GOVERNEMT
PRINCIPALITY OF LIECHTENSTEIN

MINISTRY FOR GENERAL GOVERNEMENT AFFAIRS AND FINANCE

Liechtenstein Venture Cooperative Code of Conduct

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1. Background and objectives

The Ministry for General Government Affairs and Finance has committed itself to improving the underlying condition for innovation in Liechtenstein. The Liechtenstein Venture Cooperative LVC, which aims to improve legal security and fairness for innovators, will be an important part of this.

With the establishment of an LVC an innovator can have his idea directly incorporated into a specific legal structure and thereby prepare the basis for facilitating cooperation with other specialists and investors. The LVC offers a legal basis for bringing together the work, non-cash contributions and capital contributions from various persons (both private individuals and legal entities) that are required to develop an innovation, in the form of an investment.

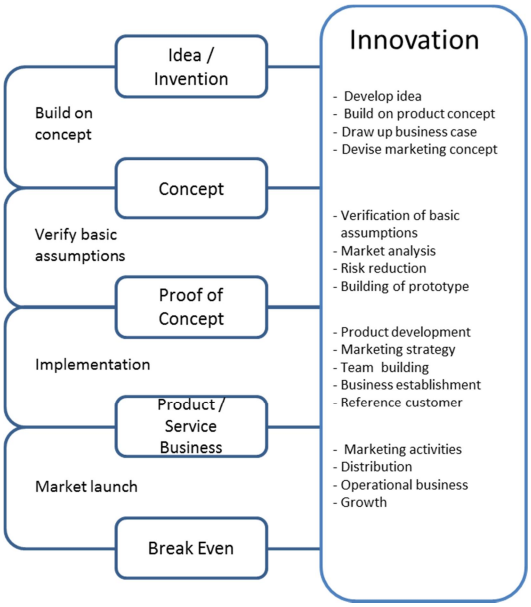
When several parties contribute to an idea or start-up there is frequently a problem in that the value of the commercial idea is not known until much later. In the early stages of an innovation determining the participation ratios is usually a considerable challenge and not conducive to cooperation.

The Ministry for General Government Affairs and Finance has therefore developed a model which can be used as a reference for all parties to the innovation process. This model offers a balanced approach for the calculation of the degree of participation represented by contributions and performance in the early stages of innovation and should provide protection for inventors and those contributing with work or funds in equal measure.

The Code of Conduct serves as a model and basis for discussion and has no legal effect whatsoever.

2. Rough breakdown of the innovation process

The innovation process may be structured in different ways – depending on the type of idea. On an abstract level similar phases can be observed in the majority of projects:



3. Assessing the value of work performed

Developing an innovation requires work to be put in. This has to be logged and evaluated so that it can be compared with the contribution of financial investors. No specific factors (such as risk, administrative expenses) need to be taken into account in this evaluation as these will be assessed separately.

The reference hourly rate can therefore be determined in relation to the normal salary for employees in the relevant industry:

> Reference hourly rate = (Gross annual salary + employer's contributions) / hours worked per year

For Liechtenstein the following approximate reference hourly rates may be used as guidance:

Gross annual salary	CHF 50,000	CHF 75,000	CHF 100,000
Reference hourly rate	CHF 30.-	CHF 45.-	CHF 60.-

4. Evaluation of intangible contributions

The development of an innovation not only requires contributions in the form of work and capital, but also intangible contributions such as the provision of networks or experience. The share of these contributions in the success of a specific phase has to be assessed on an individual basis and can be compensated in the form of membership points.

Example: If a person or a company makes his distribution network available, this can represent a relatively large saving for the innovators when it comes to establishing contacts, which is important in the market launch and growth stages. If, for example, the provision of the distribution network is weighted 25% and an innovation otherwise invests 10 million membership points in the market launch phase, the investor would then receive an additional 3.33 million membership points (25% / (100% - 25%)) with the distribution network.

