



Doctoral School in Business Administration

SUMMARY OF THESES

for

Réka Matolay

Legitimation Strategies of Agri-Biotechnology Corporations

Ph.D. dissertation

Supervisor:

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Associate Professor

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Institute of Business Economics

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I. Background of research and justification of the project

Why does a tiny – molecular-level – laboratory result trigger global economic, social and political changes? By transforming cells and molecules and transplanting genes from one organism into another, biotechnology is not a simple innovation that leads to a new product or reengineers a production process. Its spill-over effect rearranges entire industries, creates new activities, may transform our consumption habits, creates new power positions or reinterprets important basic concepts – just to mention a few important implications. It generates fundamental and radical changes. And it follows from all this that it is a highly controversial field..

Every new product, technology or organization has to create its acceptance and legitimacy – it has to find its place in the existing socio-economic and cultural context, whereby it also influences it. What I seek to understand in my Ph.D. research is what actors are involved, and how, in the debate around agricultural biotechnology and in shaping the economic and social legitimacy of the products of this field.

In the light of the foregoing, my research questions are, therefore, as follows:

1. What stakeholder groups' activities shape agricultural biotechnology: Who are the players and active participants of what is known as the organizational field of agricultural biotechnology? What actors take part in the legitimization (or de-legitimization) process?

2. In other words, how do the stakeholders shape the economic and social acceptance and legitimacy of agricultural biotechnology? What arsenal of legitimization tools, arguments and ultimately strategy do they use to establish the legitimacy of or, on the contrary, to delegitimize agricultural biotechnology?

In my research I aim at determining the domestic field of agricultural biotechnology. I wish to map the range of actors participating in this legitimization (or de-legitimization) process and what legitimising arguments they use. Overall, I would, therefore, like to understand the dynamics of the institutional and organizational field where the social legitimacy of agricultural biotechnology is constituted and constructed.

By choosing my theme I intended to explore the literature of legitimacy and its place in organizational studies. The subject of legitimacy is, in my opinion, overshadowed by studies of companies' and industries' competitiveness, whereas market behaviours are difficult to make sense of without clarifying the socio-economic and political embeddedness of companies and industries. That is particularly true of emerging industries, new products and technologies, where embeddedness and the establishment of legitimacy is the primary

task. My research is directed at the field of agricultural biotechnology, and within that, plant biotechnology. Therefore, it does not cover but, inevitably, touches on the pharmaceutical and biomedical aspects of biotechnology as well as its linkages to the chemical, environmental and other industries. In other words, I conduct my research in what is commonly referred to as green biotechnology leaving aside the fields of red (medical, pharmaceutical and diagnostic) and white (industrial and environmental) biotechnology.

In 2011, genetically modified crops were grown on 160m hectares in 29 countries [James, 2012¹]. The United States (69m ha), Brazil (30.3m ha) and Argentina (29.7m ha) are considered the biggest producers, so much so that over three quarters of the world's total land area used for growing GM crops are in these three countries. The primary crops are transgenic soybeans, corn and cotton, but e.g. in the United States, in addition to these crops and the previously mentioned rapeseed, alfalfa, sugar beet, papaya, squash, zucchini and tobacco. In addition to these production data it is known that many countries and regions explicitly prohibit the use of genetically modified seeds. In the EU Austria, Bulgaria, France, Greece, Poland, Luxembourg, Hungary have use the option of what is known as safeguard clauses, thus ban the import and application of GM seeds.

The dissertation, looks at the interpretations of legitimacy by the relevant schools of thought of organizational theory. In clarifying the concept, I draw on Suchman's [1995] legitimacy typology in an effort to identify the different dimensions of legitimacy. Then, industries affected by agri-biotechnology are introduced, and two tendencies providing fundamental contributions to legitimacy are presented. Strategic alliances and integration and concentration processes induced in particular industries serve as a basis for associative legitimacy. Methodological background, considerations and process of the empirical research are covered in details. The results of the three pillars of the research – interviews with members of the organizational field, researchers' media debates and consumer focus group discussions – are presented

The unique feature of the research lies in its resting on multiple methodological pillars in addition to its organizational-theory-based perspective. Therefore, it is characterised not only by the pluralism of data collection methods and their matching with particular stakeholder groups, but also by its coverage of the widest possible range of stakeholders.

