Mielek					750 GBP / day																				
		1000		100.00%																						
Compensation Committee	Meng	500		100.00%																						
Evangelist	Virgil/Yochi	1000		100.00%																						
Grant Applications	Meng	1000		100.00%																						
Investor Liaison	Meng	1000		100.00%																						
v1 Dev Lead	Meng	2000		100.00%																						
v2 Front End Dev Lead	Seb	2000		100.00%																						
v3 Researcher	VI	1500		100.00%		somewhere to crash, food, cool books. And maybe an allowance.																				
Evangelist	Virgil	1000		0.00%	1000																					
	Job Chong				0	1,500 SGD for v1 and v2																				
					0																					
Industry Analyst	Yochi	500	0	100.00%																						
Product Manager	OTM																									
TOTAL		22500			2500																					

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	ISIF funding	non-ISIF funding
Equipment		computers, laptop, portable devices, network devices, network equipment							
	none					0	0		
Personnel		salaries of project team if they work 50% of the time or more							
	anuj		1500	1	12	18,000	20,731	20,731	
Professional Services		project team that works less than 50% of the time;consultants, tech support etc							
	virgil		1000	1	12	12,000	13,821		13,821
Research Expenses		training of project team							
	books and articles		100	1	12	1,200	1,382		1,382
International Travel		international travel expenses : accommodation, air fares, visa applications, travel allowances, registration for participation in conferences							
	conferences	futurelaw; legaltech US; FLACOS	1600	2	3	9,600	11,057	11,057	
	data roaming	$50 per trip	50	1	12	600	691	691	
Training		training of project team: training fees and travel expenses, local or international							
	summit	travel & accommodation for biannual retreat	600	8	2	9,600	11,057		11,057
Support Services		web hosting, transcripts, logistics, facilitation							
	web hosting	AWS / Squarespace / etc	100	1	12	1,200	1,382	1,382	

| | | | | | TOTAL SGD | 52,200 | | | |
| | | | | | TOTAL AUD | 60,121 | | 33,861 | 26,260 |

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	iSIF funding	non-iSIF funding

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	ISIF funding	non-ISIF funding

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	ISIF funding	non-ISIF funding

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	ISIF funding	non-ISIF funding

Category	Item	Description	Base Cost	Quantity	Times per year	Cost SGD	Cost AUD	ISIF funding	non-ISIF funding

prod. versions	Main project activities and descriptions	people	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
v1.2	google sheet UI usable by determined end-user, with tutorial and documentation support	software engineer	▓	▓										
v1.3	support for smart captable and ESOP classes	software engineer		▓	▓	▓								
v1.4	enhancements to support Singapore workflows - API integration	backend engineer	▓		▓		▓							
v1.4	tests to verify workflows	software engineer	▓		▓									
v1.5	workflows for specific partners	backend engineer				▓								
v1.6	contract execution workflow logic with dependency management	software development house		▓		▓								
v2.0	a beautiful front-end to the v1 system, with outcome-oriented UX	front-end developer and designer	▓											
v2.1	general release end-user ready (PR, customer testing, unit testing, documentation support)	engineers, PR and community staff	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
v2.2	output to Microsoft Word XML format, reusing commonform.io	a new .js developer hire						▓	▓					
v2.4	output to Google Docs format	a new .js developer hire								▓	▓			
v2.4	scenario visualisation using D3.js and end-user education via pop-up menus	software development house			▓	▓								
v3	a working DSL used for at least three seed investment agreement types	DSL researchers and engineers	▓	▓	▓	▓	▓	▓						
v3.2	a compiler to English and at least one other language.	DSL researchers and engineers				▓	▓	▓	▓	▓	▓			

Venture-backed companies	Incorporation	Employment	Mandatory routine corporate housekeeping	Ad-hoc corporate documentation & compliance	Financing (internal & external)	Acquisitions	Selling online	Advertising and marketing	Contractual agreements (where company is the seller)	Contractual agreements (where the company is the buyer - not core competency)	Privacy and data security (internal & external)	IP (internal & external)	Government data requests (internal & external)	
Seed-stage	yes	yes	yes	yes	yes		yes	yes	yes	maybe	yes	yes	yes	
Growth-stage		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Late-stage		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
	Adapted from: http://techcrunch.com/2014/01/04/why-startups-hire-their-own-lawyers/													
	basically any routine work that lies outside the company's core competency -- things that you would normally go to a 'professional' for, now we can automate.													
	internal: self-contained within the startup													
	external: involves external third parties and may involve negotiation or others parties' input													

