

EnpRisk - Lecture Notes Week 1

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1 Introduction

1.1 Entrepreneurship

1.1.1 Definitions

Definition: We might define **entrepreneurship** by the following three key-ideas:

- Pursuit of opportunity without regard to resources controlled.
- Process of creating value through unique resource combinations that exploit opportunity.
- A way of thinking and acting, a lot of different professional contexts, but also a way of approaching personal issues, family, life, community involvement, etc.

Qualities of an entrepreneur may include optimism, self-confidence, social networking, low risk aversion, charisma, and most importantly the *drive to improve* and to *change the world*.

1.1.2 Success

There are three steps to *succeeding in life*, however you define success yourself:

1. Know what you want in life. Know your end goals.
2. Write down your intermediate goals and a plan to reach these goals.
3. Review and revise your plan monthly, keeping track of all setbacks and progress.

"All success begins with something definite that you fully intend to do. Success is a function of definiteness of purpose." - Napoleon Hill

1.1.3 Motivation

Motivation is what explains why people or animals initiate, continue or terminate a certain behavior at a particular time. In general, motivation is the reason or reasons for acting or behaving in a particular way and the desire or willingness to do something.

1.2 Risks

1.2.1 Definition

A **risk** is a potential event with negative consequences that has not happened yet. However, a risk could also be defined as the event with unforeseen positive consequences!

A risk is therefore the *possibility of loss*, but not the loss itself. In other words, a source of problem during a project, but not the cost of a risk.

1.2.2 Types of Risks

We can distinguish risks into different types:

Industrial Risks

- Change in technology, productivity, and prices
- False estimates of the rated capacity
- Time needed for the construction and running-in periods, political, social, and business environment

Operational Risks

- Lack of entrepreneurial skills
- Poor understanding of market dynamics
- Poorly available consultancy services and information systems
- Poor understanding of how to prepare a business plan
- Natural risks

Market Risks

- Unforeseeable inflation and exchange rates change
- Customer behaviors to buy foreign goods
- Inadequate infrastructure
- Shrinking market because of foreign competitors
- Defaulting or insolvency, credit risks

Other Risks We furthermore can consider risks from the following categories:

- Cultural risks
- Natural risks
- Economic and political risks

1.2.3 Formal Representation

Risk is commonly measured as a pair of the probability of occurrence of an event, and the outcomes or consequences associated with the event's outcome. This pairing can be represented by the following equation:

$$\text{Risk} \equiv [(p_1, c_1), (p_2, c_2), \dots, (p_n, c_n)],$$

where:

- p_i = occurrence probability of an outcome or event i
- c_i = occurrence consequences or outcomes of the event i

1.2.4 Other Technical Terms

Other technical terms are needed for presenting risk-based technology methods and analytical tools include:

Hazard A **hazard** is an act or phenomenon posing potential harm to some person(s) or thing(s), i.e. a source of harm, and its potential consequences. Hazards need to be identified and considered in a projects' lifecycle analyses since they could pose threat and could lead to project failures.

Uncertainty We introduce the term **uncertainty** with the following table:

Intrinsic	Aleatory / Type A / Stochastic / Natural Variability / Irreducible	Parameter	Model
Knowledge	Epistemic / Type B / Subjective / Level 2 / Reducible		
Extremes	Knightian Black Swan Dragon-King	?	