I.1. Legitimacy in organizational theory

The key term of this dissertation is legitimacy. Obviously, it is a concept deprived of values. If anything or anyone is deemed legitimate, it expresses that it has been accepted or the relevance of the matters has been confirmed. On the contrary, if anything or anyone is not deemed legitimate, that reflects a severe verdict. Deprivation of legitimacy is doubting of relevance. Consequently, for organizations it is a crucial issue to become legitimate parts of a particular community, where a particular action or the lawfulness of their operation is not doubted. Consequently, legitimacy is an important concept both in organizational science and in corporate management practice.

Suchman [1995] provides a comprehensive review and architectonic typology of the term “legitimacy” used in organization and management studies. He offers the following definition of legitimacy, covering all organization theoretical schools:

„Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.” [Suchman, 1995:574]²

In structure, I follow the dual distinction of the literature, which points to the separate traditions of the institutional, the strategic and the discursive approach. In the analysis of legitimacy, the institutional approach focuses on external (i.e., extra-organizational) institutional structures. “They look from outside to inside” (from the external institutional environment into the organization), and check whether or not the organization complies with the set of rules, norms, values and convictions institutionalised in a particular social environment. On the contrary, strategic approaches turn adopt the inverse perspective and “look from inside to the outside”. The main representatives of the organization apply strategic analyses and identify the most important external actors representing survival or prosperity for the organization, and they try to manage the organization based on the interests, values and expectations (or affecting the perceptions) of those actors). Consequently, the strategic approach focuses on the potential agency. In this situation, the organization is not a passively adjusting party, like in the institutional approaches.

Suchman’s review work is used as a common framework in the dissertation. Three categories of organizational legitimacy are distinguished: pragmatic, moral and cognitive legitimacy. According to his statement, these are differentiated through the fact that they are based on different behavioural patterns. Pragmatic legitimacy is based on the short-term, self-

² “Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.” [Suchman, 1995:574]

interested calculations of the stakeholders. Moral legitimacy is not based on what is called pro-social behavioural forms. Moral legitimacy refers to the favourable normative judgement of the given organization and/or its activities on the side of the stakeholders. The cognition-based legitimacy dynamism refers to the fact that the organization or the industry is a necessary, not questioned, predictable part of the given cultural reality, which can clearly be interpreted by everybody.

Suchman's typology does not refer to any other level. However, some schools of organizational theory pay attention to the broader macro level, thus socio-political legitimacy is brought to the forefront. The next table describes which dimensions of legitimacy is discussed the given approaches.

Table 1 Types of legitimacies in organizational studies

| Organizational study | Characteristic type of legitimacy |
|----------------------------------|--|
| Strategic | |
| Resource-dependency theory | pragmatic |
| Stakeholder theory | moral |
| Non-market and collective strats | pragmatic |
| Institutional | |
| Sociological institutional | pragmatic, moral, cognitive |
| Population ecology | pragmatic, socio-political |
| Discursive | |
| | pragmatic, moral, cognitive socio-political |

Sources: Author's compilation

I.2 The biotechnology community

According to relevant literature, the establishment of interorganisational relations is an emphatic tool of creating legitimacy. Activities done within the economy, on the market and within company boundaries – that is, not only at abstract research institutes and mystical laboratories anymore – gain the partnership of the economy's and the market's accepted, mature players. These connections are spectacular and visible, thus they make the biotech firm easily recognisable to further participants, in other words, they cast light upon its existence.

