

Success Factors and Barriers to Innovation in Switzerland

<http://www.softxs.ch/innovation>

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Abstract: This paper presents the results of a brainstorming session that explored success factors and barriers to innovation in Switzerland. Using the Affinity Diagram methodology, the participants generated a weighted list of barriers to innovation. The resulting list was analyzed, which led to the following results: educational and cultural barriers dominate over political and regulatory ones; and innovators in Switzerland are poorly prepared and under-appreciated. The paper concludes by recommending that effort is better spent improving the public's and educational system's perception of innovation, rather than lobbying for political and regulatory change.

1. Introduction

This report documents the results obtained at a brainstorming session held at Chateaux Bavois on 16 March 2002. The goal of the session was to explore success factors and barriers to innovation in Switzerland, with a further goal of promoting Swiss entrepreneurship. The 18 participants represented a cross section of business leaders and entrepreneurs. They were predominately Swiss nationals or long-term foreign residents of Switzerland, from a wide range of countries.

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2. Methodology

The methodology used was the *Affinity Diagram* developed at the MIT Sloan School, and was led by Geneviève Morand and Prof. Louis Balm. The first step in the methodology is to have all participants agree on a single question that is to be 'solved'. The question agreed upon by the group was:

"What are the success factors and barriers to innovation - 'mind to market' - in Switzerland?"

The moderators then divided the participants into two smaller groups, which worked on the question independently. The 'solution' to the question was arrived at using the following steps:

1. The participants individually generated large sets of possible responses to the question.
2. The group reviewed the responses and eliminated duplicates.
3. The group collected the responses into categories based on their *affinity*, a subjective assessment of the degree of relationship between responses. This step was performed until a consensus was reached.
4. The participants individually voted on the importance of each category. The voting system assigned numerical weights to each category.

The resulting solutions are the two weighted lists of categories. They represent success factors and barriers to innovation in Switzerland. The lists from the two groups have been combined and are summarized in the following section. In this particular case, they mainly identify barriers to innovation. The raw data from both groups, including the categories, category weightings and their associated individual responses are provided at <http://www.softxs.ch/innovation>.

3. Results

The following table summarizes the results from both groups. The categories are listed in the order of their assigned weights. The actual values for the weights have been normalized such that they add up to 100%.

Category	Category Type	Weight
Risk Aversion	Cultural Issue	10.28
Public Complacency	Cultural Issue	10.28
Innovation Is Not Highly Valued	Cultural Issue	9.66
Existing Education Does Not Provide Tools for Innovation	Educational Issue	8.41
Access to Appropriate Financing	Political Issue	7.48
Closed Networks	Cultural Issue	6.54
Legal Barriers	Political Issue	6.54
Limited Manpower	Educational Issue	5.92
Lack of Vision and Policy Growth	Political Issue	5.61
Innovation and Education	Educational Issue	4.98
No Role Models	Educational Issue	4.36
Lack of Entrepreneurial Mindset	Educational Issue	4.36
Existing Infrastructure and Mind Resources Under-Utilized	Political Issue	3.43
Critical Mass	Size Issue	2.49
Human Potential Exits	Success Factor	2.49
Limited Internal Market Size	Size Issue	2.49
Ivory Tower	Educational Issue	1.87
Positive Business Climate	Success Factor	1.25
Too Many Restrictions on Innovation	Political Issue	0.93
Provincialism	Cultural Issue	0.62
Total		100.00

Table 1: Categories Sorted by Weight

Each category has been assigned a *Category Type* that identifies it as a *Success Factor*, *Cultural*, *Political*, *Educational* or *Size Issue*. The selection and assignment of the Category Types was performed after the event while analyzing the data. The meanings of the Category Types are described below.

Category Type	Description
Success Factor	Success factor that promotes innovation.
Cultural Issue	Barrier to innovation caused by cultural and social issues.
Political Issue	Barrier to innovation caused by political, policy, legal and regulatory issues.
Educational Issue	Barrier to innovation caused by the educational system.
Size Issue	Barrier to innovation caused by Switzerland's small size relative to other countries.

Table 2: Category Types

4. Analysis

The first observation, obtained by comparing the raw data from the two groups, is that both groups independently arrived at roughly the same conclusions. While this result does not eliminate a systematic error in the selection of participants, the authors do believe that the participants are in fact a representative sample of business leaders and entrepreneurs in Switzerland. If this assumption is correct, the similar results from the groups leads one to infer that the beliefs held by the session participants actually match those held by the broader class that they represent.

A second observation is that the categories identified by the participants are *perceived* barriers to innovation, which may not be *actual* barriers. Perceived barriers, even if inaccurate, must also be overcome, since they are used to justify actual decisions made about innovation and entrepreneurship.

Since the strategy used overcome a perceived barrier to innovation may be different from that used against an actual barrier, it is important to know whether a particular barrier to innovation is real. A topic for further research is to identify which issues represent actual barriers to innovation and which represent inaccurate but widely held beliefs.

