**Valuing a pre-revenue startup**

The purpose of this article is to:
1) Help investors value pre-revenue startups
2) Help pre-revenue startups understand what makes a fundable pre-revenue startup and what they need to communicate to pre-revenue investors.

**There is very limited angel investment in pre-revenue companies.[1]**
1) Only 3% of angel deals were done with pre-revenue companies.
2) 60% of angel deals were done at the seed stage and 25% at the Series A stage.
3) The average pre-revenue valuation was $4 million U.S.

**An individual pre-revenue startup must have the potential to provide an angel investor with an average of 33 times their return on invested capital.**
1) Luis Villalobos studied 117 investments made by 4 angel investors, who invested a total of $9,936,534. 101 investments, totalling $8,646,402 returned a total of $5,614,653 – a loss of 35%. Average time to exit was 2.9 years,
2) The remaining 16 investments, totalling $1,290,132 returned $42,926,748 – a cash on investment return of 33.3, with an average time to exit of 8.6 years.
3) The overall investment portfolio return was $51,092,249 on the $9,936,534 investment – a cash on investment return of 5.1X. The IRR is about 22%, given the 8.6 years to make profitable returns. The IRR does not consider the time devoted by the angels to selecting and managing their investments nor any out of pocket costs.
4) Luis's study is illustrative. The number of angels and investments is not statistically significant.
5) Broader research of U.S. angel groups has shown than when the group does more than 40 hours of due diligence per startup, cash on investment returns for the group is 7.1X[2]

**The pre-revenue startup must have the potential to achieve an exit valuation of 100 to 150 time its pre-revenue valuation.**
The angel investor is targeting an average cash on investment return of 33 times. The dilution efforts of later round investments tend to be a factor of 3-5 therefore the pre-venue startup needs an exit valuation of 100-150 times its pre-revenue valuation in order for the angel investment to grow 33 times.

There are many challenges to valuing a pre-revenue company
1) There are very few facts and no historical trends, due to the fact that there is no revenue. Quantitative analysis it not possible,
2) Financing can be in different forms: common stock, preferred stock, SAFE (Simple Agreement for Future Equity)
3) Liquidation preferences may vary.
4) What is the value of having a board seat?

**The Scorecard Valuation Method by Bill Payne (October 2019 revision)**[3]
Bill Payne has developed a method for thinking about the valuation of a pre-revenue startup. This method depends upon the knowledge and judgement of the investors.

<u>General concepts</u>
1) The method is a process to use the angle investor's judgement to determine a valuation.
2) The method is not a spreadsheet which analyzes numerical data.
3) A valuation is always determined, unless there is a deal killer resulting in the startup being rejected with no valuation.
4) Each investor may have their own weights, scoring criteria and scores.
5) Each investor may have their own deal killers e.g. one fund only invests when the startup CEO has already been a CEO, another fund only invests if the CEO has a coach.
6) The method does not make an investment recommendation. The investment decision depends upon many factors including due diligence.
7) As noted above, there are many challenges to valuation. The method only considers some of the factors.
8) Valuation is ultimately a judgement call.
9) 70% of the valuation assessment is based on: team, opportunity size, and the solution. 30% of the 70% is for the team. The team needs to have the ability to learn and change as they may need to focus on a different submarket with a different solution. 25% of the 70% is for the size of the opportunity. The opportunity must be large in order

to have an exit valuation of 100 to 150 times pre-revenue valuation. 15% of the 70% is for the solution. Funding is only available if there is a great solution with the potential for massive growth.

The Scorecard Valuation Method has 5 steps

Step #1 Calculate the median pre-money valuation for pre-revenue startups
There are many sources for this information: e.g. the historical facts from an angel group, the U.S. "Angel Funders Report" by the Angel Capital Association".
Then you need to think about adjustments e.g. Should Toronto valuations consider valuations from other cities and countries? Should adjustments be made for the type of startup – AI vs Fintech vs healthcare?

Step #2 Score the target startup vs the average pre-revenue startup.
Score the target startup in terms of better or worse than the average startup.
A draft set of scoring criteria is in "Appendix Scoring Criteria". Those are the criteria used by Bill Bayne.[2]

Step #3 Multiply the Weighting by the Scoring to obtain the Weighted Score.

Step #4 Sum the individual Weighted Scores to obtain the Total Weighed Score.

Step #5 Multiply the median pre-revenue startup valuation by the Total Weighted Score to obtain the valuation.

The following is an example:

| Comparison Factor | Weighting | Scoring | Weighted Score |
|---|---|---|---|
| Strength of founder and team | 30% | 125% | .375 |
| Size of the opportunity | 25% | 150% | .375 |
| Strength of the solution and intellectual property | 15% | 100% | .150 |
| Competitive environment | 10% | 75% | .075 |
| Marketing/sales/partners | 10% | 80% | .080 |
| Need for additional rounds of pre-revenue funding | 10% | 100% | .100 |
| Other (e.g. Great feedback from prototype users | 5% | 100% | .050 |
| Sum | 100% | | |
| Total Weighted Score | | | 1.1550 |

If the median pre-revenue startup valuation was $4 million, then this Target company would have a valuation of $4.6 million.

