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Addressing Ambiguity Problem**

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How to Investigate Polish Clusters' Attractiveness for Inward FDI? Addressing Ambiguity Problem

Abstract

The aim of the paper is to assess whether, and in what fashion, managers of Polish cluster organizations perceive the attractiveness of foreign direct investment in Polish clusters. This research is exploratory and qualitative in nature. The complex nature of Polish clusters, which can benefit from and be competitively challenged by, FDI are identified and a conceptual framework for assessing that nature is proposed; specifically, research using the grounded theory method (GTM).

Keywords: Foreign Direct Investment (FDI), cluster attractiveness, Grounded Theory Method (GTM), Poland

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Introduction

Multinational enterprises (MNEs) have distributed their value chains globally and use an international network of subsidiaries to take advantage of the specific profile

of different environments [Sölvell, 2002; Ketels, 2008; Mudambi, Swift, 2011]. Targets include huge markets characterized by low labor costs, higher efficiency or easier access to resources and, increasingly, knowledge, as stipulated by the ARK model (A-activities, R-Resources, K-Knowledge) [Ricart et al., 2004, p. 189]. Attractive external environments therefore include knowledge-intensive ones, which are quite often associated with clusters. Descriptions of the characteristics of clusters are abundant. By compiling the most common elements of these descriptions, one can define a cluster as a group of interlinked entities – private and public, scientific and commercial ones specializing in related industries (one sector or a family of branches) located in a given area. Clusters can be conducive to productivity, new business creation, or stimulation of innovation, but vary widely in scope and composition. Given the plethora of FDI types and their purposes, it is difficult to discern which clusters desire, or seek to discourage, direct foreign investment.

The aim of the paper is to assess the perceptions of FDI among managers of Polish cluster organizations. The paper is organised as follows. First the complex nature of cluster attractiveness for FDI, and the challenges arising from this phenomenon, will be touched upon. Then the results of empirical research focusing on cluster attractiveness for foreign investors in Poland will be presented. The findings, which suggest the ambiguous character of cluster attractiveness in Poland, lead the authors to propose a framework for operationalizing further study in this area by applying the GTM to the ambiguity of FDI in Polish clusters. The paper concludes with some reflections on the limitations of the GMT approach, and suggestions for further research.

In doing so, it bears emphasis that the GTM method is relatively new and underused. The specificity of this approach in its original form operates with little or no reference to other theories, [Strauss, Corbin, 1990], and we do not claim that this approach is a definitive one for cluster research. Rather our goal is to open a research discussion aiming at better operationalizing this problem in a way that facilitates more precise, well-designed, and deeper field studies in the future.

Are Clusters Attractive for Inward FDI? – Some Literature Findings

Scholarly literature, as well as the popular press, have attributed numerous benefits to clusters [Enright, 2000; Porter, 2000; Sölvell 2003; Andersson 2004; Yehoue, 2005; Mindelfart-Knarvik, Overman, Venables, 2001; Audretsch 2000; Belderbos, Carree 2002; Brakman, Garretsen, van Marrewijk 2001; Duranton, Puga 2003; Guimaraes, Figueiredo, Woodward 2000; Head, Ries, Swenson 1995; Keeble, Wilkinson 2000; Krugman 1994; Maskell, Kebir 2005; Misala 2003; Ottaviano, Thisse 2004; Overman, Redding, Venables 2001; Puga, Venables 1995; Siebert 2000). From this body of published works three groups of factors relevant to FDI attractiveness in clusters can be distinguished. The first speaks

to the financial benefits of an agglomeration, e.g., backward-forward linkages such as relations between suppliers and consumers and the existence of a specialized labor market. The second accentuates the technological benefits of agglomeration; that is, processes of knowledge dissemination, as well as existing knowledge bases (local research in states, universities etc.).