Smart Statutes			Smart Contracts		
Key Deliverables	Estimated time to complete	Budget (USD)	Key Deliverables	Estimated time to complete	Budget (USD)
Stage I : Language Specification			**Stage I:**		
Develop and document machine-friendly representations of the relevant fundraising portions of the Companies Act, § 161 and Securities and Futures Act, § 272	8 months	**Development costs**: 400,000 **Possible IP licensing fee:** Unknown for now, but we have initiated contact with Data61	Demo prototype of CSL, REPL written	6 months	**Development costs:** 200,000
Stage II: Rule Engine			**Stage II:**		
Create and develop a prototype rule engine	12 months	**Development costs:** 300,000	Demo Prototype of CSL -> L4	12 months	**Development costs:** 150,000
Stage III: Rule engine with error reporting			Draft at least 1 common model contract in L4		
Development of a prototype error checking functionality	18 months	**Development costs:** 300,000	Demo prototype of L4 output to at least 1 natural language (English)		
TOTAL		US$1,200,000	**Stage III:**		
			Demo prototype of static analyser/model checker	18 months	**Development costs:** 150,000
			Stage IV:		
			Language definition/documentation for L4	24 months	**Development costs:** 150,000
			Begin building L4 template library		
			TOTAL		US$650,000

A 9-year plan Computational Law research program

estimated cost of S$100,000 per RSE per year

estimated cost of S$50,0000 per Institutional and management staff per year

estimated cost of S$100,000 per conference/summit per year

    computer science (programming language theory)

    computer science / mathematical logic (FOL / HOL)

    computer science (formal verification (SAT / SMT))

    computational linguistics–natural language generation (GF)

    computer science (rule systems / expert systems)

    law (students with a programming background)

Phase	Description	headcount (low–high)	Months from start	Stage cost in 2017 S$, (low-high)
1	Inception and survey of prior art		-24 to 0 (completed)	0
	RSE (low–high)	2		0
	Institutional and management staff	0		0
	Conferences and summits	1		0
2	Recruitment of collaborating institutions and industry organisations		0 to 6 (in progress)	0
	RSE (low–high)	2		0
	Institutional and management staff	0		0
	Conferences and summits	1		0
3	Develop baseline curriculum and inital hyptheses / experiments / challenges		0 to 3 (draft curriculum developed)	
	RSE (low–high)	4		100,000
	Institutional and management staff	1		50,000
	Conferences and summits	0		
4	Proof of concept tour of multiple research areas by a single multidisciplinary "pioneers/commandos" team		3 to 18 (to develop MVP POCs in each of the 12 research areas) - costs rounded up to 2 years	
	RSE (low–high)	3–6		600,000–1,200,000
	Institutional and management staff	6–12		300,000–600,000
	Conferences and summits	2		200,000
5	Ongoing development of each research area by dedicated "settler / infantry" teams		18 to 36 months (to mature each research domain into production-grade software library) - costs rounded up to 2 years	
	RSE (low–high)	24–48		4,800,000–9,600,000
	Institutional and management staff	48–96		2,400,000–4,800,000
	Conferences and summits	2		200,000
6	Integrate and early commercialisation by market-oriented "town planner / police" teams		3 years (to cross the chasm)	
	RSE (low–high)	36–48		10,800,000–14,400,000
	Institutional and management staff	108–144		5,400,000–7,200,000
	Conferences and summits	2		200,000
7	Disseminate and early-majority commercialisation via partnerships		3 years (ongoing R&D and teaching in response to market pull demand through the revolving-door model	
	RSE (low–high)	36–60		10,800,000–18,000,000
	Institutional and management staff	108–180		5,400,000–9,000,000
	Conferences and summits	2		200,000
			TOTAL R&D costs over a 9-year period	27,100,000–43,300,000
			TOTAL institutional support and management staff over a 9-year period	13,550,000–21,650,000
			TOTAL conferences and summits	1,600,000
			TOTAL costs of program over a 9-year period	**42,250,000–66,550,000**