

**KATHOLIEKE UNIVERSITEIT LEUVEN**

**Faculty of Economics and Business**



**The Foundations of entrepreneurship- D0M19B**

**Course notes**

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## PART I: THE INDIVIDUAL: WHO BECOME ENTREPRENEUR?

### 1. WHAT IS ENTREPRENEURSHIP?

#### 1.1. Entrepreneurs are born or made?

- Some people are more entrepreneurial than others. But why?
- Some researchers argued entrepreneurs are born. Nicolau et al., 2008: is the tendency to engage in entrepreneurship genetic? Part of entrepreneurship can be attributed to genetics and thus it is inheritable.
- However, entrepreneurship is clearly not genetically determined since there are substantial contextual effects, and it is a transitory phenomenon
- How are entrepreneurs made? The **environment (context)** can influence the likelihood that individuals become entrepreneurs
- Which context? E.g. previous company, co-workers, university peers, family.
- How? Changing the employee's preferences towards entrepreneurship, developing entrepreneurially- relevant knowledge (*learning*), or being source of entrepreneurial opportunities.
- *"Most of what you hear about entrepreneurship is all wrong. It's not magic; it is not mysterious; and it has nothing to do with genes. It's a discipline and, like any discipline can be learned"*. Peter Drucker (1982), economist
- The context is important. Ex.: the company you were working for previously
- Ex : people who have entrepreneurs as parent tend to develop a preference for entrepreneurship

#### **Entrepreneurship can be learned**

- Learning from personal experience (serial entrepreneurs)
- Learning from the experience of others
- Learning from entrepreneurial education

#### **Personal reflections by some entrepreneurs**

- **Helen Child:** "Have a huge amount of energy and drive. You will need to work long hours to make sure you deliver."
- **Mark Robinson:** "If you really want to do it and you are passionate about it you will definitely make it, but don't be half-hearted about it."
- **Lucy Nicholson:** "Can you really commit yourself 110%? Because if you can't it's not the business for you. Keep changing, keep it fresh, and keep it vibrant."
- **Victoria Tomlinson:** "Honesty is probably most fundamental."
- **Jonathan Hick:** "Never, ever give up on it. Bring in one or two people who have seen it done before. You can't do it all on your own"

These reflections are very subjective, they could give wrong pieces of advice. The the opportunity might me very different, it's very difficult to assess how they became successful, don't rely on only one. Conclusion: don't base yourself on only one story

## Learning from entrepreneurial education

- Learning from education:
  - Entrepreneurship content (i.e. understanding the key theories behind entrepreneurship)
  - Entrepreneurial mindset (i.e. developing skills and attitudes)
- This course builds on the findings of scholarly papers (not books!) in the field of entrepreneurship to distill practical implications
- Why learning about entrepreneurship is important? To produce results valid in general we need lots of observations across many different situations
  - 1000/100.000 entrepreneurs vs 1 success case story
  - More generalizability, less bias
- Academic research as an evidence base for successful entrepreneurship

### 1.2. How to analyze a research paper

- **Research Problem**, i.e. the general research topic/question in the literature
- **Research Question(s)**, i.e. what problem the authors are trying to address, i.e. what is the main relation of interest (the “*What*”)
- **Theoretical contribution(s)**, i.e. how do the authors answered the RQ (the “*How*” & the “*Why*”)
- **Relevance**, i.e. why should we care, why the research question is interesting.
- **Research Gap**, i.e. why prior work has not adequately addressed the RQ (why we need another paper on this topic, what is the problem with the literature)?
- The empirical context where the theory is tested (and why it is appropriate for the question)
- **Findings**, i.e. the results of the empirical test of the theory
- Limitations of the study (the weaknesses according to you & the authors) & future research
- **Practical implications** of the findings (the “*So What*”) e.g. for entrepreneurs, policy makers, firms.

### Let's see an example: Nanda & Sorensen (2011)'s intro

- research problem: what is the role of social influence affecting the fact to become entrepreneur?
- literature gap: not attention not the specific workplace environment. Previous studies have neglected the interaction side because they focused the formal characteristics of the organization. But they didn't go deeper in the organization, to the people (the informal structure)
- the key dependent variable: the probability that an individual would become an entrepreneur (Y= probability of becoming entrepreneur)
- the main X: if a coworker has an entrepreneurial experience
  - => X has an influence on Y
  - => Why X has a positive influence on Y?
  - the role modeling: the colloques can make me change towards entrepreneurship
  - higher access to information and resources. Ex: they can give a network (potential co-founders)
- research question & contribution: the what, the how

### 1.3. What is entrepreneurship?

“Entrepreneurship is the relentless pursuit of opportunity without regard to the resources currently controlled” Howard H. Stevenson, Harvard Business School

“The carrying out of new combinations we call ‘enterprise’; the individuals whose function it is to carry them out we call ‘entrepreneurs’”, Joseph A. Schumpeter, 20th century economist. For Schumpeter, entrepreneurs are innovators

“I’m encouraging young people to become social business entrepreneurs and contribute to the world, rather than just making money. Making money is no fun. Contributing to and changing the world is a lot more fun.” Muhammad Yunus, academic and social entrepreneur (founder of the Grameen bank). Yunus won the Nobel prize for peace because he was the first conceptualizing the micro-credit

### 1.4. Why do we care about entrepreneurship?

#### The positive and negative impact of entrepreneurship

Positive impact	Negative impact
<ul style="list-style-type: none"><li>- Create jobs</li><li>- Introduce innovations (= finding new ways of solving existing problems=&gt; higher social value)</li><li>- Economic growth</li><li>- Intensify competition (make the established firm leave the market because they are not efficient enough, and so it increases efficiency)</li></ul>	<ul style="list-style-type: none"><li>- Destroy jobs</li><li>- Destroy markets</li><li>- Waste resources</li></ul> <p><i>“Each and every entrepreneurial error represents a tragic waste of resources” (Kirzner, 1987)</i></p>

There’s a positive correlation between entrepreneurial activity and GDP/capita, but that’s only true in developed countries.

In underdeveloped countries, there’s a negative correlation between GDP/capita and entrepreneurship. Why? Because the job market is saturated, and they are pushed into entrepreneurship => **necessity entrepreneurs**

- ‘**Necessity driven**’ (pushed) entrepreneurship does not contribute much to development and growth... ..high TEAs and relatively higher necessity driven entrepreneurship reflect the fact that the economy does not offer people good job opportunities. They become self-employed to survive
- It is ‘**opportunity driven**’ (pulled) entrepreneurship that has the potential to induce large growth.... And more developed countries offer more opportunities for entrepreneurs

### 1.5. How does entrepreneurship influence the economy?

- **Creative destruction:** the incessant product and process innovation mechanism by which new production units replace outdated ones. Entrepreneurship fuels creative destruction. Entrepreneurs increase productivity and drive out less efficient firms / challenge existing hierarchies (Schumpeter, 1942)
  - ✓ Undermining existing ways of doing things
  - ✓ Some entrepreneurs manage to beat large corporations that have scale and scope economies as the inherent inefficiency of start-ups is offset by an ability to demand high prices given the innovativeness of their products
- Effects
  - Increased birth + death rates (more turbulence) increase productivity growth
  - More competitors increase productivity growth (Nickell, 1996)
- **The exploitation of knowledge externalities**

Entrepreneurs exploit information produced by existing firms (e.g., Arrow, 1962; Griliches, 1992)

  - ✓ Employees leave and take information with them (even though they may not be allowed to)
  - ✓ R&D investments leak out through patent publications, conferences, and direct interaction between employees of competing firms
  - ✓ Much of these spillovers are geographically proximate – this leads to “clusters”

### 1.6. Entrepreneurship as a discipline

- Entrepreneurship investigates:
  - ✓ The sources of opportunities
  - ✓ The process of discovery, evaluation, and exploitation of opportunities
  - ✓ The individuals that discover, evaluate and exploit these opportunities
- Entrepreneurship involves:
  - ✓ Creation and development of new organizations
  - ✓ Creation of new products, markets and business models
  - ✓ Recognition and the pursuit of profitable opportunities

### 1.7. The promise of entrepreneurship as a field of research

It's a paper from Shane, S. and Venkataraman, S. (2000), *Academy of Management Review*

#### **Assumptions**

1. Entrepreneurial opportunities exist – but are not known to everyone
2. People have different perceptions on the value (financial or non- financial) of an opportunity
3. Some people will choose to pursue these opportunities
4. Acting on these opportunities will result in differing outcomes, both profitable and unprofitable

#### **The entrepreneurial process**

First paper that developed a framework for entrepreneurship. It involves 3 parts:  
The existence, the discovery, the exploitation



#### **Understanding the entrepreneurial process**

1. Why, when and how opportunities for the creation of goods and service come into existence
2. Why, when and how some people and not others discover these opportunities?
3. Why, when and how some people and not others exploit these opportunities?
4. (What different modes of action are used to exploit entrepreneurial opportunities)

#### **The existence of entrepreneurial opportunities**

Ways to identify new entrepreneurial activities:

- Creation of new information/innovation
  - ✓ occurs e.g. with the invention of new technologies, or changes in market needs and demographics
- Exploitation of market inefficiencies
  - ✓ it is costly to find information (information asymmetries) Ex.: Trivago
- Institutional change
  - ✓ alternative uses of existing resources based on a change in cost/benefit
  - ✓ Ex.: marijuana becomes legal in Colorado => startups grew

## **The discovery of entrepreneurial activities**

Why do some people and not others discover particular entrepreneurial opportunities?

- Information Corridors
  - ✓ Individuals are heterogeneous in their information load because of e.g. specialization and tacitness. Creates differences in how individuals experience the opportunity landscape
- Cognitive properties
  - ✓ Even if the individual has obtained the information needed, he/she may not be able to understand the entrepreneurial possibilities (how to profit from them)
  - ✓ Identify new means-ends relations (from idea to its commercial value)
  - ✓ E.g. Alexander Graham Bell.

## **The exploitation of entrepreneurial opportunities**

- Whether an opportunity is exploited depends on the characteristics of the opportunity and on the preferences & abilities of the entrepreneur
- Opportunity Factors:
  - ✓ Expected value/demand, profit margins
  - ✓ Young Technology
  - ✓ Competition if not too high nor too low
  - ✓ Learning from other entrants is possible (later vs first mover advantages)
- Entrepreneur Factors:
  - ✓ Low opportunity costs
  - ✓ Obstacles to financial capital - direct/indirect (social/professional ties)
  - ✓ Risk tolerant and optimistic - overly confident

## **Conclusions**

- Entrepreneurial activity is a complex and powerful phenomenon with positive and negative impacts on economies, societies, and the natural environment; so, it is well worth exploring in more detail.
- The terms “entrepreneurship” is open to different interpretations; so, recognize different meanings and make your definitions clear.
- Entrepreneurial activity can be organized in a variety of ways, in diverse contexts and in pursuit of radically different goals; so be open to these differences.



## **2. WHAT CHARACTERIZES THE ENTREPRENEUR?**

The Fox and the Hedgehog – What this myth has to do with one of the reading for the next class?

### **2.1. Paper 1**

Zhao, H. & Seibert, S.E. (2006). “The Big Five Personality Dimensions and Entrepreneurial Status: A meta-analytical Review”. Journal of Applied Psychology, 91(2), pp. 259–271.

#### **Elevator pitch**

Why was there the need for this paper? the gap? There were different variables and used in a different way, sometimes it was even. There's no relationship between entrepreneurship and personal characteristics.

The dependent variable? entrepreneurial status (= you are an entrepreneur or not)

Comparison group: managers

Independent variable: personality traits

What is the value?

How do they show there's a relation? they took a model from psychology and applied this model to entrepreneurship. Model= big 5 personality dimensions. Why is the model good? because it drew at the important variables into 5 and its comprehensive

#### **How do personality traits explain the decision to become an entrepreneur?**

Neurotic = negatively correlated to ES

Extremeness = positively correlated to ES

Openness to new things = positively correlated to ES

Agreeableness = negative to ES

Conscientiousness = positive impact on ES

The traits are all stable, except risk aversion that can evolve over time

Moderator: a variable that I can call z that affects these main relationships. it either makes the relationship stronger or it makes it weaker.

#### **Depict the psychological approach to the question: what characterizes an entrepreneur?**

Approach from a psychologist. The traits have no implications for E-success

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

General opinion on article: too much generalization for the manager (too broad)

## 2.2. Paper 2

Lazear, Edward P. (2005): "Entrepreneurship." *Journal of Labor Economics*, 23(4): 649-680

### **Elevator pitch**

Approach from a pure economist

- the outcome variable: the probability of becoming an entrepreneur
- variable: generalist vs specialist

**Explain the Jack-of-all-trades theory & the underlying mechanisms (skip the technicalities go to the substance of the message!)**

If you are a generalist you are keener on becoming an entrepreneur rather than work in an existing company (as an employee). Why?

**Depict the economic approach to the question: what characterizes an entrepreneur?**

You become entrepreneur because you expect higher return from the skills that you possess.

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

## 2.3. Discussion Points

- Limitations of the psychological approach
- Compare and contrast the two approaches (economic and psychological) & highlights the differences in terms of:
  - ✓ Implications for start-up success: no implications
  - ✓ Implications for learning : possessing generalist skills seems more important than traits that predict success (Human Capital theory)

We already know that...

- Entrepreneurship involves enterprising individuals and business opportunities
- Not all individuals recognize the same entrepreneurial opportunity
- The discovery of an opportunity is a function of individual characteristics:
  - ✓ Information Corridors
  - ✓ Cognitive properties
- Opportunities are discovered by the cognitively able prepared mind positioned in the information corridor
- Psychological approach: entrepreneurial traits
- Economic approach: entrepreneurial skills

## 2.4. Individual perspectives – beyond the ‘heroic entrepreneur’

### Opening quotations

*‘The quality of entrepreneurial judgement is only partly a question of the personal characteristics or temperament of the individual.’* Edith Penrose, economist => the personal characteristics don’t explain everything

*‘I was always interested in investing in people.’* Arthur Rock, venture capitalist. He is the first venture capitalist of the history, the one that started investing in the Silicon Valley. for him you can predict who’s going to be the next entrepreneur.

*“Entrepreneurs are simply those who understand that there is little difference between obstacle and opportunity and are able to turn both to their advantage.”* Niccolo’ Machiavelli, Italian historian, politician, philosopher

*“Entrepreneurs are those who turn problems into opportunities. All problems are opportunities. The bigger the problem the bigger the opportunity.”* Tina Seelig, Executive Director for the Stanford Technology Ventures Program

### How can we define good entrepreneurs?

- Investors like Arthur Rock are very interested in identifying future successful entrepreneurs.
- The “entrepreneurial personality” is a compelling idea
  - ✓ To spot good entrepreneurs by their personality
- Unfortunately, we cannot do this!
- All the personality characteristics examined by researchers are more or less uncorrelated with entrepreneurial success
- However, many personality characteristics are correlated with becoming an entrepreneur
- Many capabilities have been correlated with the fact of becoming an entrepreneur but not with their success

## 2.5. The psychological approach

*Is there such things as entrepreneurial personality?*

### **Psychology**

- Psychology is the study of mental processes and behavior.
- In this context, we limit it to:
  - ✓ Perception, cognition, personality and behavior at the individual level
  - ✓ Leaving out e.g. inter-individual and collective behavior (social psychology)
- Psychology applied to entrepreneurship:
  - ✓ Dispositional approach: identifies an “Entrepreneurial Personality”, based on traits
- Personality traits are individual-level factors that are supposed to be stable over time and across situations for a given person

### **Entrepreneurs and personality traits**

- Do entrepreneurs have predispositions and characteristics that set them apart from others? Does an Entrepreneurial personality exist?
- Mixed findings exhibiting inconsistent relations and therefore suggesting no overall connection between the two
- May be too early to say because of:
  - ✓ poorly developed personality traits models/measures
  - ✓ inadequate tools for modelling the relationship
- Zhao and Seibert (2004)’s contribution: challenge years of thought that personality does not significantly influence entrepreneurial behavior

### **The 5-factor model of personality**

- The Big Five Personality Dimension
  - ✓ Neuroticism -
  - ✓ Extraversion +
  - ✓ Openness to Experience +
  - ✓ Agreeableness -
  - ✓ Conscientiousness +
- Research documents evidence in favor of a relationship between these and professional choices - Individuals gravitate toward jobs and work environments matching personalities (job matching)
- How? The ASA model and other traits (risk aversion, need for achievement, optimism)

### Key findings (Zao & Seibert, 2004)

- Indeed, there are reasons to believe personalities are a key driver of entrepreneurship
- Clear support that entrepreneurs score low on neuroticism and agreeableness, and high on openness and conscientiousness
- Less clear support on extravert personalities

### Limitations (Zao & Seibert, 2004)

- Findings are suggestive towards personality traits but do not show any clear indications whether it is the *choice* of the individual or the *selection* effect of the entrepreneurial market that generates these patterns (the *Why*)
- Entrepreneurs *have* these traits vs *need to* have them? We do not know how personality traits influence the performance of the entrepreneurial venture
- Large variation in the model remains unexplained suggesting other factors are playing a role in the decision to become an entrepreneur
- This is just theoretical, there's no testing of the mechanism behind the relationship

### Limitations of the traits-based approach

- Personality seems more important for the emergence of entrepreneurship, i.e. probability of becoming entrepreneur, than for success (Herron & Robinson, 1993).
  - ✓ There are no strong correlations with entrepreneurial success (so far – and we have been trying to find them for 50 years!).
- Widely criticized approach in entrepreneurship research because the diversity among entrepreneurs may be larger than differences between entrepreneurs and non-entrepreneurs.
  - ✓ There is no average or typical venture creation (Gartner, 1985). It is more important to ask what people do to enable venture creation rather than evaluating traits.