In this regard, clusters usually possess knowledge base (universities, labs etc.) and knowledge mechanisms (informal contacts, formal learning etc.), which constitute a knowledge environment. Side effects or hidden traps of a knowledge environment may, however, also occur. From an MNE's perspective, diffusion, absorption, and availability of knowledge are of high importance. Foreign firms entering new markets try to neutralize a lack of knowledge about local business procedures, and an unfamiliarity with other local factors by „launching” learning processes [Petersen, Pedersen, 2002]. The third group of FDI factors touches upon uncertainties felt by foreign investors and the social and institutional dimension of the benefits of agglomeration. This broad concept, which includes various types of unfavourable factors such as information asymmetry, cultural distance etc., stresses liability, “alien status”. and other non-locality problems faced by entities entering foreign markets [Caves, 1971]. Uncertainty can be understood in terms of transaction costs and “organizing capacity.” It seems reasonable to assume, that this capacity (which clusters are supposed to provide) “*including social support, public-private partnerships, views, strategies, and leaderships as intangible assets*” [Van den Berg et al. 2001, p. 7], could contribute to enhancing an atmosphere of trust.

A model by E.B. Yehoue offers a formal, mathematic way of presenting *sensu stricte* clusters as a policy tool for attracting FDI [Yehoue, 2005]. Referring to agglomeration economies, Yehoue argues that a cluster can increase return on investment and, thus, firm profits, increasing tolerance for distortions to a greater degree than if there wasn't any cluster in place. The model focuses not on natural resources driven FDI, but on FDI driven by locational spillovers or agglomeration externalities, in which spillovers include both intellectual as well as physical processes. As proposed by Yehou, clusters are attractive directly and indirectly. model can be understood twofold. Directly, clusters result from a spatial concentration of entities conducting economic activity. Simultaneously conducted investment projects – both domestic and foreign – positively influence profits through backward and forward linkages, and thus attract new firms. indirectly, clusters, when local companies concentrate, thrive, and provide government with extra budget income. This enables authorities to reduce burdens hampering FDI inflow, such as tax rates. Yehou argues that agglomeration economies generated in a cluster make investment there more profitable, and the location more attractive, for foreign firms.

The literature therefore associates FDI with clusters that exhibit the following characteristics: environments conducive to knowledge creation, dissemination and accumulation; social proximity and an atmosphere of trust; and public support and institutional structures as well as phenomena such as spin-offs or internalized externalities. To determine if

these characteristics also apply in the Polish context, the authors conducted exploratory research among Polish cluster managers. The results of that research are presented in the next section.

Attractiveness of Clusters in Poland for Inward FDI – What do We Currently Know?

The growing importance and popularity of clusters and cluster-based policy in the world is mirrored in activities of inward investment agencies that have harnessed clusters aiming to attract FDI. In Poland clusters are viewed as an attractive areas to invest in, with potential still to be exploited. Yet there is essentially no empirical research to substantiate these common beliefs.

To begin addressing this gap, the authors conducted exploratory research on cluster organizations and developed by cluster initiatives. The results of that research are the beginning of what should be a process that enriches our knowledge by identifying how clusters are perceived among practitioners and as a background for further discussion.

Research Method

The investigation of the advantages of Polish clusters for foreign investors was a part of a broader research effort focused on the internationalization of clusters conducted by the authors. Internationalization is recognized as the process of developing links with foreign entities – in this sense it is related to foreign expansion of cluster entities (active, outward-oriented internationalisation from the perspective of cluster inhabitants and a cluster organization) and expansion of foreign entities into clusters (passive, inward-oriented internationalisation from the perspective of cluster inhabitants and a cluster organization). The inflow of FDI signals internationalization of a cluster. The “community” of cluster inhabitants becomes international and local companies obtain access to knowledge, business practices, and strategies of foreign origin without expanding abroad themselves. Here, we examine FDI inflow to clusters in a broader context to investigate whether Polish cluster organizations (i.e., entities tasked with strategy and daily management of operations) exploit the advantages clusters can offer to foreign investors and if these organizations recognize expansion of foreign firms into the clusters as being important for the expansion of cluster inhabitants abroad. In particular, cluster managers were asked whether the cluster organizations they represent:

- were looking for foreign business partners and foreign partners from the science/R&D sector?
- supported cluster firms in entering foreign markets and, if yes – with what target markets and entry strategies?
- were interested in attracting foreign investors and promoting the cluster and, if yes, using what form of promotion, what funds to finance these activities, and offering what advantages to foreign firms investing in cluster?
- were motivated by either cluster firms or the administrative sector; that is, were local or regional authorities fostering the internationalization of the cluster, or was it being done on their own initiative?