Further observations can be made by calculating the total weight for each of the Category Types. The result is displayed in the following table.

Category Type	Total
Cultural Issues	37.38
Educational Issues	29.91
Political Issues	23.99
Size Issues	4.98
Success Factors	3.74
Total	100.00

Table 3: Category Types Sorted by Weight

Cultural issues dominate and were considered by the participants to be the largest barriers to innovation in Switzerland (37%). In second and third place are educational and political issues, whose combined importance is significantly larger than the cultural issues. The educational and political issues, when combined, comprise over half the total weight (54%). The remaining size issues and success factors make up less than 10% of the total weight.

The category types representing the barriers to innovation can be further divided into classes based on strategies that might be used to overcome them.

Category Class	Category Types	Strategy	Weight
Tangible Issues	Political & Educational Issues	Legal and regulatory changes.	53.89
Intangible Issues	Cultural Issues	Cultural and social changes.	37.38
Immutable Issues	Size Issues	Cannot be changed.	4.98

Table 4: Category Classes and Strategies for Overcoming Barriers to Innovation

The tangible issues are those that can be directly overcome, in this case by changes to the legal, regulatory and educational systems. The intangible issues are cultural and social issues, which cannot be directly

overcome by decree. Change in this instance requires changes to the values and morals, which collectively make up the Swiss culture. Such change is by nature difficult to achieve.

The immutable issues are those in which change is not possible. They are all size issues. Switzerland is a small country, with a small population and a small domestic market. Thankfully, the immutable issues have such a low weight (under 5%) that they can be ignored.

Given the high weight of the political and educational issues (over 50%), combined with the difficulty of implementing a strategy that can affect a desired cultural change, the most effective method for reducing barriers to innovation in Switzerland is to focus on the tangible issues.

In order to identify the most important tangible issues, all the political and educational issues were extracted from table 1. Similar categories were combined and the resulting list was ordered by weight, discarding the lowest ranking issues (those with a weight of less than 4%). Table 5 shows the result.

Category	Category Type	Weight
Existing Education Does Not Provide Tools for Innovation, Innovation and Education	Educational Issue	13.39
Lack of Entrepreneurial Mindset, No Role Models	Educational Issue	8.72
Access to Appropriate Financing	Political Issue	7.48
Too Many Restrictions on Innovation, Legal Barriers	Political Issue	7.47
Limited Manpower	Educational Issue	5.92
Lack of Vision and Policy Growth	Political Issue	5.61

Table 5: Important Tangible Barriers to Innovation.

Table 5 shows that the two highest ranking tangible barriers to innovation are issues relating to 'Education and Role Models for Innovators'. Together these two issues have a combined weight of over 22%, which exceeds the weight of the top two cultural issues, *Risk Aversion* (10%) and *Public Complacency* (10%) from table 1. When the third ranked category from table 1, *Innovation Is Not Highly Valued* (9.7%), is considered, it leads to the conclusion:

Innovators in Switzerland and poorly prepared and under-appreciated.

The categories that lead to this statement have a combined weight of over 30%, or nearly one-third of the total barriers to innovation in Switzerland. Given this result, it is hardly surprising that *Risk Aversion* is the highest ranked barrier to innovation. An argument could be made that this is a direct consequence of innovators being poorly prepared and under-appreciated.

5. Recommendations

What is the best strategy for reducing barriers to innovation in Switzerland?

The best strategy for promoting innovation in Switzerland is anything that provides better preparation and better rewards to innovators.

While legal, regulatory and financial issues were identified as being important, they were not considered to be major barriers to innovation. Stated bluntly, money is not the issue. The issue is improving the perception of entrepreneurship. Thus, promoting the importance of entrepreneurship to the general public and educational system is more important than lobbying for change in the government and financial institutions.

There is evidence that suggests that the outlook for innovators and entrepreneurs in Switzerland may not be as bleak as is indicated. When comparing the number of businesses created per capita in the year 2000 in Switzerland, against the number created in the United States, one finds that the number of businesses created per capita is actually higher in Switzerland⁷. While this comparison does not take into account the number of jobs created, the subsequent value of the companies or their likelihood of success, it does indicate that there

⁷ Source: US: National Chamber of Commerce. Switzerland: Bundesamt für Statistik.

is at least a dedicated minority of active innovators and entrepreneurs. This minority of entrepreneurs must be nurtured and their success communicated to the public.

Recommendations:

- Investigate which of the most important barriers to innovation are perceived vs. actual barriers.
- Interview local entrepreneurs and find out why they innovate in Switzerland as opposed to elsewhere.
- Promote the value of innovation to the public and the educational system.
- Publicly celebrate successful innovators.

The importance reducing barriers to innovation and creating an entrepreneur-friendly environment in Switzerland cannot be underestimated. All participants, without exception, agreed that without increased opportunities for entrepreneurs, the country will suffer economically.