5. Assessment of risk

The breakdown of the innovation process illustrates that the risk decreases in the individual phases. Or in other words: the likelihood that an idea will not develop into a successful business model is much higher than a business failing on its market launch.

This is because there are many factors that may cause an idea to fail in the innovation process:

- Lack of technical feasibility
- Business Case proves to be unworkable
- Lack of customer demand
- Delivery costs higher than originally assumed
- and many more

It can often happen that an idea is unworkable as a business model. Investments during the first phase involve a much higher risk than they do in the later phases. Use of a portfolio model is recommended so that a commitment can be worthwhile in the early stages and to cover the losses from other ideas: it is assumed that a risk-aware innovator has a portfolio of ideas and that the profit from one successful idea has to cover the losses from all the others.

A risk analysis of the individual phases requires an evaluation of the probability that an innovation will be aborted after a specific phase:

Phase	**Estimate of the average probability of abandonment**	**Estimate of the cumulative probability of success**
Concept phase	70%	0.96%
Proof of Concept-Phase	80%	3.2%
Implementation phase	20%	16%
Market launch phase	80%	20%

A 70% probability of abandonment means that as a rule 7 out of 10 ideas are not pursued after this phase as they have not measured up to expectations.

The probability that an idea will be pursued after an innovation phase is consequently $p_{success} = 1 – p_{cancelation}$. The cumulative probability that an idea will survive several phases is $p_{cumulative} = p_1 * p_2 * p_3 * p_4$ (assumption: the risk in the individual phases is self-contained). On the basis of the reference figures above this produces a cumulative probability of success per phase.

Innovators may refer to this estimate of the probability of abandonment, but may also conduct an individual estimate for their project.

This means that on the basis of these reference figures, on average fewer than one in a 100 ideas are successfully implemented.

So that the risk of investments in the early stages can be appropriately taken into account in the share calculation, the investments in terms of work and capital per phase are multiplied by the following risk weighting:

Phase	**Risk Multiplication Factor***
Concept phase	104
Proof of Concept phase	31
Implementation phase	6
Market launch phase	5

* Reciprocal value of the cumulative probability of success

6. Calculation of shares for each cooperative member

Using the risk weighting relating to the particular stage of the innovation, each contribution in terms of work performed, non-cash contribution or capital funding produces a specific number of membership points. The total number of membership points can then be used to determine the share of each cooperative member in the subsequent success.

This model may also be used for subsequent financing rounds.

7. Taking the investment risk into account (Liquidation Preference Model)

Upon completion of each phase a team must ask the question whether the chances of success anticipated for the business model are still intact and whether every cooperative member will achieve his expected return.

From the point of view of subsequent investors a further investment only makes sense if a positive return can be expected on the investment. As they cannot be sure of this until after the sale or after reaching “break-even” point, an allowance has to be made for the lack of security offered to subsequent investors.

One model commonly used in such cases is the “Liquidation Preference” Model: the investors from the most recent phase receive a specific proportion of their investment (e. g. 100% of the investment) from the sale proceeds to cover their risk. The remainder of the profit is then apportioned on the basis of the participation rights. This has the effect of creating a cascade of profit distribution in favour of the investors in later phases if the profit achieved fails to come up to expectation. (See Chapter 8 for a calculation example.)

This preferential treatment may on first sight appear to be disproportionately skewed against the investors in the early phases as they will bear the higher risk. However once it is realised that later investments will only be made on the promise of a minimum expectation of return, the preferential approach is absolutely justified and it illustrates that the anticipated return is a key aspect of any start-up.

8. Evaluation of the idea

When bringing his idea into an LVC an inventor is the initiator of the innovation and may expect an appropriate remuneration from any later success. However an inventor must also recognise that an idea on its own has no commercial value without successful implementation.

The commercial value of the idea only becomes apparent when evidence has been provided for a successful business model. As a rule it therefore makes little sense to establish the value of the idea at the beginning of the innovation.