Method of Data Collection

The number of cluster organizations in Poland differs by data source. Forty-five Polish cluster organizations are registered in the European Cluster Observatory (www.clusterobservatory.eu), which are now followed (and researched) by the Polish Agency for Enterprise Development (PAED). PAED, in turn, established an interactive map of clusters in Poland (http://www.pi.gov.pl/PARP/data/klastry/index_en.html), which identifies 145 cluster organizations. Empirical research on the attractiveness of clusters in Poland for FDI was conducted in May 2014. As a research tool the authors used a structured, multiple answer questionnaire initially sent to cluster managers via e-mail, supplemented by calls to respondents.

Characteristics of the Sample

Since the interactive PAED cluster organizations map doesn't include direct contacts to each of 145 cluster organization, the authors had independently develop direct contacts to cluster managers, and emailed questionnaires to 94 of them. Sixty-six respondents confirmed receiving the email, and 49 of them sent back the questionnaire. Among respondent clusters were organizations from each region of Poland. The legal forms of those organizations were formal co-operative agreement (32 respondents), associations (14 respondents), limited liability companies (2 respondents) and one cluster represented by a chamber of commerce that formally functions as an association. The industrial specializations of clusters represented by cluster organizations (CO) that participated in the research were: metallurgy (6 COs), construction (6 COs), energy (5 COs), tourism (5 COs), food (4 COs), IT (4 COs), logistics (3 COs), recycling (3 COs), design and other creative industries (3 COs), advertising (2 COs), the chemical industry (2 COs) and 1 CO from each of the following: business services; aviation; the exhibition industry; life sciences;

education; and furniture. though numerically small, as a percentage of all Polish COs the sample is considered satisfactory.

Research Results

Seventy-six percent of respondent cluster organizations have been trying to encourage foreign companies to join the formalized cluster through a subsidiary or as foreign business partners of Polish enterprises participating in the cluster. Foreign partners are characteristic in COs representing the food and IT industries, and each such respondent Polish CO indicated that they were looking for foreign partners. There are good reasons for doing so. Polish food products are currently recognized as being of a high quality products, but had to first undergo deep restructuring to adjust their operations to European Union standards. They have the ability to cooperate with foreign partners and compete on foreign markets. The IT industry in Poland is characterized by, on the one hand, many micro and small companies (including start-ups that operate like *born globals*) and, on the other hand – a high potential to develop international R&D and commercial projects. This potential is based on the deep competences of Polish IT specialists and Polish R&D institutions (e.g., the Poznan Supercomputing and Networking Center). Actions aimed at luring FDI to clusters have been implemented by 49% of cluster organizations. These activities have relied more on promoting a cluster's products than on promoting its location. Among all COs that participated in the study, only 9 (18%) promoted to indirectly lure new companies to invest. Among them were COs representing the following specializations: IT, recycling, the chemical industry, logistics, aviation, metallurgy and life sciences. In most cases, these COs represent clusters with a high critical mass (number of companies). The manager of one of these COs stated he was encouraged by both regional and state authorities to attract foreign investors to the cluster. Only 15% of respondents confirmed the presence of foreign investors in the cluster area. These respondents operate within the following specializations: metallurgy, IT, life sciences, the chemical industry, and recycling. It may be that cluster organizations do not carefully monitor FDI inflow to clusters they represent, or are not sufficiently interested in creating links between local companies and foreign ones operating in the Polish market

The set of advantages that a cluster could offer to foreign firms entering the Polish market includes tax advantages, existing infrastructure, access to human capital (qualified but low cost employees), access to the market, and to resources. When asked which type of advantage they offered foreign firms, the most frequent answer was human capital (19%). In the opinion of these cluster managers, Polish workforce is well educated and relatively cheap. The next most cited advantage was infrastructure (10%), followed by tax advantages and access to the market (in both cases 8%). Access to resources was not

mentioned as a significant advantage. Four cluster managers (8%) pointed to such other factors as: personal contacts, access to European Union Funds, low costs of conducting business and a culture of innovation in the region.