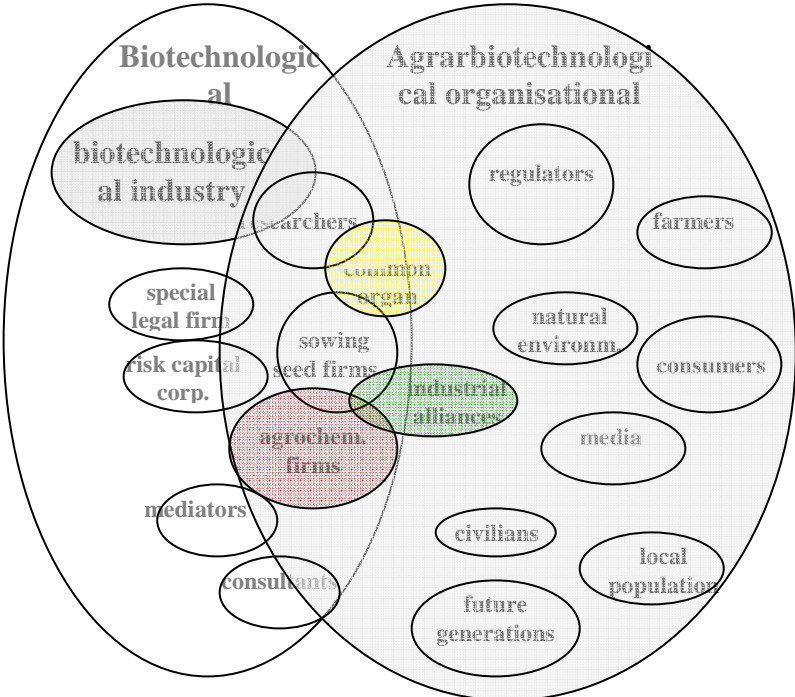
In my study the term *biotech industry* refers merely to biotechnological firms, it does not contain other industrial areas “fertilised” by biotechnology. Considering the definition given by one of the leading industrial organisations, *Biotechnology Industry Organization (BIO)*, companies whose “primary activity is to apply cellular and molecular processes in order to manufacture products and solve problems belong to this industry...for example large pharmaceutical firms do not belong here” (BIO, 2000). In turn, others would extend the industry's boundaries to further enterprises: although they do not regard large multinational companies and conglomerates as part of the industry either, but they approve of businesses established explicitly in the wake of biotech firms, such as biotechnologically orientated venture capital corporations, legal firms specifying in relevant patents and licences as well as intellectual property rights (see Powell et al, 2005 a.o.). The participation of the latter – claim Barley, Freeman and Hybels (1992) – does not result in an industry but a biotech community.

The process of intertwining in the biotechnology community can be observed in the following main transformations:

- horizontal integration: biotechnology, as a new technology penetrating numerous industries, accelerated the intertwining of these industries.³
- vertical integration: in order for the technology to turn into products, the participants of the supply chain became interrelated through mergers and acquisitions.
- strategic alliances, networks: innovative biotechnology enterprises involving the new technology and know-how induced cooperations that coordinate the biotech community in a multiple way.

³ An example for this: in order to demonstrate the interrelation of the two involved industries, the CEO of a large company focusing on agri-biotechnology drew a parallel between an envelope and the sowing seed, as well as a letter and biotechnology, where the envelope delivers the letter (Bijman, 2001).

Figure 1: Biotechnological industry, community, organisational field⁴



Source: Edited by the author

Alliance relations also automatically endow biotech firms with *associate legitimacy*. The honour that surrounds legitimate and accepted partners within the alliance is cast onto new participants (*legitimacy spillover*); the mature company gives biotech firms a share of its experience-related privileges, and as a reference it promotes their embedding as well as the establishment of their own legitimacy.

⁴ Major participants. The figure does not contain all relations due to transparency limitations. The size of participants in the figure does not reflect their real size, weight etc. The relations are relevant and important characteristics in the figure, the location of other participants in relation to one another does not convey an evident meaning.

II. The main characteristics of the empirical research

The set of legitimacy arguments relating to agricultural biotechnology in Hungary are analysed in my Ph.D. research. I am trying to describe the development of this industry, in the crossfire of discussions, which is partly creating its products at the moment, and partly trading them already with a huge profit in many places. The purpose of the research is hence to disclose and understand the relevant drivers, activities and strategies in Hungary that focus on the establishment of the social legitimacy of this emerging industry

I am aiming at answering the following research questions:

1. What stakeholder groups' activities shape agricultural biotechnology: Who are the players and active participants of what is known as the organizational field of agricultural biotechnology? What actors take part in the legitimization (or de-legitimization) process?