### **ASA-model**

Three mechanisms = explanations for the proposed relationships (the ASA framework, Schneider, 1987):

- Individuals with particular personality traits are more attracted to the entrepreneurial work settings (Attraction)
- Outside agents critical to new venture creation (e.g. Investors, partners, suppliers, key employees (Selection)
- Particular personality traits will find the entrepreneurial process more fulfilling, rewarding and satisfying, leaving them more persistent in their pursuit of this type of career (Attrition)

### **Risk Aversion**

- The placement of risk aversion as 6 separate factors is controversial
- Entrepreneurs have been long associated with low risk aversion, there's some correlation
- It is now clearly established that entrepreneurs are *less risk averse* than employed. This does NOT mean that they are risk takers (Cramer et al., 2002; Ekelund et al., 2005; Elston et al., 2005)

### Definition of risk

- In classic economic decision theory, risk is often viewed as a function of the variation in the distribution of possible outcomes, the associated outcome likelihoods, and their subjective values.
- Psychologists, however, have long acknowledged that risky decisions are not based exclusively on rational calculations but are also affected by individual predispositions towards risk.

- Thus, a stream of research suggests that risk-taking is a predisposition rather than simply a situational factor and that individual risk propensity influences the effects of situational characteristics on risky decision-making behavior.
- *“Entrepreneurs are those that accept and bear uncertainty.”* Frank Knight, 1921

#### Difference between risk and uncertainty:

- you can measure the risk and not uncertainty
- risk you can predict the probability of a certain outcome
- risk can be managed while uncertainty is uncontrollable
- uncertainty: characterizes the decision making of the entrepreneur

#### Risk and entrepreneurship

- Entrepreneurs are **less risk-adverse** individuals compared to managers.
- Entrepreneurs need to cope with a less structured, more uncertain set of possibilities and bear the ultimate responsibility for the decision.
- Other scholars disagree.
  - ✓ No differences because they are both high in need for achievement.
  - ✓ Persons high in need for achievement set challenging goals, take personal responsibility for decisions, and are moderate risk takers.
- Empirical results are contrasting & inconclusive
- Need better techniques to sort out confounding effects.

#### Test your degree of risk aversion

- Amos Tversky and Daniel Kahneman (Nobel Prize winners, 2002)
- They are behavioral economists: how psychology affect economic behavior
- Challenge the assumption of human rationality in modern economic theory
- **Problem 1.** Which would you prefer to receive as a gift:
  - ✓ The gamble: 25% chance to win 1,000€ and 75% chance to win nothing?
  - ✓ 240€ for sure?
- 84% chose the 240 euro sure gain and 16% chose the gamble.
- Yet, if people value uncertain prospects by their expected value, they would prefer the gamble, because  $0.25 \cdot 1000 + 0.75 \cdot 0 = 250$ . Then why most chose the sure option?
- Most people are **loss** adverse – i.e. tendency to strongly prefer avoiding losses than acquiring gains (loss aversion theory better known as **Prospect Theory** – Nobel Prize Winners)
- A risk-averse person pays a premium to avoid the uncertainty. The amount of premium they are willing to pay to avoid the risk is a measure of their degree of risk aversion.

## Need for Achievement

- An individual's desire for significant accomplishment, mastering of skills, control, or high standards.
- Preference pay-for-performance
- Those with low Need for Achievement may choose very easy tasks, in order to minimize risk of failure, or highly difficult tasks, such that a failure would not be embarrassing.
- Those with high Need for Achievement tend to choose moderately difficult tasks, feeling that they are challenging, but within reach.
- It can be learned and is thus not a stable personality trait.
- Entrepreneurs tend to have high need for achievement levels but there are contrasting findings (Hansemark, 2003)

## Optimism

- A person that generally “looks on the bright side of life” and is assumed stable across situations.
- Optimism is related to numerous work/life choices: more optimistic people work harder, expect to retire later, are more likely to remarry, invest more in individual stocks, and save more.
- Entrepreneurs are more optimistic than others (Astebro et al 2007, Puri and Robinson, 2007; 2009) These attitudes translate into actions: e.g. increase hours spent at work.
- Entrepreneurs are more optimistic than employees about their future earnings, even though they actually realize lower earnings.

## Over-Optimism

- Over-optimism: when people are too optimistic, given the specific situation. Believe that they are less likely than others to suffer from bad events and more likely to experience positive events (Weinstein, 1980).
- Such beliefs lead people to overestimate positive outcomes and underestimate negative outcomes. For example, in Cooper et al's (1988) study entrepreneurs perceived their prospects as very favorable, with 81% seeing odds of 7 out of 10. This should be compared to about a 50% chance of failure over 5-7 years for U.S. start-ups.
- Over-optimism causes over-entry into entrepreneurship. Over-optimism is a problem → negative performance (class 10)

Characteristic	Useful References	Demonstrated effect on becoming entrepreneur
RISK AVERSION	Knight (1921), Kirzner (1979), Cramer et al., 2002; Ekelund et al., 2005; Elston et al., 2005; Ahn, 2009	Yes
NEED FOR ACHIEVEMENT	McClelland (1961), Miner et al. (1994), Hansemark (2003)	Mixed findings
OVER-OPTIMISM	Cooper et al. (1988), Hmieleski and Baron (2009), Astebro, Jeffrey and Adomdza (2007, 2011)	Yes

## 2.6. [The psychologic approach](#)

*Are there such things as entrepreneurial skills?*

### **Economics**

- Economics - Microeconomics
  - ✓ Investigation of the decision process and therefore behavior of individuals, households and firms regarding scarce resources
- In this course we see two main answers of how economists approach the question why some individuals become entrepreneur:
  - ✓ Entrepreneurial skills (now)
  - ✓ Incentives (next chapter)

### **The Lazear's definition of entrepreneurship**

- A model of entrepreneurial choice (economics) used to understand how we should perceive entrepreneurship
- Lazear's entrepreneurship definition: *"... it is the process of assembling necessary factors of production consisting of human, physical, and information resources and doing so in an efficient manner"*.

### **Lazear's jack-of-all-trades model**

"Entrepreneurs perform many tasks. Consider the founder of a new small restaurant. In addition to being a good cook, the founder must be able to obtain funds, hire workers, choose location and decor, obtain food supplies at a reasonable cost, keep books, and market the restaurant. Being a good cook is insufficient for success. In order to hire someone to perform the other tasks, it is necessary to have at least some basic knowledge of the outsourced area so that the right vendor decisions are made. As a consequence, entrepreneurs must be jacks-of-all-trades to some extent." Lazear, 2004 (AER).

### **Lazear's two types of individuals**

- Specialists and Entrepreneurs
- Income functions
- Specialist's Income =  $\max[x_1; x_2]$
- Entrepreneur's Income =  $\lambda \min[x_1; x_2]$ 
  - ✓ where  $\lambda$  may be considered the market value of entrepreneurial talent
  - ✓ decision to become an entrepreneur depends on the relative magnitudes

### **Lazear on innovation and entrepreneurship**

- Innovation and Entrepreneurship are not identical
- But often they go hand in hand - the most successful entrepreneurial ventures often build on an innovation
- Easier to innovate and reap advantages of an innovation if you have multiple skills - Jack-of-All-Trades



### **Lazear's empirical analysis**

- Stanford alumni: job histories, student transcripts, grades & entrepreneurial histories
- Employment spells recorded
- Founder information to measure entrepreneurship
- Skills (human capital) obtained through school training or on-the-job training
- The strategic investment in generalist skills for would-be entrepreneur
  - ✓ Schooling (educational experience)
  - ✓ On the job training (work experience)

### **Lazear's findings**

- Entrepreneurs have substantially more professional positions - positive correlation between likelihood of entrepreneurship and number of previous positions
- Explanations:
  - ✓ Multiple skilled individuals can perform many roles
  - ✓ Entrepreneurs wannabes invest in balanced skills (dominant result)
- Pre-labor market entry data on study curriculums confirms
- Jack-of-All-Trades view - variation in subjects studied is positively associated with individual's likelihood of becoming an entrepreneur
- Entrepreneurs are multifaceted
- Sufficiently skilled in a variety of areas

### **Implications**

- Generalist founders should create more successful firms
- The notion of strategic investment in skills challenges the psychological approach and contributes to the debate: Born or made
- Made: develop entrepreneurial-skills = generalist skills through education and wage experience.
- Entrepreneurial experience helps you develop generalist skills!
- Since managers are generalists, then entrepreneurs exiting their start-up should be more likely to get managerial jobs (Baptista et al., 2012).

### **Generalist vs. Specialist**

- Leaders are generalists
- Managers that are generalists are paid more
- Generalists get better job offers than specialists
- There are more specialists than generalists

### **The fox & the Hedgehog**

In his famous study of Tolstoy's philosophy of history, Berlin (1953) recalls a line from the Greek poet Archilochus that says that the fox is the generalist and the hedgehog is the specialist

## Key takeaways

- There is a wide variety of entrepreneurial types; this variety is obscured in popular stereotypes of entrepreneurs (the “heroic entrepreneur” a la Steve Jobs)
- Does an entrepreneurial personality exist? Yes, some personality traits are systematically associated with being an entrepreneur, but they mostly predict the probability of becoming an entrepreneur rather than success as an entrepreneur
- Possessing generalist skills seems more important than traits to predict success
- You can learn to have entrepreneurial skills through specific types of strategic investment in education and work experience (JAT theory)
- You cannot learn to have an entrepreneurial personality because personality traits are typically stable. Yet, some traits, like risk aversion, may evolve over time.

## 3. THE INCENTIVES OF THE ENTREPRENEUR

### 3.1. Paper 1

Hamilton, B. H. (2000), “Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-employment”, *Journal of Political Economy*, Vol. 108(3), pp. 604-631

## Elevator pitch

- Research problem: the differences in earnings distributions of self-employed workers and paid employees
- Research question: the differences between the salaries of employees and earnings of entrepreneurs
  - X= entrepreneur or worker
  - Y= earnings

=> Do entrepreneurs compared to employees earn more? in general this relationship is negative (entrepreneurs earn less than wage workers)

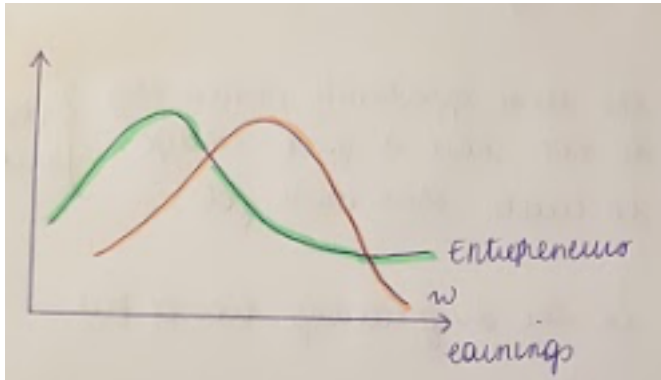
=> Why is the relationship negative? It’s a trade-off, because they value something else (f.e autonomy: being your own boss)

How did he come up with the fact that non-pecuniary benefits were the explanation of the reason why people still decided to be entrepreneurs? He indirectly assumed.

- Literature gap: previous literature has made some mistakes in measuring. They used the average wages, but if there are few people that are superstars, the nit increases the average. But what Hamilton does is use the median. Little research on this because economist have disregarded entrepreneurs. And the few that tried to understand this relationship they had some problems (f.e the use of the average, data

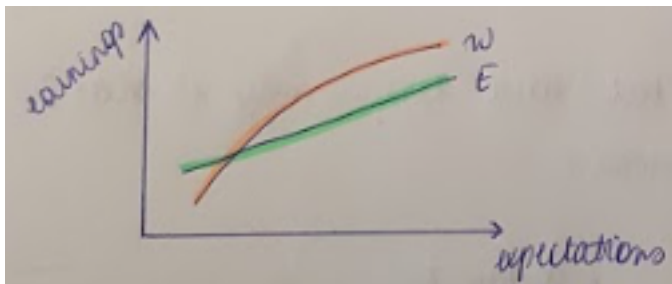
## What are the proposed explanations for the earning differentials between entrepreneurs and employees? Which of them survive the empirical test?

- Self-selection theory: it does not take place according to the data => ruled out
- Non-pecuniray benefits: They are not available when you’re an employee
- Superstar (Marc Zuckerberg theory): p613 graph in wage work theory suggests that there’s not a too huge gap between wages otherwise people get jealous.



There's always a wage ceiling in companies when you work as an employee, but less as an entrepreneur. You are also less substitutable in different sectors, so it depends on the sector.

- Matching: you don't know what's your talent. So, if you don't know in the beginning, you might go in the wrong direction = mis matched. So, it is possible that in the data there's a mismatch, but overtime you learn in what you're good at. So, overtime the earnings difference should disappear. So, if you look cross-sectionally you don't see how people that started entrepreneur and stopped changed.



- Agency: for entrepreneurs there's no agency problem, because he's on his own. You don't need the increased earnings to stay in the job, you are passionate. The agency gives incentives to the employee to motivate the person to put all his effort.

**Explain the notion of self-selection and why this could be an alternative reason for the earning differentials.**

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

Empirical results suggest that: entrepreneurs have lower initial earnings and lower earnings growth than in paid employment

### 3.2. Paper 2

Fairlie, R. W. (2002). "Drug Dealing and Legitimate Self-Employment". *Journal of Labor Economics*, 20(3), 538-537.

#### **Elevator pitch**

- Key relationship: dependent variable= probability of becoming entrepreneur. Key independent variable (factor) to explain who becomes entrepreneur: having a background as a drug dealer
- Why?
  - Risk aversion: drug dealing is risky and entrepreneurship also, so you're more used to it (Zhao & Siebert)
  - Preference for autonomy: you need to find your way, over how to sell and find interested people (non-pecuniary benefit): Hamilton
  - High levels of Entrepreneurial ability: Lazear
- Gap: previous literature has not proven anything.

#### **How does dealing drugs resembles entrepreneurship? What are the main incentives to become entrepreneurs?**

- Risk aversion: drug dealing is risky and entrepreneurship also, so you're more used to it (Zhao & Siebert)
- Preference for autonomy: you need to find your way, over how to sell and find interested people (non-pecuniary benefit): Hamilton
- High levels of Entrepreneurial ability: Lazear

#### **What are the alternative explanations for the main finding?**

- Lack of employment alternatives. Pushed (necessity) vs pulled (opportunity) entrepreneurship. Some individuals are forced into entrepreneurship because few outside options in the labor market (they may find it difficult to find a good job as employee). Low opportunity costs (i.e. incentives not to become entrepreneurs). Incentives to entrepreneurship are *relative*.
- Relaxed financial constraints. Drug dealers might have additional resources which enable them to set-up a new venture

#### **What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

- Biggest obstacle is money, so drug dealers earn a lot and can reinvest in their business
- They are entrepreneurs in the drug dealing world, but not outside
- They don't have the same opportunity, when they leave prison, they don't have a good image. Lots of people have to create their own job

### 3.3. Does entrepreneurship pay? – Hamilton

Empirical results suggest that: entrepreneurs have lower initial earnings and lower earnings growth than in paid employment

## WHY?

### 4 Theoretical explanations:

- Investment (Not for the exam) and Agency Models
- Matching and Learning Model
- Superstar theory
- Non-pecuniary benefits

### Agency models

- Differences arise from differences in earnings-experience profiles across type of employment (not from individual differences):
  - ✓ **The agency model:** agency problems are not present in self-employment (collapse agent-principal in the figure of the entrepreneur)
  - ✓ Implication: self-employment earnings growth rates are flatter. Employers use steeper age-earnings profiles as *incentive* to exert effort and to screen out those who would tend to shirk at work and later reward those who are more likely to stay and who are more productive (Lazear & Moore, 1984)

### Job matching and learning models (self-selection)

- Differences in earnings might arise from unobserved differences in individual abilities
- If workers with low quality/talent, select in entrepreneurship may select (=sort) into self-employment than the differences in earnings is simply due to an unobserved difference in qualities among entrepreneurs and wage workers.
- An earning discount for entrepreneurs might reflect this negative selection
- Individual's skills are experience goods (Nelson, 1970): you only discover if you are good at a certain job after experiencing it. At the beginning: job mismatch.
- Selection out of entrepreneurship. Only over time individuals learn about the match quality with a particular job (Jovanovic, 1982) and might select out of self-employment if they are mismatched (learning model)

### More recent study:

- Entrepreneurs come from both the top and the bottom of the ability (wage distribution). Paper by Astebro et al.: Stars & Misfits (2011)
- So, either individuals with very low abilities in paid employment or stars employees.
- This means that there is both positive and negative selection in entrepreneurship

### Superstar theory

- On *average (mean not median!)* the self-employed may earn more on average
- Yet, this may be attributed to the extremes - few superstars
- Limitations to earnings in paid employment (wage ceiling) – no limitation in entrepreneurship (think of Trump/ Marc Zuckerberg)
- Differences in skills may be amplified by imperfect substitution among sellers and for technologies where the cost of production does not rise in proportion to the size of the market (Rosen, 1981). (e.g. Madonna, soccer players, professional services in which entrepreneurs dominate (e.g. dentists, lawyers.)
- This would produce the observed greater earnings skew among the self-employed.