**Investors - your next steps**
Customize the method and incorporate into your investment analysis process.

**Startup – your next steps**
1) Ask your advisors to customize the process and then assess your startup.
2) Enter your startup's data into Gust.com (a platform which connects startups with angel groups and other funders). Use the free evaluation tool to asses your startup.
3) An educational illustrative valuation tool is available at https://www.caycon.com/valuation

**Footnotes**
[1] Angel Capital Association and Hockeystick, "2019 ACA" Angel Funders ", Pages 4,7 Report"https://www.angelcapitalassociation.org/angel-funders-report/
[2] Matthew C. Le Merle, Louis A. Le merle, "Capturing the expected returns of angel investors in groups December 2015 "
http://static1.squarespace.com/static/5481bc79e4b01c4bf3ceed80/t/564c0e53e4b0b8eacea93c15/1447824979977/Fifth+Era+WP+final-c.pdf
[3] Bill Payne https://www.angelcapitalassociation.org/blog/scorecard-valuation-methodology-rev-2019-establishing-the-valuation-of-pre-revenue-start-up-companies/

**Appendix Scoring Criteria**

| | Degree of negative impact | | | | Neutral | Degree of positive impact | | |
|---|---|---|---|---|---|---|---|---|
| Comparative factor | Deal killer | High | Medium | Low | Neutral | Low | Medium | High |
| **Strength of founder and management team** | | | | | | | | |
| *Experience* | | | | | | | | |
| Many years of business experience | | | | | | X | | |
| Experience in this target market | | | | | | | X | |
| Previous startup CEO | | | | | | | | X |
| Previous startup COO, CTO, CFO | | | | | | | X | |
| Previous startup product manager | | | | | | X | | |
| Experience only as sales or technology staff | | | | X | | | | |
| No business experience | | X | | | | | | |
| | | | | | | | | |
| *Willing to step aside, if necessary, for another CEO* | | | | | | | | |
| Unwilling | **DK** | | | | | | | |
| Neutral | | | | | X | | | |
| Willing | | | | | | | | X |
| | | | | | | | | |
| *Is the founder/CEO coachable* | | | | | | | | |
| Yes | | | | | | | | X |
| No | **DK** | | | | | | | |
| | | | | | | | | |
| *How complete is the management team* | | | | | | | | |
| Founder/CEO only | | | | X | | | | |
| One competent person in place | | | | | X | | | |
| Team identified and on the sidelines | | | | | | X | | |
| Competent team in place | | | | | | | | X |
| | | | | | | | | |
| **Size of the opportunity** | | | | | | | | |
| Target market total sales | | | | | | | | |
| < $50 million | **DK** | | | | | | | |
| $50 - $100 million | | | | | | X | | |
| > 100 million | | | | | | | X | |
| Potential company revenue in 5 years | | | | | | | | |
| < $20 million | **DK** | | | | | | | |
| $20 million - $ 50 million | | | | | | | X | |
| > $50 million | | | | | | | | X |
| | | | | | | | | |

| | Degree of negative impact | | | | Neutral | Degree of positive impact | | |
|---|---|---|---|---|---|---|---|---|
| Comparative Factor | Deal killer | High | Medium | Low | Neutral | Low | Medium | High |
| **Strength of the solution and intellectual property** | | | | | | | | |
| *Is the solution defined and developed?* | | | | | | | | |
| Not well defined, still working on prototypes | | X | | | | | | |
| Well defined, promising prototype | | | | | X | | | |
| Good feedback from potential customers | | | | | | | X | |
| Customer have signed orders | | | | | | | | X |
| *Is the solution compelling to customers?* | | | | | | | | |
| Product is a vitamin pill | | X | | | | | | |
| Product is a pain killer | | | | | | | X | |
| Product is a pain killer with no side effects | | | | | | | | X |
| *Can this solution be duplicated by others?* | | | | | | | | |
| Easily copied, no intellectual property | DK | | | | | | | |
| Duplication difficult | | | X | | | | | |
| Solution unique and protected by trade secrets | | | | | | | X | |
| Solid patent protections | | | | | | | | X |
| | | | | | | | | |
| **Competitive environment** | | | | | | | | |
| *Competitors strength in the market place* | | | | | | | | |
| Dominated by a single large player | | | X | | | | | |
| Dominated by several players | | | | X | | | | |
| Fractured, many small players | | | | | | | X | |
| *Competitive product strength* | | | | | | | | |
| Excellent competitive products | | | X | | | | | |
| Weak competitive products | | | | | | | | X |
| | | | | | | | | |
| **Marketing/sales/partners** | | | | | | | | |
| *Sales channels, sales and marketing partners* | | | | | | | | |
| Haven't even discussed sales channels | | X | | | | | | |
| Key beta testers identified and contacted | | | | | | | X | |
| Channels in place, with trial orders | | | | | | | | X |
| No partners identified | | | X | | | | | |
| Key partners in place | | | | | | | X | |

| | Degree of negative impact | | | | Neutral | Degree of positive impact | | |
|---|---|---|---|---|---|---|---|---|
| Comparative Factor | Deal killer | High | Medium | Low | Neutral | Low | Medium | High |
| **Need for additional rounds of pre-revenue financing** | | | | | | | | |
| No need | | | | | | | | X |
| Need another angel round | | | | | X | | | |
| Need venture capital | | | X | | | | | |
| | | | | | | | | |
| **Other (e.g. great feedback from prototype users)** | | | | | | | | |
| Positive other factors | | | | | | | X | |
| Negative other factors | | | X | | | | | |