



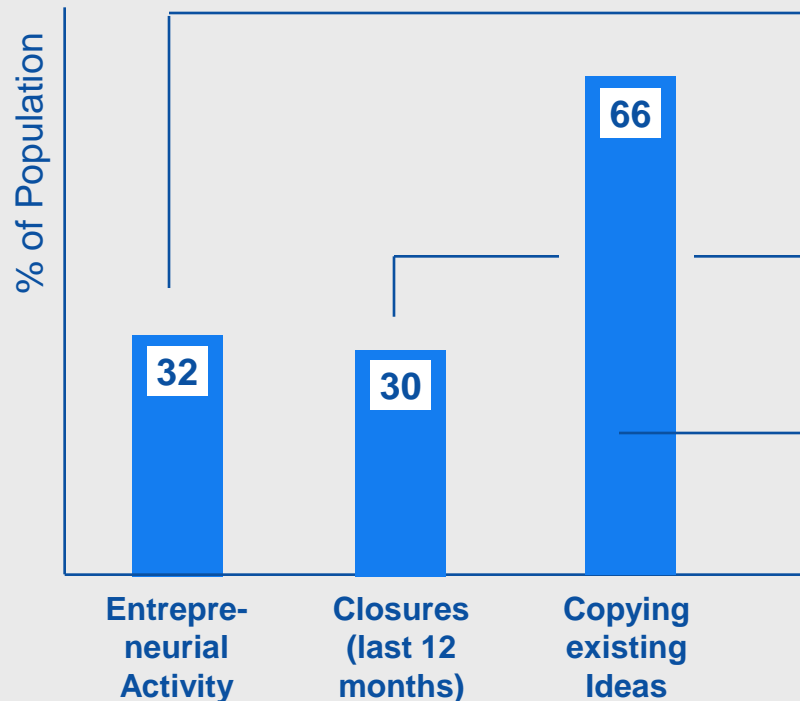
The Interplay of Creative Ability and Diverse Information in the Entrepreneurial Process

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Entrepreneurs in Uganda: High in Starting, High in Failing, Low in Innovation