2. In other words, how do the stakeholders shape the economic and social acceptance and legitimacy of agricultural biotechnology? What arsenal of legitimization tools, arguments and ultimately strategy do they use to establish the legitimacy of or, on the contrary, to delegitimize agricultural biotechnology?

A three-pillar research plan was designed: semi-structured interviews, the analysis of researcher media debates and focus group discussions with consumers, based on a grounded theory and critical discourse analysis. Table 2 provides information about the 3 distinct pillars of the research.

Table 2.. Applied data collection tools

| Research tool | | Years | Purpose of research | Relevant members of the organizational field |
|---|---------------------|------------|--|--|
| Semi-structured and structured interviews | 43 interviews | 2006-2011 | to identify the arguments and discourses of the stakeholders | Hungarian companies, authorities, researchers, agricultural organisations, NGOs, media, advisers |
| Focus group interviews | 4 focus groups | 2006, 2010 | to identify consumer attitudes and arguments | Hungarian consumers, citizens |
| Analysis of written documents | 6 media discussions | 1999-2008 | to identify the arguments of researchers used in public life | Hungarian researchers |

Source: Author's compilation

A qualitative exploratory piece of research is aimed at answering the research questions underpinned by grounded theory and critical discourse analysis as a methodological basis.

III Legitimacy strategies

Features of the organisational field, active stakeholders were identified, legitimisation activities and argumentation were explored and compared to research findings of earlier Hungarian studies.

III:1 Corporate strategies

Two different approaches are discernible in their representation of biotechnology and their identification with it, which can be distinguished first and foremost on the basis of the range of stakeholder groups with which they communicate and their communication channels. These two key features are concurrent with other criteria like the mode of interaction (uni- or bidirectional communication), the representation of the biotechnology issue within the organisation (whether it has a dedicated representative, expert(s) specifically assigned to it at the subsidiary). The two main approaches are the following:

1. it does not handle the biotechnology issue independently, but through the channels of the parent company, the industry organisation etc.;
2. it applies a diversified communication toolkit for all stakeholders (authorities, farmers) other than the food consumers; active, public participation (in addition to the foregoing: media presence, utterances at public fora).

The argument for inter-company cooperation is that as long as the objective is not a specific product, and the underlying market share but the promotion of GMOs in general, such cooperation is welcome. It could be outright advantageous for companies that prefer not to have their names publicly associated with GMO. Thus it can operate in the shelter of a louder and more assertive association or company hoping for favourable developments. Companies choosing to play that role emphasise that GMO for them is not a last resort, not a forced path to follow. They can meet their clients' demand by their traditional products, and they have no major biotechnological investment behind them waiting to bring its financial return that should critically force them to enter the GMO segment. At the same time, however, the question also emerges – though with varying intensity – if their local market, their local relationships, local acceptance – and ultimately their legitimacy – will not suffer if the 'shadow of GMO' is cast over them. Thus at the same time they also try to minimise their expenses and risks in this struggle for legitimacy in which the wait-and-see strategy seems appropriate.

The corporate members of the organisational field feature each of the strategies and tactics of influencing legitimacy listed in table 3. Even with active players the *conformity strategy* is the most powerful, although one must note that, by its nature, this is the most visible, and the most public option for creating acceptance. ‘We [i.e. people in decision making, or decision preparing position] wish to be good friends with everyone’ – that is the intention at a verbal level, and, once converted into action, it means that they inform the decision maker of the corporate view/results, and help him familiarise with or study the subject.

The *strategy of conformity* is reflected – in addition to offering the outcome of corporate research to the community – also by their statement whereby genetic modification is the natural continuation of plant improvement (cf. chapter 6). One may list here also the arguments aimed at dismissing doubts of dominance/power. An argument of this type is that GMOs help multinationals become the predominant actors of agriculture. The retort to this suggestion is embarrassingly simple: all the companies concerned have been present in Hungary for at least a decade, and have built up a major market share, so there is no change that GMO could bring about. Employing the argument of ‘economic competitiveness’ in the context of Hungarian institutions is aimed at conformity, and represents the tactic of imitation (for more detail see chapter 6).