Investors who have contributed towards the development of the idea expect an appropriate return on their investment. The value of the idea is therefore in direct correlation to the return achieved on the investments required for development: if the return fails to come up to expectation, the value of the idea will be reduced. The greater the return however, the greater the share represented by the idea. The valuation model described in the following chapter should provide as much legal security as possible for the inventor and the investors in the light of this uncertainty.

In addition the inventor receives a specific portion of the participation rights for providing the idea and also a few membership points, irrespective of the amount of investment needed for the development of the innovation.

9. Valuation guidelines for shares in start-ups

9.1 Establishment of the basic share for providing the idea

The inventor is rewarded for providing the idea with a specific number of membership points and also a specific share in the value of the innovation. The investors on the other hand receive an “Liquidation Preference” over the inventor.

Example:
The inventor receives 10 membership points and a 50% share in the value of the innovation for providing the idea.

9.2 Evaluation of the risk parameters

An assessment of the level of the specific project risk in the individual phases is conducted at this point, providing the basis for an evaluation of the risk multiplication factors.

Example:
Multiplication factors of the relevant phases

- *Concept:* 104
- *Proof of Concept:* 31
- *Implementation:* 6
- *Market launch:* 5

9.3 Establishing the value of work

A reference value is set up for the provision of work. Either a flat rate for all or specific values for professional groups or individuals.

Example:
The value of an hour's work is set at CHF 60.-.

9.4 Agreement concerning the Liquidation Preference

It is agreed that the investors of the later phase, as compared with the initial investors, will receive a "Liquidation Preference" of 100% of their investment.

9.5 Development of the idea, implementation and operation of the business

The investors receive membership points for the provision of work and capital.

Example:
In order to simplify matters only one investor is used for each phase.

Concept Phase
- Partner 1: 200 h, Nominal investment CHF 12,000, membership points 1.2 million.

Proof of Concept Phase:
- Partner 2: Nominal investment CHF 200,000, membership points 6.2 million.

Implementation Phase:
- Partner 3: Nominal investment CHF 1,500,000, membership points 9 million.

Market launch Phase:
- Partner 4: Nominal investment CHF 3,000,000, membership points 15 million.

9.6 Calculation of the weighted shares in the innovation

The shares are calculated on the basis of membership points and the inventor's share.

Example:
- Inventor: 50.0003%
- Partner 1: 2%
- Partner 2: 10%
- Partner 3: 14%
- Partner 4: 24%

9.7 Variant 1: If the business is sold

The proceeds achieved from the sale of the innovation are apportioned taking into account the "Liquidation Preference". As the sample calculations shown below indicate, an innovation's yield profile is significantly influenced by the sale proceeds: if the sale proceeds are less than or equivalent to the nominal capital invested, the investors of the last phase are given preference over those from the first phase. In extreme cases the inventor and the early stage investors go away empty-handed.

If sale proceeds are higher however, the inventor and the investors of the initial phases are rewarded and the later-stage investors still get a return on their stake.

Example 1: Sale proceeds: **CHF 2 million.**

Partner 4's liquidation preference is applied first: He receives 100% of the CHF 2 million. The other partners get nothing. This is justified because the anticipated value of the innovation clearly fell short of the nominal investment.

Example 2: Sale proceeds: **CHF 5 million**

Partner 4's liquidation preference is applied first: He therefore gets CHF 3 million. The remaining amount of CHF 2 million is divided between the partners: Partner 4 gets 24%, i.e. CHF 0.477 million, Partners 1 – 3 get CHF 1.523 million between them. The liquidation preference of Partner 3 of CHF 1.5 million is activated next. The remaining CHF 23,000 is then distributed in the same way. However only the shares from membership points of the remaining phases are counted in this process.