## Non-pecuniary benefits

- Self-employed accept lower wages in exchange for non-pecuniary gains of self-employment. In general, it is called theory of compensating differentials
- Preference for entrepreneurship (Hamilton, JPE, 2000)
  - People go to lower paid entrepreneurial jobs to get valued non-pecuniary benefits
  - Preference for autonomy: “being your own boss”
  - Other non-pecuniary benefits: job variety, flexibility

## (Other) explanations for the lower pay of entrepreneurs

- Over-optimism and over-confidence
- Mis-measurement of earnings for entrepreneurs. Given a comparable income, entrepreneurs apparently consume 30% more food than wage workers. This may be due to under-reporting of earnings for entrepreneurs. This may explain the entrepreneurial discount (Astebro and Chen, 2013).

## Entrepreneurship puzzle

Hamilton is the first to theoretically and empirically explain the so-called Entrepreneurship Puzzle

- The entrepreneurial choice violates the risk-return hypothesis:
  - ✓ *An investor should be rewarded for a willingness to take on more risk with a higher expected return, where risk is defined as the standard deviation in returns* (Sharpe, 1966).
  - ✓ Entrepreneurs take on substantially more risk (3-4 times the standard variation) for a negative or trivial increase in earnings.
- Yet, some studies are questioning the existence of the puzzle today
- Entrepreneurs who realize they are not doing well should quickly close the firm and become again an employee (=go back to the wage sector) to avoid penalization. Entrepreneurship as experimentation.

## [3.4. Paper 2](#)

## Economic explanations behind drug dealing and entrepreneurship

- A combination of *entrepreneurial ability* (generalist skills, remember Lazear), *preference for autonomy* (non-pecuniary benefits, remember Hamilton), and *risk-attitudes* (individual traits). These are the 3 economic theories of what characterizes an entrepreneur.
- Alternative explanations:
  - Lack of employment alternatives. Pushed (necessity) vs pulled (opportunity) entrepreneurship. Some individuals are forced into entrepreneurship because few outside options in the labor market (they may find it difficult to find a good job as employee). Low opportunity costs (i.e. incentives not to become entrepreneurs). Incentives to entrepreneurship are *relative*.
  - Relaxed financial constraints. Drug dealers might have additional resources which enable them to set-up a new venture

### 3.5. The economic approach- why some individuals become entrepreneurs and other don't?

#### **Opening quotations**

‘An entrepreneur is someone who specializes in taking judgmental decisions about the coordination of *scarce* resources under conditions of *risk and uncertainty*.’ Mark Casson, economist

‘By pursuing opportunities that otherwise would not have been pursued by the incumbent organizations, entrepreneurship plants the seeds for entire new industries and is, thus, a driving force of industrial restructuring.’ David Audretsch and Max Keilbach, entrepreneurship researchers

#### **The (Micro)-Economics of Entrepreneurship**

- (Micro) economics is primarily about the allocation of scarce resources into good uses.
- Labor economists have overlooked entrepreneurs
- Focus on employees (the sources of wage heterogeneity) & wage
- However, there is a growing research interest in studying entrepreneurs from a microeconomic perspective
- Entrepreneurs represent 10% of the labor force, create a disproportion share of new jobs and are an important source of innovation (Schumpeter)
- This has driven labor economists to investigate the incentives to entrepreneurship
- New subfield – The Economics of Entrepreneurship
- “In essence, the economics of entrepreneurship analyses how economic incentives influence entrepreneurial behavior, and how entrepreneurial behavior in turn affects the broader economy” Simon Parker, *The economics of entrepreneurship*, 2009

#### **How economist view entrepreneurship**

- Entrepreneurship is a decision-making process under uncertainty
- Individual-level focus
- Mostly defined as self-employed individuals
- Entrepreneurs have higher utility than those who are wage earners
- Entrepreneurs are happier in an economic perspective
- There are impediments to entrepreneurship
- #1 obstacle to entrepreneurship is access to capital/money (*guest lecture*)
  - Information asymmetry between bankers and the entrepreneur

## Jay-Z

### Incentives to become a drug-dealer

- What were the other options?
  - ✓ He was exposed to music when he was a child and he feels he has talent for it. That created an opportunity to do something else, but not at the beginning. Why?
- Rewards for drug dealing: low at the beginning but with the promise of being much higher if you become successful (not just big cars - see the ted talk on next slide). At the onset of his career rap did not pay a lot, but then it started to become attractive from an economic point of view.
- Risk for drug dealing: very higher for those dealing drugs (death!), than for music although also music is an industry in which you either make it or break. Yet at that time the incentives were higher for drug dealing
- Drug dealing was the best option at the time.
  - ✓ lack of alternative opportunities to make money (necessity). Low opportunity costs.
  - ✓ But his incentives change over time: the music become a relatively more attractive option

### Incentives to become a rapper

- He says about him having a 'talent' for making business. His entrepreneurial talent was exerted in the drug dealing sector when it was the most rewarding option but then he decided to exert it in another domain where the gains were potentially much higher
- He quit drug dealing only when he knew that he would earn a lot more with music, so that's the incentive
- When rewards compared to risk where higher in the music industry, he left the drug dealing business
- Talent was redirected towards a destructive/unproductive activity but then the incentives offered by music made him switch towards using his entrepreneurial talent in a productive activity (not just a successful singer but also a real entrepreneur: music label, urban clothing line, sports bar etc...)
- Opportunity to exploit his best talent/skills (potential pecuniary benefits = high profits)
- *Preference for autonomy* –the existing producers put too many constraints on him, so he became a producer. (potential non-pecuniary benefits)
- Being a 'leader' (top singer) created an obligation for him to act for his community and give back. The willingness to change things and the life of people from the community: helping youngsters becoming singers, express themselves in music. (social goals)
- Entrepreneurship becomes the best way to achieve his goals (certainly money but also non-pecuniary and social benefits). That's what created the incentive to allocate his entrepreneurial talent into doing business rather than doing drug dealing, that is from a destructive/unproductive activity (drug dealing) to a productive activity (music producer)



## The reward structure

- The structure of incentives are not only at the individual level (Jay-z comparing between 2 “careers” options but also at the system (institutional/macro) level.
- Read the HBR article (handout): *Is America encouraging the right type of entrepreneurship?*
- What is Baumol’s explanation for the actual low entrepreneurship rates in US?
- Can you think of alternative explanations?
- Depending on the system of incentives provided, Entrepreneurship can be:
  - **Productive** → beneficial impact (e.g. increasing income & employment)
  - **Unproductive** → negative impact (e.g. rent seeking, tax avoidance)
  - **Destructive** → (e.g. organized crime, AL Capone used the fact that trading alcohol at its own advantage to start an illegal business)
- Entrepreneurial talent (resource) can be allocated among these 3 roles
- Alternative Income Matters (Jay-z!)

“Entrepreneurship can be reallocated from one task to another by a change in the relative profit prospects offered by the available alternative uses to which entrepreneurship can be put”. W. Baumol, *The free-market innovation machine*, 2002.

*“The free-market economy does a far from perfect job of attracting entrepreneurial activity into productive channels. Nevertheless, it appears to have performed far better in this role than any other type of economy. [...] It is true that in market economies there remains an abundance of opportunities for profit through legal rent seeking or through outright criminal activity, much of it an impediment to growth. **But the free market also offers rich rewards to the entrepreneur who successful introduces productive innovation.** » William Baumol (2002) => Not only pecuniary rewards, but also non-pecuniary*

### 3.6. The role of non-pecuniary benefits

#### **The entrepreneurship puzzle**

The entrepreneurial choice violates the risk-return hypothesis:

- ✓ *An investor should be rewarded for a willingness to take on more risk with a higher expected return, where risk is defined as the standard deviation in returns (Sharpe, 1966).*
- ✓ Entrepreneurs take on substantially more risk (3-4 times the standard variation) for a negative or trivial increase in earnings.
- ✓ Why? → **Non-Pecuniary Benefits**
- ✓ Individuals with a taste for autonomy are willing to forego income in order to gain some non-pecuniary benefits from autonomy (Hamilton, 2000)

#### **Non-monetary benefits**

- Self-employed are more satisfied with their work than wage workers. This result is not due to reverse causation (i.e. that happier people are more likely to enter entrepreneurship).
  - ✓ Those who become entrepreneurs have a higher desire for autonomy. Entrepreneurship tends to fulfil this desire because entrepreneurs “are their own boss”.
  - ✓ Their work provides also more flexibility, task variety (Astebro & Thompson, 2011).
  - ✓ Before becoming entrepreneurs, these individuals tend to change job more often than average. I found that these individuals in entrepreneurship enjoy greater employment stability due to a better job match (Melillo et al., Journal of Business Venturing, 2017).

#### **Preference for autonomy**

Benz, M., & Frey, B. S. (2008). *Being independent is a great thing: Subjective evaluations of self-employment and hierarchy*. *Economica*, 75(298), 362-383.

- *What:* independence (X), job satisfaction (Y)
- *How:* positive relationship
- *Why* Entrepreneurs are more satisfied?
  - a) more interesting work (task variety)
  - b) greater independence.
- Procedural utility rather than outcome utility

#### **Procedural utility and motivation**

- Motivation is an important explanation for performance of individuals in general.
- 2 types of motivation:
  - Extrinsic motivation = external rewards, e.g. money or status.
  - **Intrinsic motivation** = the innate rewards from performing some task, the importance of procedural utility: intrinsic motivation
  - **Procedural utility is similar to the notion of intrinsic motivation**
  - Entrepreneurs are more likely to be intrinsically motivated
  - In fact, empirical evidence shows entrepreneurs work on average more hours than employees

Question	Characteristic?
More than anything else, I love to earn money. It gives me freedom and power.	Extrinsic motivation
When I'm doing work I really like, I don't mind working hard for long hours. In fact, it doesn't even seem like work.	Intrinsic motivation

### Wrap-up: the economist approach: who becomes entrepreneur?

- Decision to become an entrepreneur involves comparing wages of conventional work and profits from entrepreneurship plus non-pecuniary utility of being independent
- State of no preference:
  - **Current Wage = Expected Profit + Non-pecuniary Utility**
- I will become entrepreneur if my wage (opportunity cost) is smaller than my reward as entrepreneur
- Incentives are a relative concept! Depends also on opportunity costs (current wage)
- Incentives can be both pecuniary and non-pecuniary. Entrepreneurship provides more non-pecuniary benefits than traditional employment.
- Entrepreneurs *on average* earn less than employees
- A small fraction of individuals makes a lot of more money in entrepreneurship
- There is a larger variance of entrepreneurial earnings. Entrepreneurs are drawn from the tails of the wage distribution (Selection)
- Entrepreneurs work more hours
- Many entrepreneurs persist in entrepreneurship despite the possibility of earning more as employees in a company (classes 8-9)

## **4. CONTEXTUAL FACTORS: THE EFFECTUAL ENTREPRENEUR**

= sociological approach

### **4.1. How are entrepreneurs made?**

#### **Decision making**

- Entrepreneurship is about making decisions
- Setting is high uncertain, risky, complex, characterized by lack of information and continuously changing
- Need for fast, effective, efficient acceptable solutions – Heuristics (effectuation theory)

#### **The sociological approach to entrepreneurship**

“Without persons, no society; without society, no persons.” Thomas Hill Green, 19th century philosopher

- Individuals are ‘socially situated’ and this affects their behaviors and choices
- Entrepreneurship is a “socially situated” phenomenon: you have more chances of discovering an entrepreneurial opportunity if you are here or there.
- The main implication is that the social context affects the decision to become entrepreneur
- You cannot understand individuals’ decisions to create a venture without having an understanding of the social context these individuals are embedded in

#### **Contextual vs. Dispositional approach in entrepreneurship (Sorenson, 2007)**

- Contextual (mainly rooted in sociology) approach, holds that features of a position in social structure may encourage or retard entrepreneurial activity independent of the characteristics of the individual.
  - structural influences on entrepreneurial activity: the family of origin, work environment, social networks, the regional & cultural environment.
- Dispositional (mainly rooted in psychology) approach, by contrast, emphasizes that stable individual traits lead to entrepreneurial activity, independent of context.
  - E.g. individual differences in risk aversion to entrepreneurship
  - in entrepreneurial ability, and personality

#### **Why do some individuals become entrepreneurs and others don’t?**

- Entrepreneurial traits (psychology)
- Entrepreneurial skills, pecuniary and non-pecuniary incentives (economics)
- The role of the context (sociology)
- Can people with no preference for entrepreneurship be pushed to become entrepreneurs as a result of the context in which they find themselves?

## Sociological theories: why do individuals become entrepreneurs?

- Accidental entrepreneurship
- Effectuation theory:
  - This is our main focus in this course since this has been the most influential theory of entrepreneurship after the one developed by Shane & Venkataram (2000 – first article of the course)
- These two theories are very related. Accidental entrepreneurship as part of effectuation theory when founders didn't have the generalized aspiration of starting a business in mind when they started (finding a solution to their specific problem)

### 4.2. Accidental entrepreneurs

*«There is such a thing as a natural-born entrepreneur, for whom the entrepreneurial urge drives everything and who can make a business out of almost anything ... But the accidental entrepreneur like me has to fall into the opportunity or be pushed into it. »*

Gordon Moore, Co-founder of Fairchild semiconductor corporation & Intel

*«If I had thought about it, I wouldn't have done the experiment. The literature was full of examples that said you can't do this. »* Spencer Silver, Co-Founder of Post-it Notes with Arthur Fry, both previously employed at 3M

- Accidental entrepreneurs can also be user entrepreneurs: “people who set out as their product's first customers, motivated to develop solutions to personal or professional dilemmas they are facing”. E.J. Reedy.
- 46.6 percent of startups launched in the U.S. that are still in business after five years are founded by users entrepreneurs (Kauffman Foundation)
- The context ‘pushes’ to become entrepreneurs.
  - ✓ To what extent it is possible to affect this process by ‘creating’ more favorable contexts for entrepreneurship (policy makers/managers)
- What factors trigger accidental entrepreneurship?
  - ✓ They decided first to make it for themselves, and then once they realized that others needed the good too, they decided to commercialize it.