Entrepreneurial Activity in Uganda

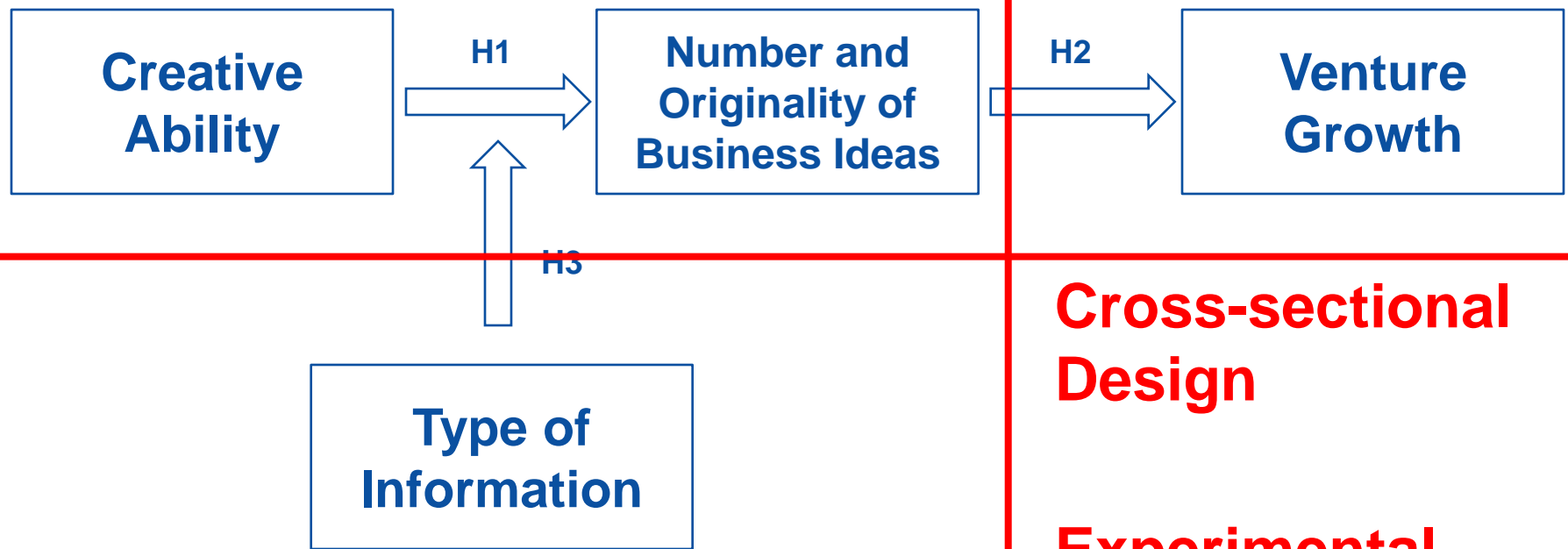


- **Second highest Entrepreneurial Activity (TEA) in the world**

- **Failure rate as high as start-up rate**

- **Most new businesses just copy existing products or services**

Promoting Identification of Innovative and Sustainable Opportunities in Uganda



Cross-sectional Design

Experimental Design

Promoting Identification of Innovative and Sustainable Opportunities in Uganda

Underlying Rationale for Hypotheses #1 and #2

- Creative Ability = ability to combine information to generate multiple and original ideas (Guilford, 1950; Osburn & Mumford, 2006)
- Ideas are precursors of business opportunities (Dimov, 2007; Locke & Baum, 2007)
- Original ideas should result in products with unique properties. Such products should provide a stronger competitive advantage and lead to higher venture growth (Ahuja & Lampert, 2001; Kirchhoff, 1991)

Possible Recommendation for Ugandan Entrepreneurs

Be more creative and generate original ideas!

Promoting Identification of Innovative and Sustainable Opportunities in Uganda

Underlying Rationale for Hypothesis #3

„Some people are more likely than other people to discover opportunities because they **have information** that the other people lack“ (Shane, 2003: 45)

Possible Recommendation for Ugandan Entrepreneurs

▶ Look for more Information!

... but what type of information?

Trade-Off between Constrained Information vs. Diverse Information?

Look for...

Constrained Information

- restrict search to domains people are “experts” in
- only information from a limited number of domains
- enables people to link new information to existing knowledge (cf., Shane, 2000)
- considerable evidence for the effectiveness of constrained, systematic search (Fiet, 2002; Fiet et al., 2004, 2006, 2007; Fiet & Patel, 2008)

vs.

Diverse Information

- diverse information facilitates generating **original** ideas
- focusing only on a single domain can become a “fence”
- diverse information = diverse associations = **original** ideas (cf., Mednick 1962)
- a lot of evidence for the beneficial effect of diverse information (Baughman & Mumford, 1995; Mobley et al., 1992; Mumford et al., 1996)

The Importance of Creative Ability for Processing Diverse Information

Underlying Rationale for Hypothesis #3

- **In the case of diverse information: strong relationship between creative ability and business ideas**
 - diverse information directs associational and combination processes into various directions
 - low creative ability: not able to make such associations and combinations = low performance
 - high creative ability: able to combine diverse information = high performance
- **In the case of constrained information: weak relationship between creative ability and business ideas**
 - low creative ability: creative outcome is limited anyway
 - high creative ability: become fixed by constrained information; no remote associations (Perttula & Sipila, 2007; Runco & Chand, 1995)

Method: 98 small business owners in face-to-face interviews

- **Sample:** 98 small business owners from Kampala selected from member lists of small business development organizations (refusal rate: 34%)
- **Procedure:** Face-to-face interviews

Method

- **Creative ability**

- Consequences test (Christensen, Merrifield, & Guilford, 1953)
- Four statement; example: *“What would be the results if suddenly no one could use their arms or hands?”*
- Fluency and flexibility ratings (ICC’s: .98-.99) combined to scale ($\alpha = .86$)

Method

- **Business Ideas**

Lifelong learning in Uganda

You are watching the news on TV and you hear that nowadays skills and competencies become more important. There is still room for improvement in the education system in Uganda. Although it rather seems to be a governmental or political issue, the news say that this is a huge new market with a big profit potential because people are more and more willing to pay privately for their own and their children's education. Lifelong learning is the new trend.