Summary

	Share in proceeds	**Return multiplication factor**
Inventor	0	0%
Partner 1	0	0%
Partner 2	CHF 19,000	9%
Partner 3	CHF 1.50 million	100%
Partner 4	CHF 3.48 million	116%

Example 3: Sale proceeds: **CHF 7 million**

Partner 4's liquidation preference is applied first: He therefore receives CHF 3 million. The remaining amount of CHF 4 million is divided between the partners: Partner 4 gets 24%, i.e. CHF 0.954 million, Partners 1 – 3 receive CHF 3.046 million. Partner 3's liquidation preference of CHF 1.5 million is activated next. The remaining CHF 1.5 million are apportioned in the same way.

Summary

	Share in proceeds	Return Multiplication factor
Inventor	CHF 842,000	-
Partner 1	CHF 45,000	378%
Partner 2	CHF 368,000	184%
Partner 3	CHF 1.79 million	119%
Partner 4	CHF 3.95 million	132%

Example 4: Sale proceeds: **CHF 10 million**

Partner 4's liquidation preference is applied first: He therefore receives CHF 3 million. The remaining amount of CHF 7 million is divided between the partners: Partner 4 gets 24%, i.e. CHF 1.67 million, Partners 1 – 3 get CHF 5.33 million. Partner 3's liquidation preference of CHF 1.5 million is activated next. The remaining CHF 3.8 million are then distributed in the same way: on the basis of his membership points Partner 3 is entitled to a 19% share, i.e. CHF 720,000. The remainder of 3.1 million is then further divided after deduction of Partner 2's liquidation preference of 200,000.

Summary

	Share of proceeds	Return multiplication factor
Inventor	CHF 2.3 million	-
Partner 1	CHF 105,000	874%
Partner 2	CHF 664,000	332%
Partner 3	CHF 2.219 million	148%
Partner 4	CHF 4.669 million	156%

Example 4: Sale proceeds: **CHF 20 million**

Summary

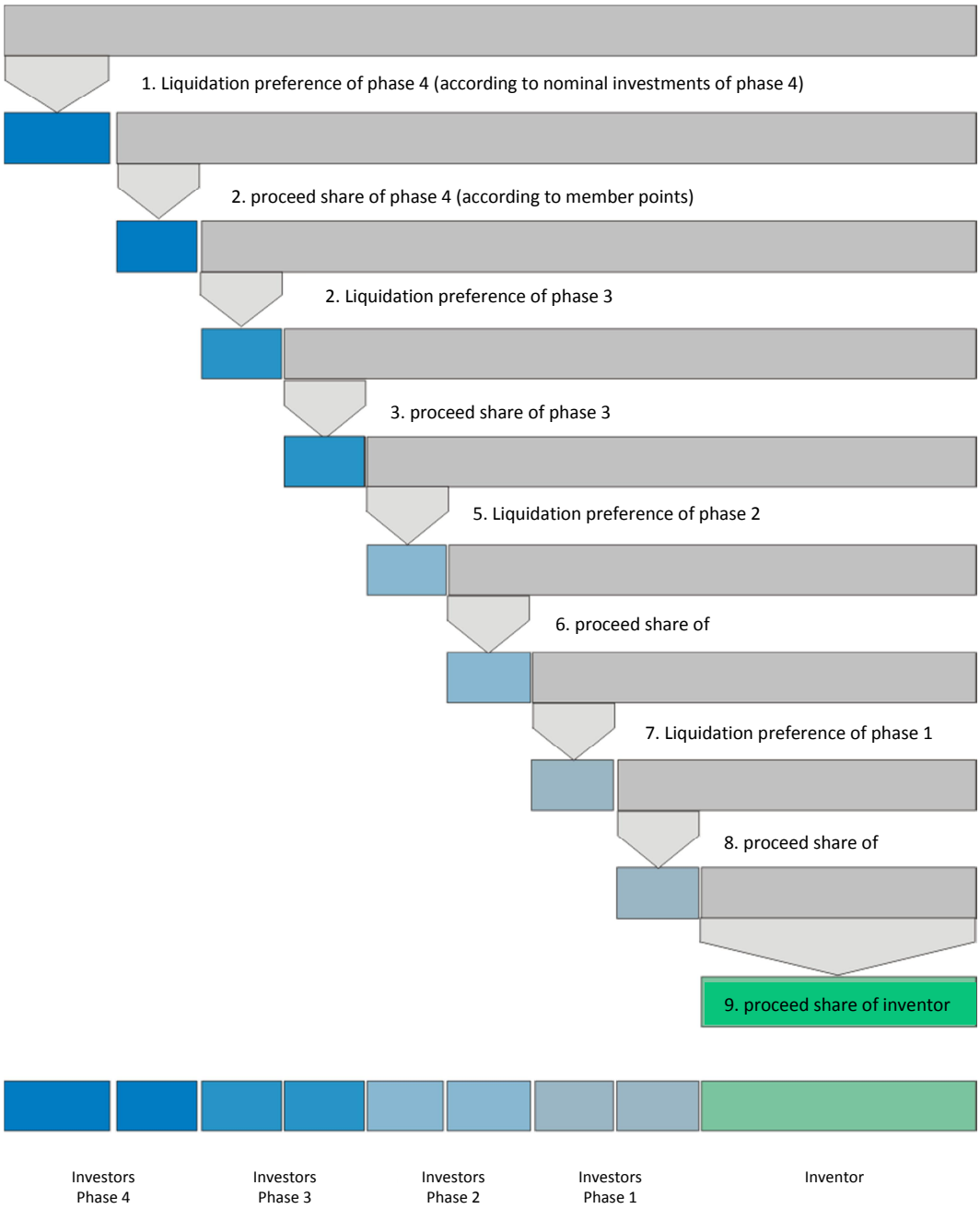
	Share of proceeds	Return multiplication factor
Inventor	CHF 7.3 million	-
Partner 1	CHF 303,000	2528%
Partner 2	CHF 1.65 million	825%
Partner 3	CHF 3.65 million	243%
Partner 4	CHF 7.05 million	235%