#### 4.3.Causation vs. Effectuation theory

	1. Causation <sup>4</sup>	2. Effectuation <sup>5</sup>
<b>What</b> factors are part of the explanation?	<p>Causation:</p> <ul style="list-style-type: none"> <li>• Outcome is given</li> <li>• Select between means to achieve that outcome by:               <ol style="list-style-type: none"> <li>1. Starting with ends</li> <li>2. Analyzing expected return</li> <li>3. Doing competitive analysis</li> <li>4. Controlling the future</li> </ol> </li> </ul>	<p>Effectuation:</p> <ul style="list-style-type: none"> <li>• Set of means are given</li> <li>• Select between possible effects that can be created with those means by:               <ol style="list-style-type: none"> <li>1. Starting with means</li> <li>2. Applying the affordable loss principle</li> <li>3. Establishing and leveraging strategic relationships</li> <li>4. Leveraging contingencies</li> </ol> </li> </ul>
<b>How</b> are the factors identified related to outcomes of interest?	<p>Causation processes = identifying and exploiting opportunities in existing markets with lower levels of uncertainty.</p> <ul style="list-style-type: none"> <li>• Later entrants into an industry &gt;&gt; causation processes</li> </ul>	<p>Effectuation processes = identifying and exploiting opportunities in new markets with high levels of uncertainty.</p> <ul style="list-style-type: none"> <li>• Successful early entrants into a new industry &gt;&gt; effectuation processes</li> <li>• Effectual firms &gt;&gt; fail early and cheap</li> </ul>
<b>Why</b> can we expect the proposed relationships to exist?	<p>Decision theory:</p> <p>Decision makers dealing with measurable or predictable future will do systematic information gathering and analysis within certain bounds (Simon, 1959).</p>	<p>Decision theory:</p> <p>Decision makers dealing with unpredictable phenomena will gather information through experimental and iterative learning techniques aimed at discovering the future.</p>
<b>Who, Where, When?</b> The assumptions and limitations underlying the theory (boundary conditions)	<ul style="list-style-type: none"> <li>• Static, linear environment.</li> <li>• Predictable aspects of an uncertain future are discernible and measurable.</li> <li>• Entrepreneurial opportunities are objective and identifiable <i>a priori</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Dynamic, nonlinear, and ecological environments.</li> <li>• Future is unknowable and not measurable.</li> <li>• Entrepreneurial opportunities are subjective, socially constructed, and created through a process of enactment.</li> </ul>

## Entrepreneurial thinking: different ways of acting entrepreneurially

- People often assume entrepreneurs always plan their ventures in advance. However, there is evidence entrepreneurs sometimes act in less formal ways
- Effectuation theory is a novel theoretical perspective to explore this kind of behavior
  - how entrepreneurs behave when they try to create something new

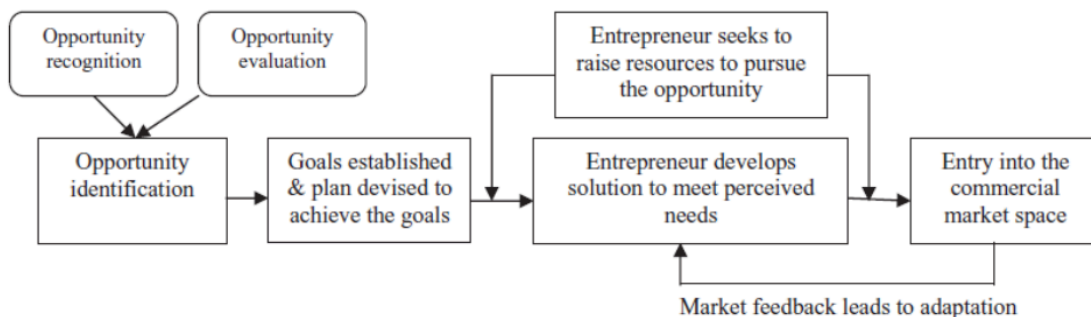
*Effectuation is a decision-making process based on heuristics learned by expert entrepreneurs in uncertain, disruptive situations.*

## Prof. Sara Sarasvathy: the founder of Effectuation

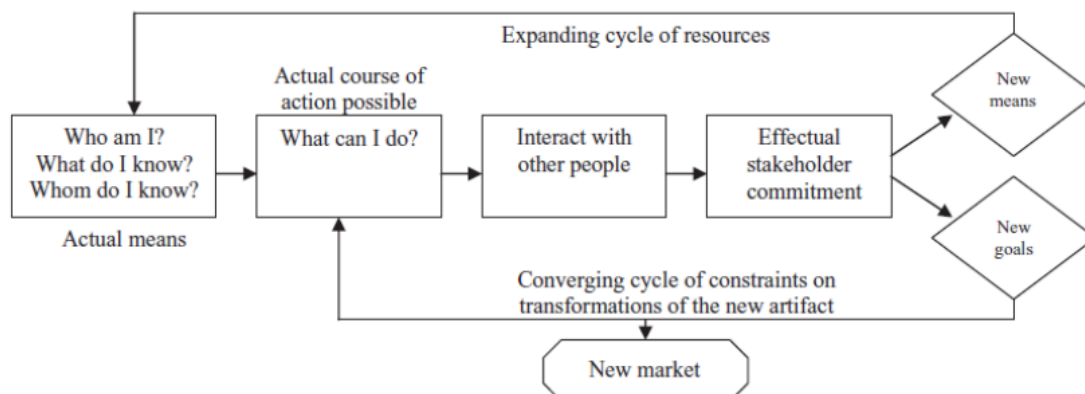
- The idea came from a study of how expert entrepreneurs actually act
- In depth interviews with 30 entrepreneurs from different industries; ask them to take decisions in 10 areas involved with creating a company out of a similar product idea and to say what they would do
- Effectuation is a social process perspective on entrepreneurship that draws lessons on how entrepreneurs actually act

⇒ Focus on creativity

## Causation & Entrepreneurship (Shane & Venkataram, 2000)



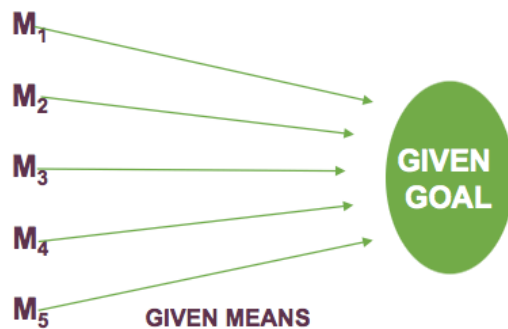
## Effectuation



**Comparing Effectuation with Causation, the traditional approach to Entrepreneurship (e.g. Shane & Venkataram, 2000)**

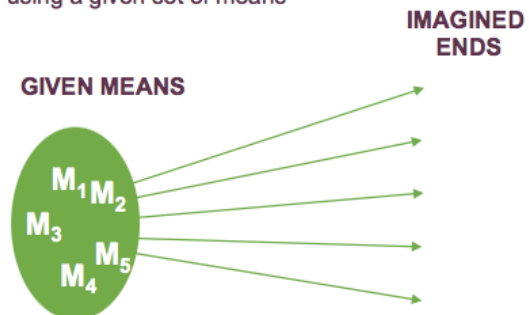
**Managerial Thinking (Causal)**

**Distinguishing Characteristic**  
Selecting between given means to achieve a pre-determined goal



**Entrepreneurial Thinking (Effectual)**

**Distinguishing Characteristic**  
Imagining a possible new end using a given set of means



Principle n. 1 – Bird-in-hands (Start with your means)

- When expert entrepreneurs set out to build a new venture, they start with their means:
  - who I am (traits, tastes and innate abilities)
  - what I know (the human capital: education, on the job training, experience)
  - whom I know (social and professional network)
- Then, the entrepreneurs imagine possibilities that originate from their means. Means are the basis for decisions and new opportunities
- Causation approach: Pre-set goals or opportunities
  - Causal reasoning works inversely by assembling means after a goal is set. The goal is given (based on predictions)

Principle n. 2 – Affordable Loss (focus on the downside risks)

- Expert entrepreneurs limit risk by understanding what they can afford to lose at each step, instead of seeking large all-or-nothing opportunities. They tend to find ways to reach the market with MIN expenditure of resources such as time, effort, and money.
- Calculate downside potential and risk no more than what you can afford to lose
- Causation approach: decisions based on **Expected return**
  - managers analyze the market and choose target segments with the highest potential return
  - First targets a return, then works to minimize associated risk.
  - Expected return: calculating the upside potential of one or many opportunities and pursuing the (risk adjusted) best opportunity
- Expected Return: calculate upside potential and pursue the (risk adjusted) best opportunity.
- Affordable Loss: calculate downside potential and risk no more than you can afford to lose.



### Principle n. 3 – Crazy Quilt (set up partnerships)

- Expert entrepreneurs build partnerships with self-selecting stakeholders. People who want to co-create with you through their pre-commitment to an idea.
- By obtaining pre-commitments from these key partners early on in the venture, experts reduce uncertainty and co-create the new market with its interested participants.
- Build your “future” together with customers (lead users), suppliers and even prospective competitors!
- Causation approach: **Competitive analysis**
  - Causal reasoning presumes that competitors are rivals to contend with.
  - Focus on competition, set up transactional relationships with customers and suppliers to get the competitive advantage

### Principle n.4 – Lemonade (leverage contingencies)

- Expert entrepreneurs exploit the surprise factor. Instead of making “what-if” scenarios to deal with worst-case scenarios, experts interpret “bad” news and surprises as potential clues to create new markets.
- Surprises can present new opportunities. Think about contingent events, information and meetings as new resources that you can add to your existing means.
- Causal Approach: **Avoiding surprises** rather than leveraging them.
  - minimize the probability of unexpected outcomes (deviation from the plan)
  - try to anticipate surprise, avoid it, overcome it or adapt to it
- This echoes the accidental entrepreneur (e.g. post-it)
- Contingencies
  - avoid surprises
  - leverage surprises (exploit contingencies, rather than preexisting knowledge)
  - surprises can present new opportunities

### Principle n. 5 - Pilot-in-the-plane (control vs predict)

- By focusing on activities within their control, expert entrepreneurs know their actions will result in the desired outcomes. An effectual worldview is rooted in the belief that the future is neither found nor predictable, but rather made
- *To the extent we can control the future, we don't need to predict it.* The logic of CO- CREATION
- Causation Approach: **Inevitable trends**
  - It accepts that established market forces will cause the future to unfold
  - *To the extent we can predict the future, we can control it.* The logic of PLAN

Rest: effectuation exercise – go check slides

## **PART II: THE OPPORTUNITY: HOW ARE ENTREPRENEURIAL OPPORTUNITIES IDENTIFIED?**

### **Key learning questions**

- Where do entrepreneurial opportunities come from?
- Why are entrepreneurial activities discovered?
- How do individuals discover entrepreneurial opportunities?

### **5. IDENTIFYING ENTREPRENEURIAL OPPORTUNITIES**

#### 5.1. Paper 1

Kirzner, I. M. (1999). "Creativity and/or alertness: A reconsideration of the Schumpeterian entrepreneur". *The Review of Austrian Economics*, 11(1), 5-17

### **Elevator pitch**

**Compare and contrast Kirzner and Schumpeter's views on entrepreneurship.**

<b>Schumpeter</b>	<b>Kirzner</b>
	An opportunity= difference in the cost of the output and input. He takes advantage in mistakes in the market/ inefficiencies
You start from a situation in equilibrium and go to a disequilibrium => There was this innovation and this innovation distracted the model  His definition of a competitive market = market where people continuously introduce inventions that disrupt the market	Disequilibrium to equilibrium => Sooner or later someone will fix an efficiency (example with horse to car)
Active entrepreneur	Passive entrepreneur
Creative destruction.	Info asymmetric
The opportunity starts where there's the creation of information (essentially from innovation and technology)	The opportunity to start is when correcting mistakes, you take advantage of these mistakes to start your business
Entrepreneur: Creative, more leadership, more aggressive	Entrepreneur: arbitrageur – passive. How can a passive person see an opportunity? by being alert
More creative type, creation of new information	More profit opportunity, less creative. BUT in the end he agrees with the creative aspect of Schumpeter. He kind of reconciles himself, but the work before is different: <ul style="list-style-type: none"> <li>▪ Starts from the concept of market inefficiency</li> <li>▪ Opportunity= taken advantage of mistakes in the market</li> </ul>
Process of coming up with new ideas is	Endogenous

exogenous	
	Less uncertainty

**What are the practical implications of the paper for you? Do you agree with the conclusions of the papers? You can support your arguments with examples**

How did he reconcile? In the end he agrees w/ the creativity and aggressiveness and leadership characteristics of Schumpeter.

## 5.2. Paper 2

Baron, R. A. (2006), "Opportunity Recognition as Pattern Recognition: How Entrepreneurs "Connect the Dots" To Identify New Business opportunities", *Academy of Management Perspectives*, Vol. 20(1), pp. 104-119

### Elevator pitch

#### Research gap:

There was already some research on the 3 elements (how entrepreneurs can identify opportunities : alertness\*\*, active search\*\*\*, previous knowledge\*), but all 3 apart, and there has not been a framework that takes the 3 simultaneously.

If you consider all these things separately, you cannot see if there's a correlation between the 3, and you can see if there are trade off (complementarity between the 3)

\*in Chain: previous knowledge is important to recognize entrepreneurial opportunities.

- information corridor: once you worked in a certain area, you can identify better opportunities in this area

- cognitive property: once you stop that it could be an opportunity, then you have to come up w/ the new means and relationship (how can I make money from this?)

\*\* Alertness: w/ Kirzner. Economic approach

\*\*\* reminds her of effectuation. Example: the founder of Axe hotel was looking for new entrepreneurial opportunities.

### **What type of conceptualization does he use? Kirznirian or Schumpeterian?**

Focusing on innovative opportunity. Connect the dots.

What type of process can I use to identify an opportunity? doesn't say

Schumpeter: he mentions that he's talking about innovative opportunities and not kirznirian opportunities (that are less innovative). It's about creating something new, connecting dots. While Kirzner is more something that already exists, and you take advantage.

=> focus of the paper is on innovative opportunity

### **What does it take to discover an entrepreneurial opportunity?**

- Alertness
- Active search

- Previous knowledge (also mentioned in Schumpeter : 1) the information corridor, 2) the ability to commercialize)

Why is it important to put them together?

- You can see where there's complementarity
- Combining the dots
- Link with the effectuation

=>It's more Schumpeter : it's creating something new, innovative opportunity >< Kirzner: something already existing and find a new way to do it.

### **The 2 main models of pattern recognition?**

previous knowledge is the basis of both models

1) prototype: ideal representation of an object, you need to have a lot of experience, takes a lot of time. More complex and slow

2) exemplar: you have an example in mind and you compare what you have to the example. You take for example a basic and then you build on it (ex: when prof makes paper he bases himself on a previous paper and goes beyond it). Immediate and faster  
Expert entrepreneurs tend to go to the exemplar way to connect the dots

**What are the practical implications of the paper for you? Do you agree with the conclusions of the papers? You can support your arguments with examples**

- social network in helping you gain knowledge and develop a pattern
- having as much as differences possible so that you have a broader base to pick up on when you have something

### 5.3. Where do entrepreneurial opportunities come from?

#### **How is an idea different from an opportunity?**

An entrepreneur might get an idea of a new venture by seeing patterns that suggest a solution to a compelling market need- one that customers may not even have identified.

An entrepreneur turns an idea into an opportunity by crafting a business model that identifies a strategy of targeting a market segment with a solution that will attract customers, partners, investors, key employees, and other resources that will be needed to enter and gain traction in the market and create value for stakeholders. This value proposition will also include cash flow forecasts that reflect the entrepreneur's assumptions for how the business model will generate.

## **An entrepreneurial opportunity is**

- A situation where a person can create a new means-ends relationship for recombining resources the entrepreneur believes will yield a profit (Shane).
- The chance to meet a market need (or interest or want) through a creative combination of resources to deliver superior value
- Opportunity recognition consists of:
  - Discovering the fit between the identified market needs and the capabilities and resources available to the entrepreneur
  - Creating a “solution” (a product or service) that can be delivered to a specific market to address a specific need while generating value for all stakeholders

What do psychologists say about entrepreneurial activity?

Nothing. Because they say if you have the entrepreneurial skills you will be one and it's not connected with the ability to see.

## **Sources of entrepreneurial opportunities**

1. the creation of new information as occurs with the invention of new technologies - Schumpeterian
2. the exploitation of market inefficiencies that result from information asymmetry as occurs across time and geography - Kirzner
3. the reaction to shifts in the relative costs and benefits of alternative uses for resources, as occurs with political, regulatory, or demographic changes – Baron. We can also connect to Bomol. Because according to the incentives from the government you can better identify opportunities (Al Capone for example)

## **Schumpeterian opportunities**

- Emerge out of the entrepreneur's internal disposition to initiate changes in the economy
- The entrepreneur is an innovator who disturbs the economic equilibrium during times of uncertainty, change, and technological upheaval. He initiates change through innovation and actively creating new opportunities.
- Entrepreneurial opportunities emerge from creation of new information
  - changes in technology, regulation, political forces, macro-economic factors and social trend

*« The function of entrepreneurs is to reform or revolutionize the pattern of production... To undertake such new thing is difficult and constitutes a distinct economic function, first because they lie outside of the routine tasks which everybody understands, and secondly, because the environment resists in many ways. »*

## **The ‘new combinations’ that constitute Schumpeterian opportunities**

- The introduction of a new good/service Ex.: Expedia
- The introduction of a new method of production
- The opening of a new market
- The conquest of a new source of supply of raw materials or half manufactured goods
- The carrying out of the new organization of any industry (or new business model). Ex.: Amazon
- Logique rare vs common. Un invente totalement (Schumpeter) et l'autre le voit et le modifie un peu donc common

## Kirznerian opportunities

- An opportunity is the possibility of correcting errors in the system and creating new ways of achieving given ends
- Emerge out of differential access to existing information on market disequilibrium (supra-normal profits)
- The entrepreneur is an alert person who discovers opportunities based on information asymmetries
- Entrepreneurial opportunities emerge from exploitation of market inefficiencies

## Two types of entrepreneurial opportunities

Schumpeterian	Kirznerian
<ul style="list-style-type: none"><li>- Innovation</li><li>- Dis-equilibrating</li><li>- Creation</li><li>- Rare</li><li>- Requires new information</li></ul>	<ul style="list-style-type: none"><li>- Arbitrage</li><li>- Equilibrating</li><li>- Discovery</li><li>- Common</li><li>- No new info</li></ul>

### 5.4. Why entrepreneurial opportunities are discovered?

## The Why: the theories behind opportunity identification

Allocative View	Discovery View	Creative View
<b>Neoclassical Equilibrium</b> <b>Theories:</b> Opportunities are randomly distributed. Everybody can recognize opportunities. Differences in preferences for settings (e.g. preference for uncertainty) determine the choice of becoming an entrepreneur. Economic approach	<b>Austrian School:</b> Not all people recognize all opportunities because there is <u>asymmetric information</u> about opportunities. Hayek: information is not uniformly distributed among individuals. Economic approach	<b>Effectuation</b> Opportunities are created. In this view effectuation is in line with Schumpeterian types of opportunity. An opportunity is the possibility of creating new means and new ends. This view entails the highest level of uncertainty. Sociological approach

### Psychological approach

Attributes of individuals determine their entrepreneurial fate rather than information about opportunities and this depends on their willingness and ability to take action. It neglects the opportunity.