What business ideas come to your mind? Please list as many business ideas for new products or services as possible. The ideas may or may not be related to your current business.

Method

- **Business Ideas**
 - Number
 - Originality
 - Diversity
 - based on Dean et al. (2006)
 - ICC's between .82 and .89

Method: randomized experimental design for Diversity of Information

- Diversity of Information

Constrained Information (n=46)

Founding mechanical schools.

Founding an internship agency to foster job skills.

Starting a training centre which provides on the job training.

Developing a program that combines university with the job.

Diverse Information (n=52)

Offering after work refresher courses.

Developing learning board games for kids.

Starting a training centre which provides specialized courses for senior citizens.

An internet platform where people can exchange knowledge.

Method: randomized experimental design for Diversity of Information

- **Diversity of Information**

- Pilot study with 22 participants with same scenario to establish a two-dimensional goals-by-means matrix (Nijstad & Stroebe, 2006)
- Identification of six possible goals (e.g., educate older people) and 11 possible means (e.g., via learning networks)
- Diversity is represented by different categories
- Constrained information: four bits with the same goal
- Diverse information: four bits with different goals and different means

- Again: ratings of number, originality, and diversity of ideas

Method

- **Venture Growth**

- Average percentage increase or decrease of profits, sales, and customers of the last three years (2004-2007) (Krauss, Frese, Friedrich, & Unger, 2005)
- Scale based on the three indicators profits, sales, and customers ($\alpha = .89$)

- **Controls**

- Cognitive ability (Raven Advanced Progressive Matrices Test)
- Firm size (number of employees)
- Gender
- Industry (manufacturing vs. service)

Results

- **Manipulation Check**

- Diversity of Information between groups; test of mean differences
- Before manipulation: $t = -1.24$, $p = .22$; After manipulation: $t = 2.00$, $p < .05$

- **Hypothesis 1: Creative Ability is positively related to Number and Originality of Business Ideas**

	Business Ideas (before manipulation)			
	Number		Originality	
	β	Change in R^2	β	Change in R^2
Base Model				
Controls		.02		.06
Full Model				
Creative Ability	.30**	.08**	.42**	.17**

Results

- Hypothesis 2: Number and Originality of Business ideas are positively related to Venture Growth**

		Venture Growth		
		β	Change in R ²	
Base Model				
Controls			.02	• Data does not confirm hypothesis for Number of Business Ideas
Full Model (separate analyses)				
Number of Business Ideas (before manipulation)		.04	.00	• Data confirms hypothesis for Originality of Business Ideas