9.8 Variant 2: Operation as a business

If a decision is made to operate the project as a business, the arrangements set out above can be applied accordingly to dividend distributions: the investors of the final stage receive 100% of the dividends until their liquidation preference is covered. After that the dividends are distributed on the basis of the participation rights. The same procedure will apply to investors of the previous phase.

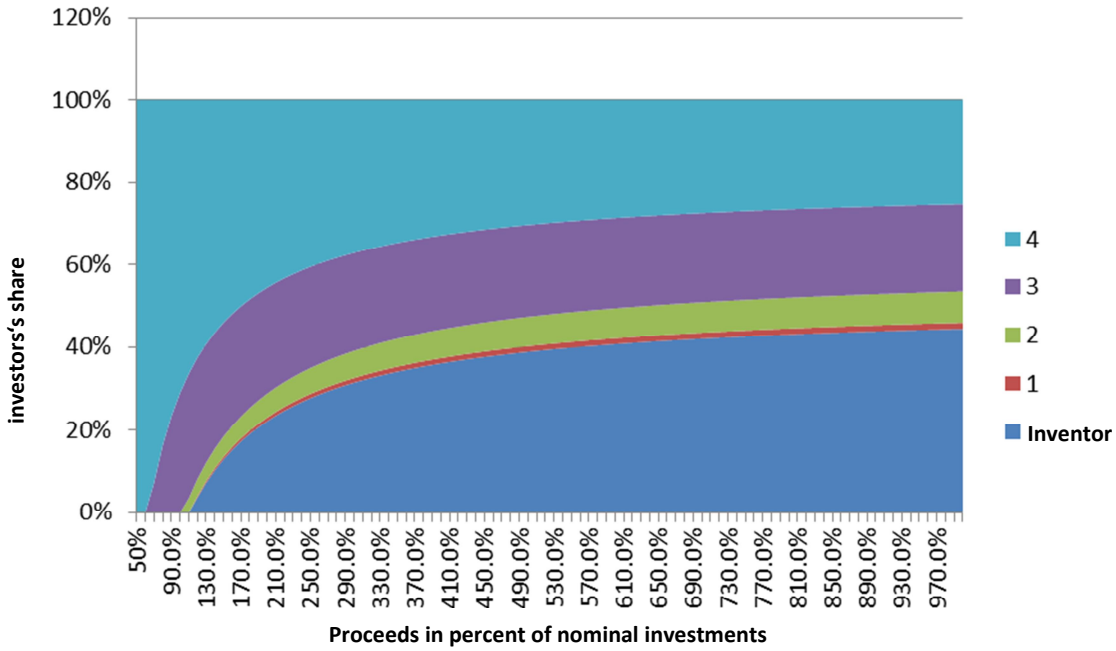
10. Summary

10.1 Presentation of profit distribution (overview)

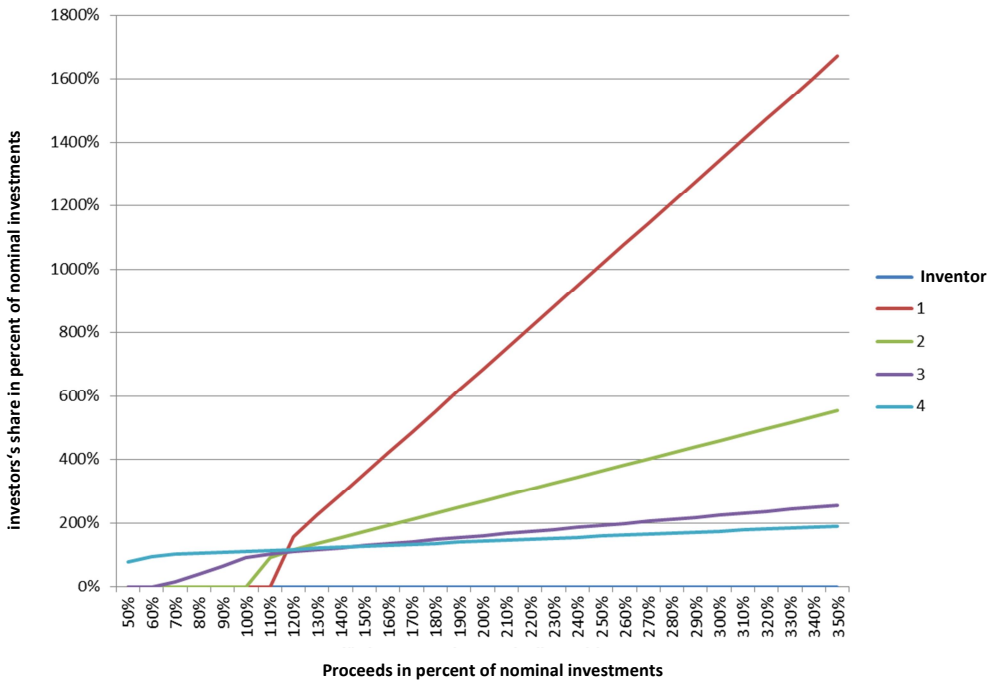


10.2 Distribution of the shares

The graph below shows share of proceeds as a function of the proceeds:



The diagram shows that the inventor's share increases as the proceeds from the sale of the innovation rise. When the proceeds are low, the share in profit in favour of the investments from the later phases is 100% and as the proceeds rise, inclines towards the shares based on membership points. When this happens the return for investors rises at an equivalent rate, as the following graph illustrates:



The diagram shows how the risk from the early phases compared with the later phases affects the return.

This model can therefore be used to establish a fair distribution of shares in the success for all parties involved, without having to discuss the value of the innovation beforehand. If the outcome of the project is disappointing, the model gives preference to the investors of the latter stage, whereas if the project is really successful it favours the investors of the early phase and the inventor, thus avoiding the need for difficult and disagreeable discussions about the respective shares in a start-up.