## The Austrian view (Kirzner)

- Disequilibrium approach
- Information asymmetry is necessary for entrepreneurial opportunities to exist (Kirzner, 1997)
- In incomplete information settings often individual will have to guess the market
- Guessing often creates pursuit of poor opportunities - misallocation of resources
- Misallocation of resources (mistakes) may produce new opportunities (= possibility of correcting mistakes in the market) for the alert individual with the needed information
- Individually are hence *unequally* positioned for becoming an entrepreneur
- Opportunity recognition is a surprising event which arise from the fact that something has been overlooked
- Differences in entrepreneurial tendencies are hence not driven by differences in ability and willingness - no active search is needed but alertness (Kirzner)
- Against the idea of active search of entrepreneur

## Shane evolves from the Austrian School

PROPOSITION 1. *All individuals are not equally likely to recognize a given entrepreneurial opportunity.*

PROPOSITION 2. *People can and will discover entrepreneurial opportunities without actively searching for them.*

PROPOSITION 3a. *People's prior knowledge about markets will influence their discovery of which markets to enter to exploit a new technology.*

Shane & Venkataraman: Factors that influence discovery: possession of prior info to identify the opportunity (information corridors), cognitive priorities to value the opportunity.

What are the main differences with Baron's article?

### 5.5. How do individuals discover entrepreneurial opportunities?

#### **Who is an Entrepreneur according to Schumpeter vs Kirzner**

- Entrepreneurs are those persons who have the personal ability to see and create new products, processes or markets. Not everyone has this innate skill. Entrepreneurship is about innovation – creating disequilibrium. Joseph Schumpeter, 1911
- Entrepreneurs are those that have the alertness to find information that others don't have and utilize this uneven distribution of information to “buy low and sell high.” In this way the market will move towards equilibrium. Israel Kirzner, 1979

#### **What influences opportunity recognition, according to Baron (2006)? Why some people recognize opportunities and others don't?**

##### Alertness

- capacity to recognize opportunities when they emerge
- based on cognitive abilities (intelligence and creativity, but also optimism & risk perceptions)

##### Prior knowledge

- of market, industry, or customers
- varied life and work experiences (remember Lazear)
- keep up with customer needs

##### Active search

- Engage in active search for information, non-conventional sources

- All these 3 are integrated in the pattern recognition: people recognize because they possess the appropriate cognitive framework
- (*Social network*)

##### **Alertness**

- Wheeled luggage used many years by cabin crew before diffused to the general public
- Trends making somebody connecting the dots:
  - Large increase in number of passengers
  - Growing problems with checked luggage
  - Expansion in the size of airports

##### **Prior knowledge**

- Life experiences create different knowledge bodies across subjects
- Not all are positioned equally well to obtain the needed information for opportunity discovery (Hayek, 1945) – **Information corridor**
- Three major dimensions:
  - Prior knowledge of markets
  - Prior knowledge of ways of serving the market
  - Prior knowledge of customer problems
- Prior knowledge may hence also dictate the market they move into



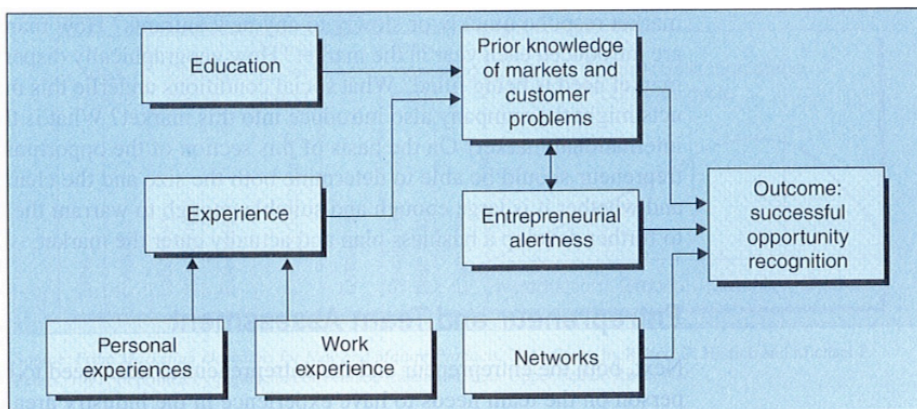
Do you lack cognitive framework and/or experience that would enhance your pattern recognition?

- Engage in more active search
- Search for emergent patterns: focus on relevant factors (e.g. changes in technologies, markets, demographics) and search for connections
- Broaden and vary your working experiences (or exploit team diversity!)
- Build an inventory of exemplars: be exposed to examples of opportunity recognition

### Active search and prior knowledge: an example

- Prof. William Sahlman from Harvard Business School
  - Opportunity recognition via active search and leveraging on own experience
  - John Osher, serial entrepreneur
  - From Spin-pop to spin-toothbrush: identification of existing capability useful in other settings
- It's a great example of active search. His previous knowledge was that he was doing battery-driven lollipops, then he said, 'let's engage in active search' and they went into the supermarket and saw normal toothbrushes and the expensive electric ones. They took advantage of the huge gap and made it cheaper because it was with a battery and not electric.

### A model of the entrepreneurial opportunity recognition process



Source: From Alexander Ardichivili and Richard N. Cardozo, "A Model of the Entrepreneurial Opportunity Recognition Process," *Journal of Enterprising Culture* 8, no. 2 (June 2000). Reprinted with permission of World Scientific Publishing Co, Inc.

### 5.6. [The creativity exercises](#)

#### What is creativity?

- Creativity is the production of novel and useful ideas by an individual or a small group of individuals working together (Amabile, 1988)
- Set of methods and contextual factors that enhance creativity:

Method	Goal	Decisions made based on
Scientific	discovery	Analytical thinking
Creative	invent	Creative thinking (intuitive, associative, fast)

## What influences creativity? The innovation engine

- Internal (individual) factors (today)
  - Knowledge
  - Attitude (motivation)
  - Imagination (ability to see new means- ends relationship)
- External (contextual) factors ü Habitat
  - Culture
  - Resources

## How can you increase your imagination?

### Reframing problems

- By changing the way questions (problems) are framed you can dramatically change the range of possible answers (solutions)
- Mastering the ability to reframe problems is important tool to increase your imagination because it unlocks a vast array of solutions
- The questions you ask are the frames into which the answers fall. When trying to come up with truly innovative ideas, you need to spend as much time crafting the question you ask as you do generate creative solutions. Ask broader question
- Use divergent thinking:  $5+5=?$  not divergent thinking,  $?+?=10$  divergent thinking
- Open up the frame of reference by asking ‘why’
- Brainstorm bad ideas
  - When an individual or group is tasked with being creative, often there’s pressure to only come up with good ideas.
  - Stupid or ridiculous ideas open up the frame by allowing you to push past obvious solutions. Then, those terrible ideas can be re-evaluated, often turning them into something brilliant.
  - Once you have a list of bad ideas, brainstorm how they can become good ideas. In one of Seelig’s classes, a bad idea was selling bikinis in Antarctica. A group that was tasked with making this idea a good one came up with the idea to take people who want to get into shape on a trip to Antarctica. By the end of the hard journey, they would be able to fit into their bikinis. Their slogan was “Bikini or Die.”

### Connecting ideas

- Most innovation comes from connecting and combining unrelated things
- Example: Chindogu (the art of the UNuseless ideas)

### Challenging assumptions

- Ask, “What are all of the assumptions of the industry?” Make a list and turn them upside down by thinking about what would happen if you did the opposite.
- Cirque du Soleil challenged assumptions about what a circus is. Instead of cheap entertainment for kids, they turned it into a high-end event for adults that competes with the theatre or opera
- don’t stop w/ the first idea because it’s always the less creative

## 6. UNLOCKING CREATIVITY

### Opportunity identification

- Entrepreneurs use cognitive frameworks and prior experience to connect the dots and identify opportunities with potential economic value (Baron's article)
- Would-be entrepreneurs can be *trained* to recognize opportunities
- *Creativity* is crucial to recognize entrepreneurial opportunities and can be trained

### Article: reclaim your creative confidence

Dependent variable: creativity

Independent variable: fears

Negative relationship

1. *What held you back in the creativity assignment?*

2. *Which fear is more important for you?*

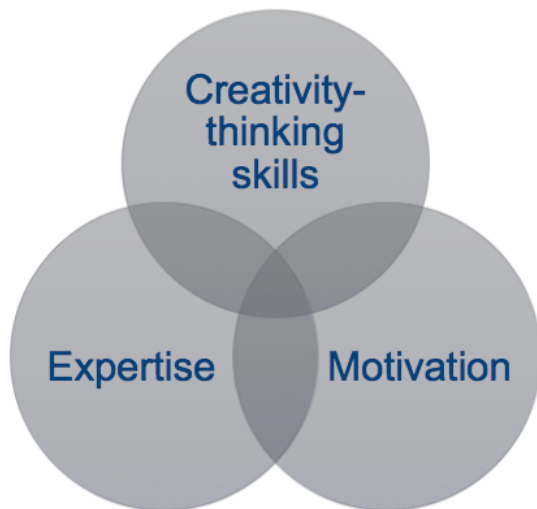
- Fear of being judged is associated with fear of failure and is much more present in the EU than for example the US

How can we address this problem? Because you are in a familiar environment.

Why? When you decouple your value as a person from a performance

### A Model of Individual Creativity by Teresa Amabile

There are 3 elements that stimulate/increase creativity



#### Expertise

- The larger and more diversified the knowledge the broader the space an entrepreneur can search for patterns during early stages of the creative process
- Knowledge is the raw material! (Baron's article).

#### Motivation

- Intrinsic motivation is more important than extrinsic and is a strong driver of creativity. Link?
- Where did we see motivation in the class somewhere else? with non-pecuniary benefits of entrepreneurs (Hamilton) . When they like more the journey than the final outcome

### Creative thinking skills= your motivation

- Catalyst for transforming prior knowledge into new ideas
- The ways people approach and solve problems and put existing ideas together in new combinations

### **The innovator's DNA**

What Creative Skills Innovative Entrepreneurs Possess? => He interviews a number of disruptive (Schumpeterian) entrepreneurs to learn from them how to be creative

- 6 year study, 25 innovative entrepreneurs (disruptive startups)
- 5 creative skills: innovative entrepreneurs spend more than 50% of their time on exercising these skills than others
- These skills made the innovator DNA
- 2/3 of the Innovator's DNA comes from learning

### Associating

- Ability to successfully connect seemingly unrelated questions, problems or ideas from different field
- More diverse experiences & knowledge more connections for the brain to make
- Famous book by Frank Johansson "The Medici Effect"
  - The Medici family support artists that led to the Renaissance: put together painters, sculptors, poets, philosophers, architects that initiated an era of disruptive innovations
  - The book became the foundation for the "Medici Effect": disruptive innovation from people who have no experience in an industry

### Questioning

- **Ask "Why?" & "Why not?" & "What if?"**
  - The power of provocative questions
  - Challenge the assumptions!
- **Embrace constraints**
  - Catalyst for out-of-the box thinking
  - Google's innovation practice
- **Imagine opposites**
  - integrative thinking creatively resolves the tension in opposing models by forming new and superior ones
  - Play the devil's advocate

Ex.: Dell. How did dell come up with his idea? Instead of putting the pieces together and then someone else sells the computer etc. and what he did is integrate everything. Everything came from this question: « why does a computer cost 5 times more as the sum of its parts? »

### Observing

- Scrutinize common phenomena, like the behavior of potential customers (anthropologic approach)
- Focused observation is a powerful way to acquire knowledge about the world
- Knowledge provides the fuel for your imagination

Ex.: the Nano car: The car costs 2500 dollars and it disrupted the entire automobile industry in India. And that just by observing the problem and coming with a solution.

### Experimenting

- Jeff Bezos: Our culture opens us to allowing lots of failures while harvesting the learning. Bottom up (decentralization)
- The more countries a person has lived in, the more likely she is to leverage that experience to deliver innovative products, processes or businesses

*“I haven’t failed, I’ve simply found 1000 ways that do not work”*

### Networking

- Find & test ideas through a network of diverse individuals (different perspectives)
- Extend your knowledge of domains
- Attend idea conferences

So far, we have seen what individuals should have in order to create something.

## 7. THE ROLE OF CONTEXTUAL FACTORS IN IDENTIFYING ENTREPRENEURIAL OPPORTUNITIES

### 7.1. Paper 1

Gompers, P., Lerner, J., & Scharfstein, D. (2005). Entrepreneurial spawning: Public corporations and the genesis of new ventures, 1986 to 1999. *The Journal of Finance*, 60(2), 577-614.

#### elevator pitch

- literature gap: there's a lot on the consequence but not on the origins (what creates VC backed startups?). We don't know the origins of the creation
- research question: which one of the 2 views a positive relationship on the number of VC has based start-ups
- key independent variable: Fairchild or Xerox. The goal is to know which one of this type produce more entrepreneurs, in particular VC backed startups
- Y (dependent variable) = number of VC backed startups

#### Identify the two views on why some firms produce more entrepreneurs and compare them

- 1) FAIRCHILD: young firms prepare employees to be entrepreneurs by educating them about entrepreneurial process and by exposing them to a network of entrepreneurs and venture capitalists
- 2) XEROX: Another view of the entrepreneurial spawning process is that individuals become entrepreneurs because the large bureaucratic companies for which they work are reluctant to fund their entrepreneurial ideas.

	Fairchild	Xerox
Why do they produce entrepreneurs?  The potential reasons	<ul style="list-style-type: none"> <li>▪ Network (social capital)</li> <li>▪ Sorting based on risk aversion</li> <li>▪ You can learn a lot about the company proceeds and also about the founders that can provide interesting learnings = human capital</li> </ul>	<ul style="list-style-type: none"> <li>▪ Incapacity to respond to technological change = inertia (they are inert to change)</li> <li>▪ They focus on the core business because they don't want diversification discount: if you diversify a lot you get a discount</li> <li>▪ Incapacity of evaluating the opportunity. The opportunity is wrongly interpreted (disagreement story: the employee says the idea is super good and the boss says no) the problem= myopia: the more successful you are to more unable you are to see successful ideas</li> </ul>

Fairchild: because they are VC backed, they tend to be located in areas where VC are very active (Silicon Valley and Massachusetts (MIT))

If you come from VC backed company then you're more likely to start a VC backed company  
- if you are more focused then you tend to be more Fairchild

**What are the practical implications for you? Do you agree with the conclusions of the paper?**

**You can support your arguments with examples**

If you don't have a lot of ideas, then go to Fairchild because there are a lot of opportunities that you can take, you don't have to invent something

The key alternative for the 2 views:

- they tend to focus on the type of business and technology like the most. These type of Fairchild companies have a tendency to be closer to the VC connection. But it is not true. It's the opposite.
- that Fairchild creates more intrapreneurship, the

## 7.2. Paper 2

Elfenbein, D. W., Hamilton, B. H., & Zenger, T. R. (2010). "The small firm effect and the entrepreneurial spawning of scientists and engineers". *Management Science*, 56(4), 659- 681.

### **elevator pitch**

- general research problem:
- social context has positive impact on entry
- firm size has negative impact on entry
- literature gap: there's a small firm effect, but we don't know what influences it

**Compare & contrast the 4 theories with the appropriate entrepreneurship literature so far discussed**

#### 1) preference sorting: positive effect on the small firm effect (selection)

- small firms attract those with prior preferences for autonomy who are similarly drawn into entrepreneurship (5 personality traits Zhao&Siebert)
- called sorting because people self-select. I have a preference for autonomy, so I go to small firms but that's also entrepreneurship
- link with class: - non-pecuniary benefits of entrepreneur (Hamilton)

#### 2) ability sorting: plays a role (selection)

- those who ultimately become entrepreneurs may be drawn first to small firms because they offer tighter pay-for-performance links and can subsequently improve their expected earnings by becoming entrepreneurs, or because the skills required for success in small firms are also valuable in entrepreneurship.
- individuals with high ability tend to have a preference for being rewarded based on your performance (type of bonus). They are more likely to prefer settings where there's a bigger

relationship on your pay and performance. And in large firms there's less that because otherwise people get jealous. Paper performance = treatment explanation

- point 2: in small firms you develop a human capital that is more valuable for entrepreneurship = sorting explanation. Your tasks are more broadly defined, and you are a sort of jack of all trades.