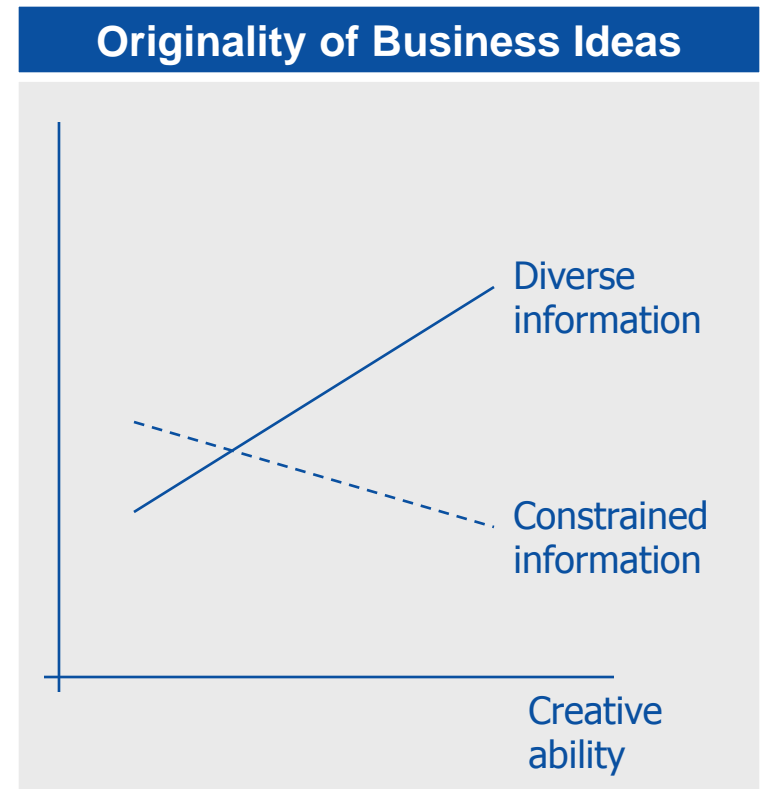
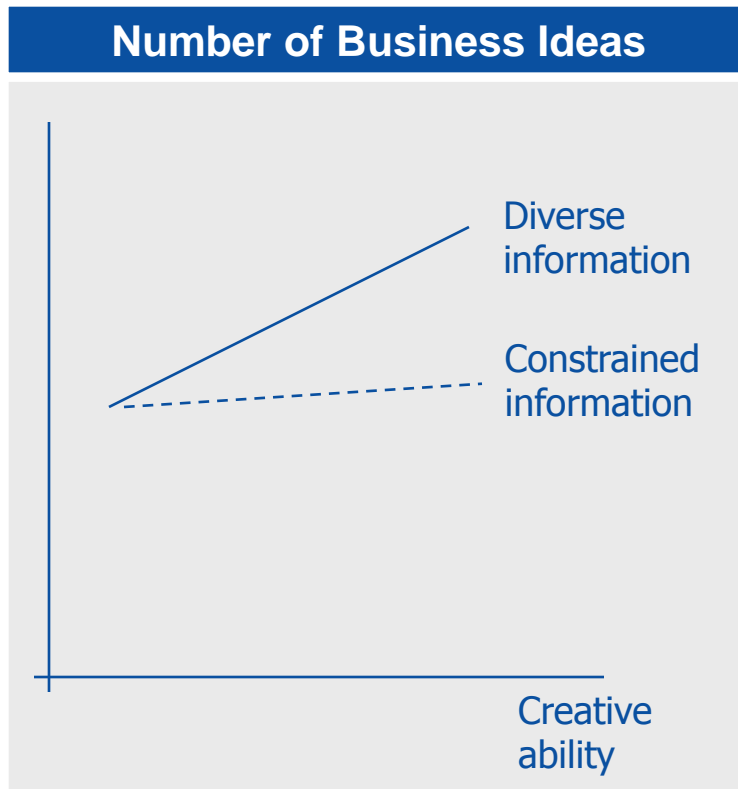
Results

- Hypothesis 3: Diversity of Information moderates the effect of Creative Ability on Business Ideas**

	Business Ideas (after manipulation)			
	Number		Originality	
	β	Change in R ²	β	Change in R ²
Base Model				
Controls		.37**		.24**
Full Model				
Creative Ability	.24**		.08	
Diversity of Information	-.18*		-.07	
Interaction Term	-.18*		-.27**	
		.08**		.17**

Results

- Hypothesis 3: Diversity of Information moderates the effect of Creative Ability on Business Ideas**



Discussion

- **Theoretical Contribution**
 - Creative ability important for opportunity identification
 - The effect of creativity depends on type of information: constrained information limits creativity
 - Originality of business ideas related to venture growth
- **Strengths and Limitations**
 - Our experiment allows causal interpretations
 - Cross-sectional design: business ideas – venture growth
- **Future Research**
 - Experiments along the entrepreneurial process
 - The role of creative ability along the entrepreneurial process
- **Practical Implication**
 - Be original; seek diverse input, particularly if you are highly creative!

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