The reconciliatory tactic of the compromise strategy is the use of environmentally friendly arguments. An example of the *strategy of avoidance* is the fending behaviour experienced by a Hungarian institution that requested sowing seed from the American head office for research purposes. The response was flat refusal saying ‘that would be too early for you’. Some companies eventually exit the market, or e.g. they give up conducting open-field experiments, or, in overlap with another strategy: control/manipulation a company calls off its Hungarian lobbying, and relocates it to Brussels perhaps along with their entire local team. With the only exception of Monsanto, the method of avoidance/concealment whereby they just refuse to admit it publicly, and stay away from the media with this subject is generally practised. An exciting amalgamation of conformity and opposition is when, in addition to ‘wishing to be friends’ they raise a question mark, and start suggesting the incompetence of the relevant policymakers.

The companies themselves, and, even more so other groups involved, primarily list legitimising activities that fit the *strategy of manipulation*. ‘Monsanto used to sit around here week after week’ an official from a regulatory authority said evaluating the company’s ministerial lobbying as a kind of tiring-out exercise. The tactics of co-opting is useful to

create research relationships, and, through that, a special piece of legitimacy built on scientific prestige.

Although environmental considerations have occurred also in corporate argumentation, the topic of sustainability has not been raised. There were not even references to sustainability either in connection with the companies or with agriculture – responsible, sustainable company operation, sustainable agricultural production – through any channel. That is, this topic was missing from the press appearances of the companies, and also from the interviews conducted for this research, whereas it has been present to an increasing extent in the international debates and arguments concerning agro-biotechnology, incorporating also its environmental-ecological, social and economic aspects. With CSR (corporate social responsibility) becoming a fashionable topic, however, a certain change has been experienced in Hungary. In connection with CSR, most of the companies concerned speak in the overwhelming majority of cases of activities and developments incorporated in specific action (donation, volunteering, collection of employee ideas for the same, material- and energy-saving at the office or in the context of travel). Within that, only a most narrow group presents such programmes – mostly deriving mainly from the international background of the company – that are in direct correlation with the core activity (seed donation, scholarship programme, avoidance of damage caused by agriculture, soil and water protection programmes, joint research to preserve the biological diversity of agricultural areas).

III.2. Researchers' discourses

Media representations of agricultural biotechnology represent a popular area of research where studies are primarily focussed on collecting and analysing press publications. Although some of them contain a certain pre-selection in respect of contents (themes, cited actors, etc.), the key criterion of selecting writings for analysis is the place of release. The current research fundamentally departs from that method of choosing its area of focus in almost every respect. At the same time, these media research projects –those focusing on both the international and domestic press – can provide an important backdrop and reference points for the analysis of researchers' debates covered by the domestic printed media.

In the past somewhat more than a decade we witnessed researcher debates on agricultural biotechnology in the domestic press almost annually. I do not mean scientific communications published in science journals, but articles written for the purpose of

awareness raising, addressing either the researcher community or the general public, often in the genre of (political) journalism, reflecting on one another.

It is no exaggeration to say that researchers' media debates have created a rhetorical battlefield in the discussion of genetically modified plants. My analysis has revealed six argumentation strategies to obtain and/or destroy: labelling, exclusion, favourable comparisons, decoupling, down-playing, and argumentative crossovers. Two narratives have been developed: Pusztai-case, an emblematic narrative also about what is science, and competitiveness, which is actually beyond the professional scope of the natural scientists involved in the media debates.

The analysis of the researchers' media debates supplied information on the debate concerning scientific knowledge. As we could see under the argumentation strategy of exclusion, the researchers assign each other to the categories of (scientifically) "acceptable" and "unacceptable" based on their opinions expressed on genetic modification and its current results.

III.3. Consumers' perception

Based on a detailed overview of local and international research on consumers' knowledge about and attitude to GMO, 4 focus group discussions were organized. Participants of average income and with Budapest residence were expected it was considered important to involve in the discussion persons who were active decision makers, and participants in shopping food for the family / household, and media consumers at the same time.