### 3) opportunity cost (treatment)

- small firms give a lower salary than large firms, which means lower opportunity costs. But we know that a low opportunity cost increases entrepreneurship (incentives: Hamilton)
- small firms survive less. So, if the company fires you and then you become an entrepreneur then you become a necessity entrepreneur because the opportunity cost is zero and then you become an entrepreneur

### 4) Entrepreneurial Human Capital (treatment)

**What is the difference between treatment & selection?**

Sorting	Treatment
You possess before entering whatever company and it's that that determines your probability of becoming entrepreneur. It's not the context in which you find yourself in.	Something that the context influences you. Can have an impact on the sense it can change your skills or preferences. So, the company influences you

**What approach does the paper use for empirical testing? And how do you evaluate it? (this is a plus)**

Key findings:

- Entrepreneurial human capital: if you have more human capital then you have a positive influence on performance
- Ability sorting has consequences for performance
- Opportunity cost can never impact on performance. Why? because it reduces the probability of becoming entre but doesn't lower the expected profit.

Entry					
Firm size	-				
• preference sorting		+			
• Opportunity Cost			+		
• Entrepreneurial human capital				+	
• Ability sorting					+



**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

### 7.3. How does the context influence opportunity identification?

#### **Two types of entrepreneurs**

<b>College dropouts</b>	<b>Ex-employees</b>
<ul style="list-style-type: none"> <li>• Heroic entrepreneurs</li> <li>• Some college dropouts have found incredible success in launching startups.</li> <li>• But there is a selection bias. How many drop-outs fail to achieve their entrepreneurial dreams?</li> <li>• How much of their success is individual-specific (not replicable)? Innate vs Learning</li> </ul>	<ul style="list-style-type: none"> <li>• Employee Entrepreneurs</li> <li>• Many entrepreneurs were employees of prominent incumbents (established firms)</li> <li>• The preponderances of these employees identify opportunities in the same industry of their prior work</li> <li>• Examples of prolific incumbents: Fairchild, Google, Intel, IBM, Hewlett-Packard</li> </ul>

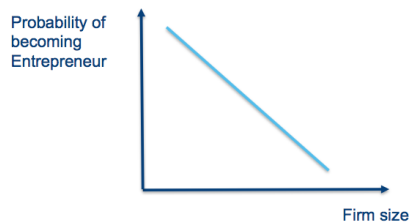
#### **Entrepreneurs are Organizational Products (Freeman, 1986)**

- Organizations beget organizations (*organizational legacy*)
  - 90% of new firms are founded by individuals with prior work experience, i.e. ex-employees
  - 71% successful entrepreneurs recognize their idea at the parent company
- The recognition of entrepreneurial opportunities is strongly linked to the social context founders are embedded (parent firm) and their knowledge

### 7.4. Which type of firm produces more entrepreneurs?

<b>Fairchild</b> Young entrepreneurial firms	<b>Xerox</b> Large bureaucratic firms
<ul style="list-style-type: none"> <li>- Learn about entrepreneurial process</li> <li>- Exposure to a network of suppliers of labor, goods, capital &amp; customers</li> <li>- Self-selection on risk</li> </ul>	<ul style="list-style-type: none"> <li>- Incapable of responding to radical innovations (inertia)</li> <li>- Incapable of evaluating employees' ideas as fall outside the core business (myopia). Disagreement is one theory of entrepreneurship</li> <li>- Focus on core business (the diversification discount)</li> </ul>

## Small firm effect



### Explanation

**Treatment** Employees of small firms are more likely to be exposed to some features of the context that increases their preferences for entrepreneurship and that increases their entrepreneurial skills (human capital). The longer the tenure (time) in a firm the more the employee is shaped by the organizational context as a byproduct of their employment.

**Selection** Individuals with certain characteristics (in terms of ability or preferences) select/ decide to work in small rather than large firms.

EXPLANATION	LINK WITH PRIOR THEORY
<b>SELECTION</b>	
▪ Ability Sorting	Job matching: Entrepreneurs come from the tails of the ability distribution (stars vs necessity entrepreneurship)
▪ Preference Sorting (autonomy)	Non pecuniary benefits
<b>TREATMENT</b>	
▪ Entrepreneurial Human Capital	Jack-of-all trade skills
▪ Opportunity costs	Incentives

## Debate in entrepreneurship: contextual or dispositional approach?

<b>Contextual Approach</b>	features of a position in an organization may encourage or retard entrepreneurial activity independent of the characteristics of the individuals. Sociologists suggested a number of structural influences on entrepreneurial activity, i.e. family of origin, work environment, social network
<b>Dispositional Approach</b>	by contrast, emphasizes that stable individual traits lead to entrepreneurial activity, independent of context

Sociological vs. Psychological approach of entrepreneurship

### The why: contextual vs. dispositional

- It is important to understand the *why* because it helps us understand the implications for the performance of new firms founded by ex-employees
- **Selection** (disposition) – based
  - (innate) ability
  - (innate) preference (motivation, attitudes)
- **Treatment** (tenure, context) - based (acquired/developed) human capital
  - acquired/developed) preferences
  - opportunity costs
  - developed social network
  - exposure to a specific organizational culture

### 7.5. Other examples of contexts that influence entrepreneurship

#### **The public sector**

Why is there a low rate of entrepreneurship out of the public sector?

- high risk aversion, security (because the public sector is a safe place)
- inertia: too rigid to change
- specialize
- distaste for autonomy
- cost security, retirement

#### **PUBLIC SECTOR**

- Bureaucracy
- Task routinization
- Culture: conformist, cohesive
- Higher opportunity costs (seniority, & skills specialization)
- Extrinsic motivation
- Routinization of work tasks produces non-innovative individuals with low incentives to break out
- Specialist skills

#### **ENTREPRENEURIAL SETTING**

- Creativity
- Task variety
- Culture: deviant, autonomy (challenge assumptions/status quo)
- Lower opportunity costs
- Intrinsic motivation
- Task variety increases ability to recombine knowledge, & thus innovation (& thus entrepreneurship)
- Generalist skills

### Managerial implications

- If the objective is to make the bureaucratic organization more attractive for entrepreneurial individuals, then one may:
  - Change hiring procedures - send the right signals and perhaps outsource
  - Reform public sector climate - support learning, intellectual challenge and personal growth
  - Open up for individuals pursuing their own original ideas (increase task autonomy and variety)

### **Family**

Why do entrepreneurial parents have entrepreneurial children?

- Stylized fact: *Individuals with parents entrepreneurs are more likely to become entrepreneurs*
- Why?
  - Environment (**Nurture**) or genetics (**Nature**)?
  - Adoptive parents vs biological parents
- Result:
  - the probability of becoming an entrepreneur is 60% higher for individuals with parents as entrepreneurs
  - the effect of nurture is twice as large as the effect of nature (40%).

### Explanation for why nurture, i.e. contextual effect

- Inherited preferences or skills (human capital)?
  - Acquisition of generic human capital (NO)
  - Access to cheap capital from the parents (NO)
  - Inheritance of the family business (NO)
  - **Acquisition of industry or firm- specific human and social capital YES**
  - **Role Modeling YES**

Entrepreneurial parents may transmit the taste/preference for entrepreneurship via Role Modeling, i.e. by increasing children awareness of entrepreneurship as a career option or shaping their values, such as a preference for autonomy. Another example of the mechanism of Role Modeling can be found in *Peers Effects*, co-workers with previous entrepreneurial experience positively influences the likelihood that the employee will become an entrepreneur (Nanda & Sorensen, 2010)

### Wrap-up: contextual effect in opportunity identification

- What firm-level characteristics foster entrepreneurship?
  - Performance/prominence, age, size, shares of employees with entrepreneurial experience, location, innovation level, being venture backed, industry focus, innovation level, bureaucracy
- Explanations
  - Treatment: parent firms are sources of networks (social capital), knowledge/skills (human capital), signaling to investors (financial capital), opportunities (& opportunity costs)
  - Selection based on preferences & skills

### 7.6. How does the context influence the creativity?

#### **Opportunity identification**

- Entrepreneurs use cognitive frameworks and prior experience to connect the dots and identify opportunities with potential economic value
- Would-be entrepreneurs can be trained to recognize opportunities
- *Imagination, attitude and knowledge* (the inside of the innovation engine) are crucial to recognize entrepreneurial opportunities
- But *habitat, culture and resources* (the external context) plays an important role not only in recognizing an opportunity but also in exploiting it

#### **The Outside of Innovation Engine (contextual factors)**

- **Habitats** are your local environment (home, school, office)
- **Culture** is the collective beliefs, values and behaviors in your community (or workplace)
- **Resources** are all the assets in the community (or workplace)

## **PART III: THE PERFORMANCE: WHAT DETERMINES THE SUCCESSFUL ESTABLISHMENT OF A NEW VENTURE?**

What factors lead to the successful establishment of a new venture (and what is the impact of failure/exit)?

- From an economic perspective
- (Human capital and signaling theory)

### **8. HUMAN CAPITAL, STARTUP PERFORMANCE, AND FAILURE**

#### **Drivers of entrepreneurial performance**

Since entrepreneurship contains elements of opportunity and entrepreneurial individuals, 3 drivers of entrepreneurial success can be identified:

- ✓ Talent (human capital)
- ✓ Opportunity (Kirznerian vs. Schumpeterian)
- ✓ Resources (financial, social)

#### 8.1. Paper 1

Gimeno, J. et al. (1997). "Survival of the Fittest? Entrepreneurial Human Capital and the Persistence of Underperforming Firms", *Administrative Science Quarterly*, 42, 750-783

#### **Elevator pitch**

**Why is this paper so important (awarded as Foundational Paper in 2012)?**

**What is the notion of *threshold* and what are the mechanisms behind it?**

Firms with low thresholds may choose to continue /survive despite comparatively low performance

Determinants of threshold:

- Physic income (non-pecuniary benefits, family E experience, intrinsic motivation)
- Switching costs (age)
- Opportunity cost of staying vs. exiting and re-entering the wage sector

‘Survival of the fittest’: assumption is that you cannot adapt: if you don’t start right/strong, you will not survive

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

### **Classical organizational theory**

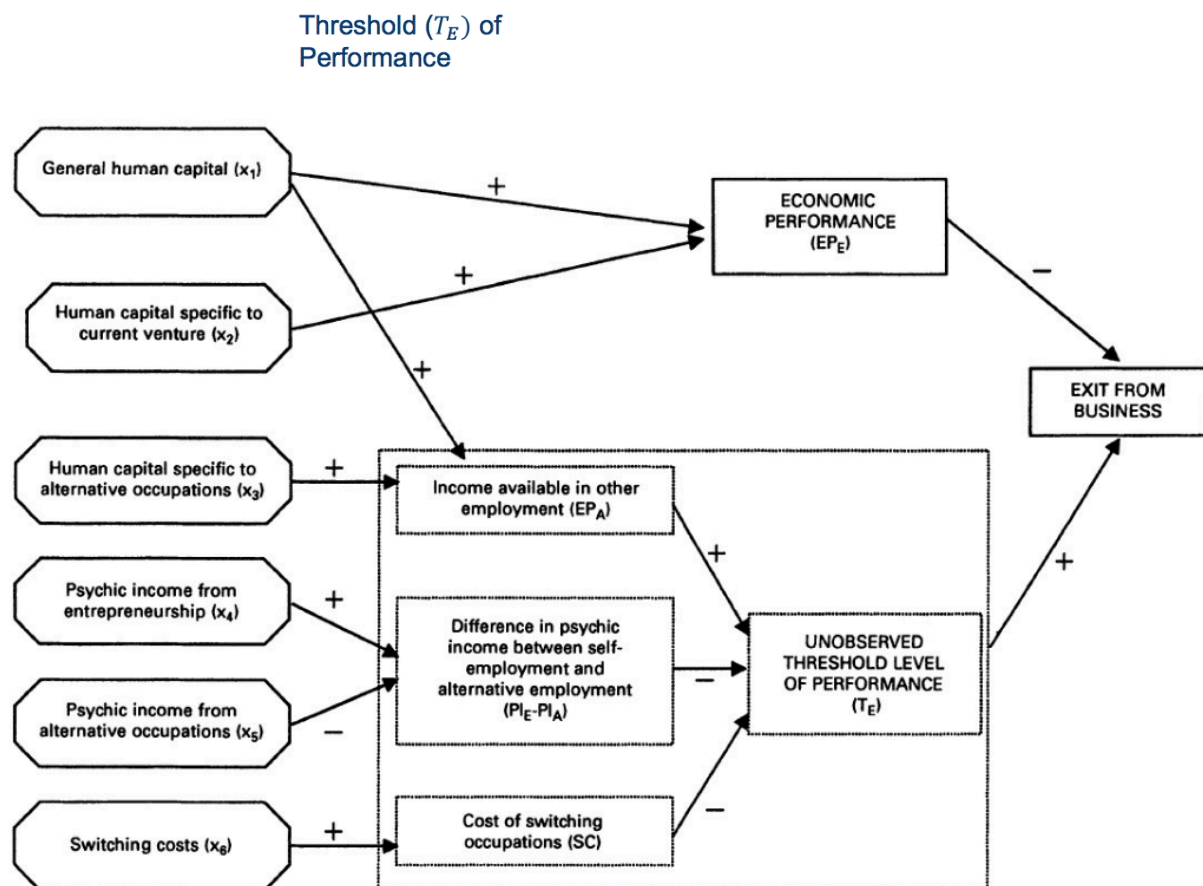
- (Firm) survival and performance are uni-dimensionally related: firms that perform well also are those that survive (and vice versa)
- “Positive Profits can be treated as the criterion of natural selection - the firms that make profits are selected or ‘adopted’ by the environment, other are rejected and disappear” Penrose, 1952  
⇒ Gimeno et al. challenge this view:
- We observe the phenomenon of persistence of underperforming firms
- Empirically we see that factors that shape performance are different from those that drive survival and vice versa
- Factors apart from economic performance may play a systematic role in shaping the survival of newly established firms
- Survival depends on:
  - Economic performance of the organization
  - Threshold of performance at which the firm will be dissolved, defined by the founder or the manager

### **The threshold of performance**

- To understand the drivers of the exit decision it is important to consider the founder’s perception or consideration of:
  - ✓ Opportunity cost of tied down resources
  - ✓ Expectation on future earnings
  - ✓ Value of non-financial gains
  - ✓ Non-owners interest groups may also put pressure on the decision to exit - perhaps less influential in small businesses and start-ups

- Discontinue venture if:  $U_E < (U_A - SC)$
- $U_E = EP_E(x_1, x_2) + PI_E(x_4)$
- $U_A = EP_A(x_1, x_3) + PI_A(x_5)$
- Discontinue venture if:  

$$EP_E(x_1, x_2) < \underbrace{EP_A(x_1, x_3) + PI_A(x_5) - PI_E(x_4) - SC(x_6)}_{\text{Threshold } (T_E) \text{ of Performance}}$$



## Measures

### Generic Human Capital

- Generic HC:
  - Formal Education - percentage of individuals with less formal education than entrepreneur
  - Management experience - highest obtained management position achieved by owner before venture
  - Supervisor experience - dummy for having supervised others
- Specific HC:
  - experience in a similar business prior to the venture

### Psychic income measure

- Entrepreneurship is often inherited - growing up with entrepreneurial parents makes you more exposed to choose that career path
- intrinsic motivation - “do not want to work for others” and “autonomy in choosing work task important”

### Switching Costs

- Age of the individual

### **Findings**

- Indeed, it is not necessary the least performing firms that exit industries
- Survival is enhanced by the performance but not fully determined by it
- Firms are clearly separated by differences in what is considered a good and a bad performance → performance thresholds for exit are different
- General human capital drives performance but not necessarily survival
- Specific human capital matters for performance but do not influence the threshold
- Entrepreneurs age (switching costs), family experience and intrinsic motivation (psychic income) lowers the threshold

### **Measuring entrepreneurial performance**

- Sales/Revenues/Turnover
- Venture Capital
- Profits/Returns on Assets
- Attract prominent board members
- Patenting/Technological/Innovation
- Salary of Founder
- Growth
- .... etc.

### **Ultimate measure of success**

- Survival
  - ✓ Captures the other measures at least partly
  - ✓ Suggestive of a minimum of success rather than a maximum
  - ✓ Not subject to substantial randomness
  - ✓ Indicates future promise of economic activity – not just current
  - ✓ Long term measure rather than short term perspective
  - ✓ Survival is consistent with the (Darwinian) selection logic



## The evolution of entrepreneurial exit (sum up)

- Firm exit = failure (Darwinian selection as opposed to adaptability)
- Firm exit not necessary = failure (Gimeno et al., 1997):
  - ✓ some underperforming firms persist
  - ✓ some performing firms exit
- Why?
  - ✓ Switching costs, non-pecuniary benefits, escalation of commitment
  - ✓ Outside options/opportunity costs (alternative job offers)
- Firm exit is failure? Depends on the type of exit (e.g. bankruptcy vs M&A/sell)
- From exit as outcome to exit as an individual strategic choice

## Relation between entry in entrepreneurship and exit out of entrepreneurship

= the economic approach to entrepreneurship

Factor	Entry in Entrepreneurship	Performance in Entrepreneurship	Exit out of Entrepreneurship
Opportunity Costs (outside options)	-		+
Non-pecuniary benefits	+		-
Human Capital:			
<i>Generic (education &amp; generic work exp.)</i>	+	+	+
<i>Industry-specific</i>	+	+	+
<i>Generalist (Jack-of-all trades) skills</i>	+	+	-
<i>Entrepreneurial experience</i>	+	+	-
Switching costs (age)	-		-

## [8.2. Paper 2](#)

Mahieu, J., Melillo, F., & Reichstein, T. Thompson, P. (2018). Shooting Stars? Uncertainty in Hiring Entrepreneurs. Working Paper.

### Elevator pitch

What theoretical mechanism do the authors propose to explain the wage penalty for former entrepreneurs?

What are potential alternative explanations?

How does this paper relate to the paper of Hamilton (2000) you have discussed in class 3?

## **What are the practical implications of the paper for entrepreneurs, policy makers, and firm managers?**

### **Post entrepreneurship outcomes**

Gimeno et al. (1997): What factors drive entrepreneurial performance, and the decision to exit?

- This paper: What factors influence labor market outcomes for entrepreneurs who have decided to exit entrepreneurship (because of failure, mismatch, ...) and return to a paid job?
  - 1 type of outcome: wages
  - 1 specific moment in time: At the moment the entrepreneur is hired in a new firm
- Exit out of entrepreneurship happens often and it happens relatively fast.
- Policy makers often promote entrepreneurship with the assumption that it holds option value of experimenting with new ideas ('Fail Forward' attitude):
  - Successful: Great!
  - Unsuccessful: No problem, try again or go back to a 'normal' job without being penalized for failing
- However, current evidence indicates entrepreneurs bear a significant wage penalty when returning to wage work

### **Current explanations for the wage penalty**

- Employers do not know the true quality of a new job applicant, therefore rely on signals to predict that quality (Spence, 1973)
- Entrepreneurial experience has negative signaling value
  - Skills or preferences that do not fit with wage employment context
  - Exit may signal failure → poor qualities
- However, scarce evidence for these interpretations

### **This paper: signal noise and entrepreneurship**

- Entrepreneurship holds low rather than high signaling value compared to a consecutive career in wage work:
  - Entrepreneur acts as his own reference
  - Becoming and staying entrepreneur is not per se a signal of high ability Earnings (~quality) of entrepreneurs are hard to gauge and are typically underreported
  - Exiting out of entrepreneurship is not always a signal of failure (cf. Gimeno et al 1997!)

→ (Short) spell of entrepreneurship increases uncertainty about fit in a new job in wage work

### **Uncertainty, wages, and job allocation**

- Theory predictions:
  - On average, entrepreneurs receive a lower wage than equivalent employees
    - Lower wage for doing the same job
    - Get 'bumped' to lower-ability, lower-paid jobs
  - The penalty is more severe for people who were top employees before becoming entrepreneur ~ the stars

## Why are entrepreneurs penalized upon re-entering the labor market?

### Penalizations:

- Higher uncertainty → lower wages for same job or lower job
- Stars are penalized more (more uncertainty)
- The more you stay, the less you are penalized
- If you go to work for large firms, you are less penalized

### Alternative explanation 1: Human capital depreciation

- Entrepreneurs' job-, firm-, or wage-sector atrophy during entrepreneurship
- Higher penalty for stars because assumed depreciation rates higher for higher ability jobs

→ inconsistent with our finding that most severe penalties occur for short spells

### Alternative explanation 2: Expected job mismatch

- Expected mismatch in terms of skills (generalist vs. specialist) and/or preferences (taste for autonomy, variety, risk >< culture in established firms)

→ assumes a homogeneous penalty for all entrepreneurs; inconsistent with findings of heterogeneous penalty

→ Inconsistent with our findings of a larger penalty in small firms, which mimic more entrepreneurial setting

### Alternative explanation 3: stigma of failure

- Exit is a stigma of failure – generalization based on stereotypes (statistical discrimination)
- If failure is on average correlated with poor ability, then this would explain the penalty

→ However, inconsistent with our findings of heterogeneous penalty

### Alternative explanation 4: storing

- Entrepreneurs may sort into lower-paying firms because of
  - Treatment of entrepreneurial experience to prefer more non-pecuniary benefits
    - Would predict a higher penalty for those who have a longer treatment (entrepreneurs who stay longer in entrepreneurship) >< our findings of stronger penalty for short spells
  - Innate preferences for non-pecuniary job features
    - Inconsistent with our findings of counterfactual of “not yet entrepreneurs”

### Alternative explanation 5: labor market frictions

- Maybe entrepreneurs who came from a high-paying job have more difficulties in finding a job
  - Unlikely to be the case; unemployment rates are higher among less able workers
  - Lazeal et al. (2016) show that the vacancy rates are also higher for high-paying jobs

## Relationship with Hamilton (2000)

- Does entrepreneurship pay?
- It seems that not only in entrepreneurship but also outside the entrepreneurial context (ex-) entrepreneurs earn less than similar employees.
- Important not to only look at returns from entrepreneurship during self-employment stage, but also how they might affect later career
- Future research: what are the long-term implications?

## 9. COGNITIVE BIASES & START-UP PERFORMANCE

### 9.1. Paper 1

Eggers, J. P., & Song, L. (2015). Dealing with Failure: Serial Entrepreneurs and the Costs of Changing Industries Between Ventures. Academy of Management Journal, 58(6), 1785-1803.

### Elevator pitch

- Research question: If the failure of the previous project/start-up has an impact on further projects

→ previous enterprise experiences have a positive impact on startup performances

→ previous failure → start-up performance

- Negative effect, when the entrepreneur failed, he wants to start over in another industry but doesn't have enough experience in this industry + wants to bring lessons from the past industry in the new industry and this doesn't always work out

→ previous failure → (+) change industry → (-) start-up performance

- Positive (+): attribution theory = blame external environment instead of themselves when the company failed
- Negative (-):
  - the moment you change industry, you lose your industry human capital and this leads to a lower performance of your start-up
  - When you change, you might not attract the right VCs (Social capital) because you don't have enough performance

- The 'change industry' is a mediator. He helps explaining the relationship between previous failure and start-up performance. Fait le lien entre les 2

### What are the underlying theories?

### What are the alternative explanations?

Alternative explanations of these findings. Why we see a (-) on performance or change in industry has (-) impact?

**According to you: to which previous reading(s) can this paper be related?**

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

Understand in an objective way what are the reasons for failure.

Then if the reason of failure is external (no more room for profitability in the industry/sector), then you should change sector. Most of the time it's the problem of the idea, the founding team, the entrepreneur himself. So, if there's a problem, you should really try to solve the problem and change the failure BUT stick to the industry.

If you have more founders and not only one, it's more difficult to find the true problem. There are team-level factors but also start-up failures (how it's organized, how the teams are structured etc, that's the second level).

3 levels:

- individual level
- the level of the firm
- the external level/ the industry

## 9.2. Paper 2

Hmieleski, K. M., & Baron, R. A. (2009). Entrepreneurs' optimism and new venture performance: A social cognitive perspective. Academy of management Journal, 52(3), 473- 488.

### **Elevator pitch**

- literature gap: there's literature on over-optimism but it has neglected entrepreneurs, they used settings where there are no entrepreneurs.

Here the contribution to the entrepreneur literature is about the relationship between over-optimism and the performance.

The only link that has been done before is between over-optimistic behavior and the fact these people tend to be more attracted to entrepreneurship.

Psychological trade literature was not able to explain entrepreneurship

But the psychological trade

Psychological doesn't change.

But cognitive trades are affected by the government. In this relationship what type of environmental relationship has been taken into account? = dynamic environment/sector: you have the possibility to change in the environment.

For example, the hotel industry is very slow and on the contrary the pharma industry is very dynamic and changes all the time

- relationship:

over-optimism → (-) startup performance

Factors that are moderators:

- environmental dynamism (macro-level factor) strengthens the relationship (= moderation factor/effect) (-)
- entrepreneurial experience: strengthens the relationship (+)

aller voir photo!!

By selecting only entrepreneurs, they can only see the negative relationship because previous research entrepreneurs tend to be overoptimistic. They do not find entrepreneurs that are not overoptimistic, so you can only see the right side of the graph. We don't have information about the left side => no entrepreneurs that under optimistic

### Depict & explain the theoretical model

Compare the psychological approach we saw in class 2 with the cognitive approach used here and in Paper 1 (Busenits)

Psychological approach	Cognitive approach (behavior)
How you are	How you think
Focus at individual level only	Focus at individual level + includes social dimension (interacting with people/ the context/ the environment)
Nature	Nurture: ways of thinking are coachable and adjustable
Stable characteristics	Depends on situations (cfr: contextual approach)
	Closely related to specific behavior

What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples

[9.3. slides](#)

### Betting on the horse or on the jockey?

→ on the jockey

→ "I was always interested in investing in people" Arthur Rock, Venture capitalist

### The role of personality traits in entrepreneurship

All the personality traits examined by researchers are more or less uncorrelated with entrepreneurial success. Failure of the psychological approach based on traits to explain performance

Personal Characteristic	Demonstrated effect on entry in entrepreneurship	Demonstrated effect on entrepreneurial success
Need for achievement	Yes	No
Over-optimism	Yes	negative
Risk aversion	Yes	Not known
Creativity	Not known	Not known

## The evolution of the psychological approach to explain entrepreneurial performance/ exit: Cognition

- Researchers attempting to discover traits that distinguish successful entrepreneurs proved largely unsuccessful
- Recently, psychologists have renewed interest in entrepreneurs' personal characteristics as predictors of success by moving beyond the past focus on traits to study attitudes, motivation, & cognition.
- A cognitive perspective on entrepreneurship to help understanding how founders interpret their situations and react to them
- Cognition: is the way in which we interpret, analyze, remember and use information. It is the set of all mental abilities and processes related to knowledge, attention, memory, judgement, problem solving

### From traits to cognition – the cognitive approach

- How you think and how this impact your behavior. How you make decisions.
- Individuals store prior information in mental representations of the world around them. These representations are then activated by new info that is encountered in the external environment, allowing individuals to categorize the new info and to make judgments
- Differences with the notion of personality traits
  - How you think vs. who you are
  - Focus at individual level but include a social dimension (interacting with people/the context/environment)
  - Ways of thinking that are coachable and adjustable (nurture vs nature)
  - Depends on the situations, not stable characteristics
  - Closely related to specific behavior

### Entrepreneurial cognition- key themes

However, this model of decision making is far from rational: cognitive processes are influenced by bias and error

Differences in cognition	Are there measurable differences between the cognition of entrepreneurial individuals and others, both in terms of content (i.e. what they think about) and process (i.e. how they think)?
Opportunity perception	How does the cognition of entrepreneurial individuals help them to be more alert to opportunities and/or more capable of exploiting them?
Cognitive biases	What kinds of cognitive biases (i.e. mis-interpretations of evidence) are associated with entrepreneurial decision-making?
Creativity	How does the cognition of entrepreneurial individuals help them to be more creative, both in terms of 'creating opportunities' and in addressing entrepreneurial challenges (e.g. raising finance, gaining legitimacy)?
Developmental cognition	How does a person's cognition affect the way that they learn, and how can formal approaches to learning take these factors into account?

## Cognitive biases

- Deviation in our thinking, judgment, and memory. Cognitive biases lead to a perception, judgment, or memory that reliably deviates from reality
- "System 1" is fast, instinctive and emotional; "System 2" is slower, more deliberative, and more logical (e.g. failure exercise)
- The brain processes information differently when you make a fast and intuitive decision compared to when you reflect on a problem
- Detachment from reality
- Entrepreneurs who are aware of the biases that govern their thinking can do more to check their biases before making decisions that may affect their chances of becoming successful

### 9.4. The effect of cognitive biases on exit

#### Cognitive biases delay exit

- Managers and entrepreneurs frequently destroy significant value by failing to shut down underperforming businesses in a timely manner. The persistence of underperforming firms.
- If you are a founder you are overoptimistic, overconfident and in the end, you exit later than you should have exited. Behavioral and cognitive biases are reasons for it.
- To address this problem, we must understand the mechanisms causing exit delay. So far what else affect Exit from Entrepreneurship? (previous class). Rational reasons to delay. Exit is a decision not an outcome.
- There are also behavioral rationales causing delay, namely the existence of cognitive biases.
- Elfebein and Knott (2015) examine behavioral rationales causing delay through a laboratory experiment in which subjects make decisions about when to exit a failing venture.
- They find that "equity stakes" – being a co-founder– cause participants to discount negative performance information, retain overly optimistic beliefs, and delay exit. By contrast, participants without these high-powered incentives (employees) exit nearly optimally.
- Overconfidence is the main interpretation behind the decision to delay exit
- In short, behavioral biases may contribute to delay exit out of entrepreneurship



## Behavioral exit delay

- The leading theoretical explanation for behavioral exit delay in the management literature is **escalation of commitment** (Staw, 1976, 1981). Escalation of commitment refers to a class of phenomena with three characteristics: investment toward a goal (equity stakes!), repeated decisions in the face of negative feedback, and uncertainty about outcomes. Under these conditions, actors may be slow to abandon their initial decisions due to limitations or biases in information processing.
- Ex.: prof when she writes a paper, you make an investment and the others work not so well. Normally you should stop but because you've put so much time on it you don't want to stop
- Cognitive biases resulting from escalation of commitment affect the ability of managers to make accurate inferences about the firm's costs, the state of demand, and expected future profitability 2 types of mechanisms for WHY cognitive biases can delay exit: (1) influence the strength of prior beliefs; (2) influence the updating of those beliefs. These mechanisms suggest that, in the face of noisy but predominantly negative signals, estimates of future profitability will be too high, leading to exit delay relative to rational benchmarks. Entrepreneurs use system 1 in important decisions. Using system 1 might lead you to the wrong choices and might cause a (-) impact on performance

## Mechanisms affecting the magnitude or strength of prior beliefs

- *Anchoring* (Tversky and Kahneman, 1974), the tendency to rely too heavily on initial reference points. You stick with your value proposition
- *Status quo bias* (Samuelson and Zeckhauser, 1988), the tendency to maintain a behavior unless there is a compelling reason to change. When you work for the government for example, you try to propose new ideas, and in the end, they always say no to your propositions
- *Overconfidence* (Roll, 1986), the tendency to overestimate one's own ability.

## Variants of overconfidence

- Overplacement: Erroneous belief that you are better than others.
  - 93% of American drivers rate themselves as better than average drivers (Svenson, 1980)
  - 70% of MBAs rate themselves as above average in leadership abilities (just 2% below)
  - 68% of college professors believe their teaching abilities to put them in the top 25% (Cross, 1977)
- Overestimation: Erroneous belief that you are better than you are.

## Overconfidence & entrepreneurship

- Entry into Entrepreneurship. Overconfidence can be beneficial to entrepreneurs when they decide to found their own startup. A higher level of confidence is likely to encourage founders to take action before they have all the information necessary to fully evaluate the situation, because they are more likely to focus on own abilities instead of on the external environment.
- Performance. Founders may overestimate their ability to attract resources and thus start with less seed funding or be too optimistic in their assessment of consumer demand. High levels of optimism were associated with decrease in revenue growth and employment growth. If you are overconfident, your performance can decrease because for example you overestimate your capability of attracting resource. If you are overconfident you might think that you will make it in the end etc.

- Exit. Founders who are convinced of the value of their startup will be more comfortable with rejecting acquisition offers from companies they believe are offering a too low price
- Practical implications. Founders should hope for the best, but assume the worst, when creating a business plan and securing seed funding. Founders should also find realistic goals by researching industry benchmarks and best-practices, and then work to communicate these goals to investors and employees. This gives the founder more credibility and avoids difficult situations down the road when lofty expectations are not met.

### **Mechanisms affecting individuals' ability to interpret new information and incorporate it in estimates of future outcomes**

- *Self-serving attribution bias* (Miller and Ross, 1975), the tendency to treat successful outcomes to one's own skill and unsuccessful outcomes to bad luck
- *Confirmatory bias* (Lord, Ross, and Lepper, 1979), the tendency to interpret information in a way that confirms preconceptions; basically, you don't see reality objectively, but you see reality only as confirmatory of your hypotheses
- *Motivated reasoning* (Kunda, 1987), the tendency to accept desirable information, but scrutinize or discard undesirable information (to avoid experiencing cognitive dissonance). You select only part of reality, i.e. that part that is desirable according to you
- These mechanisms imply asymmetric updating in which founders place more weight on positive signals and less weight (or none at all) on negative signals when forming posterior expectations about future profitability

### **Other Cognitive Biases that characterize entrepreneurs (Paper 2)**

<b>Cognitive Bias</b>	<b>Definition</b>
<i>Over-optimism</i>	A belief that you are less likely than others to suffer from bad events and more likely to experience positive events.
<i>Illusion of control</i>	You believe that what is out of your control (such as throwing the dice) can be affected by you
<i>Case-based reasoning (Representativeness)</i>	You make judgments based on similar cases rather than on statistical evidence

### **Over-optimism in entrepreneurship**

- Optimism is good. Some people feel luckier than others. These people are happier, they are more popular and live longer. They take more risk and are better rewarded in the labor market.
- Over-optimism is related to the choice of becoming an entrepreneur.
- Over-optimism is also related to entrepreneurial performance. The presentation of the information in the previous case may have biased your assessment of the opportunity, thus leading to unsuccessful ventures
- Over-optimism can also be related to exit decision. Over-optimistic founders delay the decision to exit because they think the prospect can turn positive or they are not so negative.