It has been clearly and predominantly concluded from international and domestic consumer surveys that most European and Hungarian consumers reject agricultural biotechnology. Domestic consumers are particularly dismissive of agricultural GM products even in the European context, and make clearly negative associations with such products

Consumers who are not in command of in-depth scientific knowledge are characterised by being reflexive on their lack of knowledge, that is, they know what they do not know, i.e. what they would like to obtain information on to overcome their painful lack of knowledge. Furthermore, they are characterised by some kind of heuristic knowledge about the already quite complex foodstuffs and institutional system.

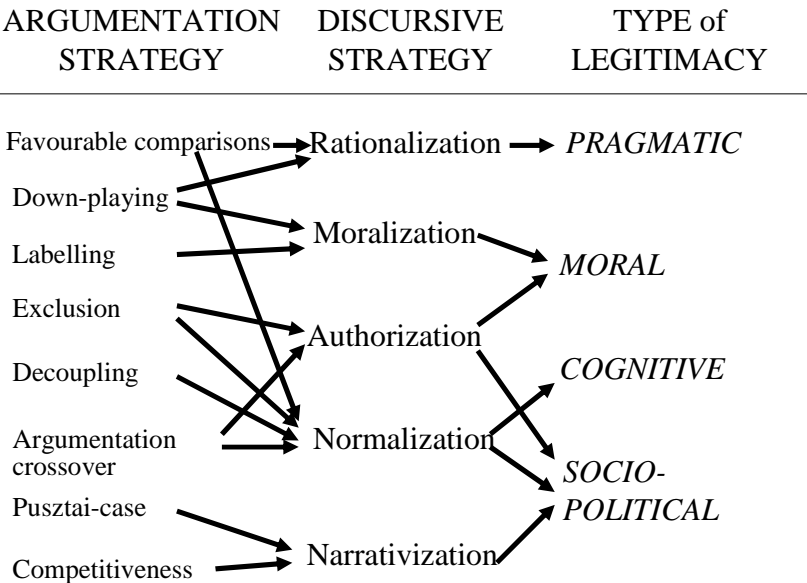
The participants expressed their lack of trust in every actor of the organisational field mentioned in the discussions.

As shown in each of pillar of the empirical research, knowledge is a significant topos for every stakeholder group. The most prominent features emerging from the interviews are the following: doubts concerning the knowledge and competencies of policy-makers and of the competent ministry staff; superficial knowledge of laymen environmental and consumer protection activists – and, the most forceful one: correlation between the knowledge and results of researchers and their independent researcher status.

IV. Research findings

Even though pragmatic legitimation of GMO seed is non-existent in Hungary due to the ban on GMOs, in the argumentation around these products one can come across with it. Not only this dimension, but the other two aspects involved in Suchman’s typology proved to be appropriate in understanding and evaluating new products. An added level is need though. In harmony with the considerations of the institutional and the discursive approaches the socio-political dimension of legitimacy was highlighted here.

Figure 2 Argumentation and discursive strategies related to legitimacy



Source: Author’s compilation

The thesis examined the legitimation and de-legitimation strategies applied by members of the Hungarian organisational field of agro-biotechnology in regard of genetically modified plants. First I reviewed and systemised the legitimacy interpretations of the various approaches of organisational theory. I processed the strategic, sociological institutional and discursive approaches, respectively, according to the same legitimacy typology, and I placed

pragmatic, moral and cognitive legitimacy, respectively, in the context of socio-political legitimacy

The legitimization strategies of multinational seed producers and plant protection product manufacturers are not uniform, although legitimization, which they hope to realise with the help of plant geneticist researchers, and which can be labelled as “legitimacy spill-over”, is a common denominator present in all of them. As for the legitimization strategies identified in the relevant technical literature, they tend to combine them: the tactical elements of the strategies of conformity, compromise, avoidance, opposition and manipulation respectively, are present simultaneously.

Scientific vs. lay knowledge and the issue of expert competencies represent a central topic of the legitimization arguments. We cannot speak of participatory decision-making in the Hungarian legitimization processes, despite the fact that several stakeholder groups were represented in the preparation of the legislation which determines the agricultural presence of GMOs to a definite extent.

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