- Example: You are considering buying a bed and breakfast in Gif, just south of Paris. Gif is one of the villages around Paris with the highest per-capita income. The B&B is located on a beautiful property overlooking the valley and you have both direct morning and evening sunshine. The house has five beautiful guest rooms and is within ten km of several large research institutes and universities. You are able to get the house reasonably cheap as the previous three owners have been unsuccessful at making money running the B&B.
- Would you buy it?
- Overconfident people would buy it because they tend to overlook the fact that it failed before

### **Illusion of control**

- People are likely to overestimate their control when the situations are heavily chance-determined. They see themselves as responsible for events when there is little or no causal link.
- Ellen Langer (psychology professor) did a couple of famous experiments on students in 1975.
- Subjects are either given tickets at random or allowed to choose their own. They can then trade their tickets for others with a higher chance of paying out. Subjects who had chosen their own ticket were more reluctant to part with it. Although these lotteries were random, subjects behaved as though their choice of ticket affected the outcome. Because they chose the lottery ticket it would probably be the winning ticket, they think.
- Every day at noon a man shows up at a street corner in Leuven waving a green flag. Then he goes away. A police officer notices this man's behavior. He approaches the man and asks, "What the heck are you doing?" The man replies, "Keeping away the giraffes." "But there are no giraffes around here," the officer answers back. "Then I'm doing a good job, ain't I?" This is an example of cognitive bias (illusion of control): the fact that things are due to luck, but you still think it's under your control

### **Case-based reasoning (representativeness)**

#### Example 3A

- You are planning to start a business as soon as you finish the master. It will be built on a new web search algorithm than one of your friends has developed.
- You believe your friend has the right programming skills, as he graduated is a top-rated school.
- You believe you have the business skills having gone through all entrepreneurship courses and also working with the KU Leuven incubator for 1 year.
- Although the algorithm is working you know that creating a viable search engine will require lots of additional programming, but you and your friend is willing to put in the effort
- What are the chances that you will launch this product within one year?

#### Example 3B

- You are planning to start a business as soon as you finish the master. It will be built on a new web search algorithm than one of your friends has developed.
- I tell you that based on data from 79 other software projects, the average time to develop a search engine is 4 years, with an 80% chance that it will finished being between two to six years
- What are the chances that you will launch this product within one year?

- In the former case 3A you made an estimate based on the case at hand and made forecasts based on your knowledge of the case and a forecast of what would happen in the future. You took *the inside view*. This is “*case-based reasoning*”.
- In the latter case 3B you made an estimate based on information about the rate of completion time. You did not make any forecast of how quickly you yourself would progress. You took *the outside view*. It is also called to anchor the estimate on the “*base rate*”.
- It turns out that taking the outside view is much more predictive of what will happen in the future than taking the inside view.
- When people make predictions based on single cases and future plans they tend to be extremely optimistic and ignore the possibility that “shit will happen” which is unrelated to your ability to overcome difficulties.

### **Summing up the cognitive approach**

- We have seen how cognitive biases affect how you think.
- The brain has one fast decision-maker and one slow decision-maker. The fast (automatic) part is engaged so that we can make quick decisions when in danger, or control things easily when not engaging the brain a lot. It is effortless.
- However, when you need to think logically and reason about something the second part should kick in – the slow part. The second is only activated when you make an effort to do so.
- When you do not activate it, it is common to make a cognitive mistake on a problem that requires mental effort.
- The cognitive biases work illustrate various facets of how the brain makes decisions when operating in the “fast and intuitive” regime.

### **Distinguishing characteristics of high performers**

- So, back to Arthur Rock: what he would be looking in people?
  - Personality traits?
  - Cognitive biases? But there are ways for VCs to deal with optimism and overconfidence. E.g. VCs can write “contingent contracts”
  - Finding direct indicators of ability to perform well in entrepreneurship is an open question
 A strong predictor of success as an entrepreneur is previous salary as an employee, and salary is a function of ability (Elfenbein et al., 2010).

### **Summary psychological approach**

- Earlier research focused on search for distinctive entrepreneurial traits or personality characteristics. These ideas remain popular and influential but note limitations and subsequent advances.
- Other personal characteristics seem important to predict new firm performance, such as tenacity and passion, but only indirectly
- Recent research on entrepreneurial cognition provides some interesting insights in areas such as cognitive biases.

## **10. EXPLOITING ENTREPRENEURIAL OPPORTUNITIES**

## **11. SOCIAL FACTORS & START-UP PERFORMANCE**

### **11.1. Paper 1**

Chatterji, A. K. (2009). Spawned with a silver spoon? Entrepreneurial performance and innovation in the medical device industry. Strategic Management Journal, 30(2), 185...

#### **Elevator pitch**

- Key independent variable: industry experience accumulated through work experience in a previous company
- Key dependent variable: performance (access to funding or time to the first round of financing)
- relationship: positive => being a spinoff has positive effect on performance
- Spinoffs/spinout: companies founded by entrepreneurs that have company experience
- research gap: most of previous literature had focused on the probability to found a company/ become entrepreneur
- the key contribution: the why of the relationship: why does spinoff have a positive effect on performance?
- Possible explanations behind this why:
  - The idea is that they perform better because they inherit the knowledge from the parent company
  - non-technical knowledge\*: firms that have related parent firms are faster in getting the FDA
  - Spinoffs are more likely to be funded, why? signaling explanation, if you are attached to a prestigious company before, then it means you're quite good, because it's hard to enter in this specific company (e.g. McKinsey)

\*non-technical knowledge:

- marketing: the ability to sell to this particular technology
- regulatory
- identification opportunity

**Why do the parent companies affect new venture performances? Identify the key explanatory mechanisms**

**Compare this paper with prior readings on the role of contextual (organizational) factors in entrepreneurship**

- Fairchild view: small, young E firms spawn more firms. But Chatterji: Established firms spawn better firms
- Selection vs treatment as alternative explanation: spinoff outperforms other entrants simply because they are better (selection) not because they learned from parent firm (treatment) → but hard to verify

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

## 11.2. Paper 2

Dahl, M. S., & Sorenson, O. (2012). Home sweet home: Entrepreneurs' location choices and the performance of their ventures. *Management science*.

### **Elevator Pitch**

- key dependent variable: performance (survival and profit)
- key independent variable: location choices
- regional embeddedness: how many years you have lived/stayed in a city
- research gap: the evidence is that: a lot of entrepreneurs locate close to home, but strange because you should locate where you have the greatest economic advantage. BUT WHY? this is the research gap.

2 expectations:

- to be close to family and friends: predicts a negative effect on performance because non-financial benefits (Hamilton paper) they compensate money with family and friends
- social capital and knowledge: will have a positive impact on knowledge

2 mechanisms were highlighted in the paper for the fact that a person stays near his home for the social capital and knowledge:

- opportunity identification
- opportunity exploitation/ resource mobilization

the spinoff explanation: you work for an established company and you will be located next to your parent company, that could have an industry effect

link w/ previous literature: with performance and using survival as a performance measure: pas etendue

**Identify possible explanations behind the two possible types of location choice: close to home or in a cluster (also think of explanations beyond the paper).**

**Compare & contrast. To which other previously discussed paper(s) this article can be related to?**

**What are the practical implications of the paper for you? Do you agree with the conclusions of the paper? You can support your arguments with examples**

### 11.3. Class – Social factors and start-up performance

#### Sociological approach

#### Liability of newness & start-up performance

- There is a negative relation between firm age (X) and firm mortality rate (Y)
- **Liability of newness** (Stinchcombe, 1965). Firm age.
  - new firms suffer from lack of legitimacy (reputation). Why?
  - the quality of the new firm is unobservable due to lack of track records.
  - Hence, strong information asymmetries. When there are strong information asymmetries signals matter.
  - Resource providers rely on signals = imperfect measures of quality. Examples?
  - Social capital is central – the endorsement (signaling) effect
- There is also a liability of smallness (Freeman, 1983). Firm size.
  - Explanations: exogenous shocks (lack of resources), talent attractions
  - Access to external funding (larger size) increases start-up performance.
- Start-ups lack liability, so the quality becomes unobservable. You as VC, potential employee, you will look at signals to reduce the information asymmetry

#### Types of potential entrants into a market (firm level)

- Helfat, C. E., & Lieberman, M. B. (2002). The birth of capabilities: market entry and the importance of pre-history. *Industrial and Corporate Change*, 11(4).
- They classify the firms entering into a market according to their heritage and in particular to the **strength of their tie** to their incumbent firms (e.g. industry tie)
- Types of entrants (strength of tie) vary in their initial resource endowments and experiences, which in turn conditions organizational outcomes such as failure
- What types of entrants do you know?

Name	Definition	Tie with Parent Firm (heritage)
Diversifying Entrants	Established firms entering new or established markets, by internal growth or external growth (acquisitions). Same legal entity.	It is the same company (max tie)
<b>Corporate spinoffs</b>	New firms founded by established firms. As an alternative to diversification established firms may choose to enter markets by setting up legally separated companies.	Separate legal entity but the new firm receives financial resources, personnel, organizational system, physical assets, brand name, management advice etc.
<b>Spinouts/spinoffs</b>	New firms founded by employees previously working in an established firm in the same industry of the start-up. Separate legal entity.	Independent, but the founder inherits industry-specific human and social capital
De novo	New firms founded by employees with no tie to established firms in the same industry (employees in a different industry, individuals with no working experience, such as college drop-outs, or unemployed). Separate entity.	No tie with the parent company. Industry-specific resources are not redeployable in the new venture context.

- Diversifying entrants: P&G, Walt Disney
- Parent company: Kraft Mondelez, KULeuven
- Spinout/spinoffs: Intel, Walmart

- De novo: Facebook

The spinout advantage: A stylized fact that spinouts outperform other types of firms

### **Why do spinoffs/spinouts outperform de novo firms?**

- The “why”
  - Learning effect (human capital), which also include learning about high quality entrepreneurial opportunities.
  - Signaling effect (social capital which affects financial capital).
- While human capital you can take it with you, social capital deteriorates with geographical distance (paper II today)

### **What type of knowledge entrepreneurs inherit from their parent firm?**

A human capital explanation of the spinout advantage

#### Human Capital

*Entry by spinoffs from incumbent firms is investigated for the laser industry. A model in which spinoffs exploit knowledge from their parents is constructed to explain the market conditions conducive to spinoffs, the types of firms that spawn spinoffs, and the relationship of spinoffs to their parents. The model is tested using detailed data on all laser entrants from the start of the industry through 1994. Our findings support the basic premise of the model that spinoffs inherit knowledge from their parents that shapes their nature at birth. Implications of our findings for organizational behavior, business strategy, entry and industry evolution, and technological change are discussed.*

### **Prior Experience and Human Capital (knowledge)**

- Individuals possess the ability to acquire knowledge - learning capabilities
- This knowledge becomes part of an employee’s human capital
- Part of this organizational know-how is transferable. Part of this is difficult to appropriate (tacitness)
- Setting up a venture requires:
  - Organization skills (routines, organizational practices)
  - Managerial skills (included human resources skills)
  - Industry-specific skills such as:
    - Technical knowledge: Operational skills
    - *Non-Technical knowledge: Regulatory, marketing, ability to identify profitable opportunities (paper I)*
- Performance of new ventures is profoundly shaped by overlap in skills
  - requirements in new and prior work environment (extent of HC redeployability)

### **We already know that...**

- Entrepreneurship is a “socially situated” phenomenon: you have more chances of discovering an entrepreneurial opportunity if you are here (in this context)
- Firm originates from other firms – Entrepreneurs are organizational product



- Most individuals identify opportunities while working for an employer
- Innovative firms are more likely to feed the generation of new ventures (remember the 2 views!)
- From “who produces more entrepreneurs” (class 7) to “**who produces better entrepreneurs**” (class 11)?
- High-performing parent firms, small firms produce better entrepreneurs

### Spinoffs and clusters

- Location choices: home sweet home (Paper II) vs clusters?
- Spinoffs are associated with clusters, i.e. geographical concentration of industries
- In autos, semiconductors, and lasers, firms located in industry clusters spawned spinoffs at a higher rate (Klepper, 2009)
- Spinoffs disproportionately entered in the centers of the industries (Detroit, Akron, and Silicon Valley respectively) and the joint market share of spinoffs and their parents exceeded the pre-spinoff market share of their parents, suggesting that spinoffs were more than a zero-sum phenomenon.
- Why do clusters emerge?

### Why do clusters emerge?

#### Economic perspective

- The agglomeration economies
- Economists would also rely on Marshall’s (1922) three agglomeration economies arguments:
  - common resource sharing (specialized input suppliers)
  - labor pooling
  - information spillovers
- In economic terms, there is a utility to locating close to your competitors for the process of starting a business given access to specialized resource providers or customers. Colocation is rational.
- However, once a business is started, close location to competitors provides several disadvantages leading to higher failure rates

#### Sociological perspective no1

- The importance of social networks for entrepreneurship
  - Entrepreneurs need exposure to existing organizations to acquire tacit knowledge, and obtain important social ties (Sorenson and Audia, 2000)
  - Entrepreneurs cluster because they find it difficult to leverage the social ties necessary to mobilize essential resources when they reside far from those resources” (Stuart & Sorenson, 2003)
- Ex.: clusters of shoe plants in 1989
  - This is an industry that should not need to be geographically concentrated
    - It relies on cheap, common and known technology
    - It relies on unskilled labor
    - There are low economies of scale, most firms are small
    - Consumers are distributed
    - Raw materials don’t cost much to transport
  - Yet, the shoe industry is persistently quite geographically concentrated

## Sociological perspective no2

- The heritage (spinoffs/spinouts) explanation:
  - Spinouts tend to locate close to their parent firm (same region)
  - Spinouts are more successful than other startups, so they survive longer
  - Better-performing parent firms produce better spinoffs. In fact, firms that spawned spinoffs subsequently experienced an initial rise in their hazard of exit and decline in their innovation performance
- These facts have been validated in a number of industries: auto, tires, semiconductors, disk drives, and lasers and in a number of countries
- Ex.: clusters of US tire companies in Ohio
  - the Akron tire cluster was fueled by spinoffs following the chance location of the first great firm in the industry (in this case Goodrich, spinoffs were e.g. Goodyear and Firestone)
  - Same results for Detroit the US auto industry cluster.
  - The agglomeration of firms in Silicon Valley is due to the creation of high competence spinoffs following the birth of Fairchild Semiconductor the early leader in semiconductor industry
  - They suggest the successful entrants that made the cluster grow were spinoffs of the most successful incumbents [they benefitted from ‘heritage competences’ rather than from agglomeration economies]. P.706 « [our alternative view] attributes the subsequent growth of the Akron cluster to an endogenous process in which incumbent firms involuntarily spawn spinoffs. Better firms are predicted to spawn more and better spinoffs, which can explain the build-up of successful firms around the early Akron entrants that was instrumental in the growth of the Akron cluster”.

## **How do social networks matter for performance?**

- The impact of social networks on start-up performance depends upon the *structure* of those networks more than on their absolute size.
  - Larger networks convey a greater amount of resources for entrepreneurs (Aldrich & Reese)
  - But these resources can be redundant if the contacts in the network are not *diverse* enough.
- Social networks are critical for opportunity identification
  - They are useful to get ideas and access information about relevant opportunities (Singh et al., WP, 1999; Hoang & Young, WP, 2000). Information corridors
  - ..... in particular ‘weak ties’ (Elfring & Hulsink, 2003).
  - Creativity & innovation come from “connect and combine” dots
  - Since the creation of a new idea comes from connecting and combining diverse knowledge being in a diversified network (weak ties) enhances the ability to identify innovative opportunities
- Social networks are critical for resource mobilization (opportunity exploitation)  
Social relationships have signaling effect (information asymmetry)
  - Access to financial capital
    - Valuable info on the entrepreneurs through shared networks (rather than from the entrepreneur) help VCs to fund the right firm (Shane & Stuart, 2002)
  - Recruitment of skilled labor

- Shared networks help prospective employees assess the new venture prospects
- Access to tacit knowledge
  - Strong ties to incumbent firms (e.g. by working as an employee) ease access to e.g. uncodified technical knowledge (Sorenson & Audia, AJS, 2000)

**“The value of regional embeddedness on startup performance may vary by industry” (Dahl & Sorensen – Home Sweet Home)**

- Other cities are rising in relative importance as a result.
  - Miami-Fort Lauderdale area first for startup activity in America
  - Mr. Thiel is moving to LA, with a vibrant tech scene
  - Phoenix and Pittsburgh have become hubs for autonomous vehicles
  - New York for media startups
  - London for fintech
  - Shenzhen for hardware.
- None of these places can match the Valley on its own; between them, they point to a world in which innovation is more distributed.