Fully 54% of cluster managers in the science and R&D sector have been looking for foreign partners. Among them there are COs with the highest number of participants (at least 99 entities) representing: metallurgy, IT, the chemical industry, aviation, exhibition, construction, and tourism. Characteristic features of these specializations include a strong focus on innovative products, which requires R&D cooperation with partners preferably operating in different circumstances (countries) to more quickly recognize alternative creative solutions.

The study revealed that promoting foreign expansion by cluster inhabitants prevails over attracting newcomers to clusters from abroad. Sixty-nine percent of COs stated that they had supported their members expansion in foreign markets and indicated the form of foreign operations.

This finding is in conflict with a previously one; that less than half of respondents targeted foreign firms to encourage them to locate in a cluster. It is worth mentioning that after sending the questionnaire via e-mail, the authors called the Cos, explained study goals, and tried to answer any questions related to it. This process revealed that some respondents were concerned that foreign subsidiaries could threaten local firms, take market share, capture the best qualified human resources, and then stop doing business in Poland in favor of operating more cheaply elsewhere. These anxieties underscore the ambiguous nature of clusters and foreign investors for Polish enterprises. Some cluster managers identified the benefits for foreign investors operating within clusters, and others expressed anxiety about the entrance of foreign investors to clusters. To better assess enterprise manager perceptions, qualitative research is required. The grounded theory method may offer a promising approach to doing so.

Ambiguity of Cluster's Attractiveness – How to Conceptualize this Phenomenon?

The results of the pilot study confirmed the authors' initial observation, based on in-depth critical literature review, that there is no consensus about how the plethora of FDI types and their motives are perceived. Certain identified barriers suggest that a particular cluster's characteristics may be detrimental to investors. Mentioned channels facilitate knowledge inflow to a company but are also responsible for possible outflows – i.e., losses. Subsidiaries which exploit their own competences usually adapt to the local environment and become the channel of competence transfer from the parent company to a cluster. They do not intend to capture local knowledge in the way subsidiaries creating

knowledge do. As observed by many experts, the majority of foreign subsidiaries are usually oriented towards gradual incremental adaptation to local markets [Frost et al., 2002]. This may facilitate an increase of the knowledge assets pool in a cluster, such that parent companies of subsidiaries located in a cluster are at risk of leaking certain competencies [Sanna Randaccio and Veugelers, 2007].

Other studies [Belderbos et al., 2008] draw attention to the fact that perceived knowledge spillovers by foreign investors may depend on whether they are technology laggards or leaders. Technology laggards tend to regard knowledge spillovers as a positive factor that attracts them to a given place. The opposite is true for technology leaders, who may be deterred from locations offering high knowledge spillovers, which are perceived as threats. Studies by Belderbos, Lykogianni, and Veugelers suggest that the attractiveness of knowledge spillovers from involuntary leakages of knowledge possessed by FDIs (mainly from leading technological countries) give rise to ambiguity. Pedersen underlines that knowledge flows through informal contacts and employee mobility may have negative effects. Loss of information to competitors could potentially weaken a firm's performance [Pedersen, 2005].

Another problem refers to what Pedersen calls "epistemic communities" and their narrow scope. Epistemic communities are groups of networked experts who possess knowledge in a particular area, share the same beliefs and notions of validity based on particular set of criteria for evaluation. Their perception of reality is similar since they share normative commitments and are involved in common policy projects. As argued by Pedersen, physical proximity does not imply the existence of social proximity, since such epistemic communities never include all members of the local community. In small epistemic communities centered around single firms, knowledge circulates in that community rather than flowing freely within clusters [Pedersen, 2005]. Accordingly, knowledge may be inaccessible to both those located nearby and for foreign entities. Moreover, as stressed by Andersen and Christensen, MNEs require more than local knowledge, and also need internal-external knowledge interfaces [Pedersen, 2005]. Combining newly accessed and existing knowledge within a company, and disseminating it across the company, pose a challenge for MNEs. This chain of steps, which needs to be taken into account, can be termed a move from localized to corporate excellence.

Agglomeration economies including labor pool and backward-forward linkages are regarded by New Economic Geography as centripetal forces. Acting in the opposite direction are centrifugal forces – agglomeration diseconomies. When a firm enters a region and starts production it increases demand for upstream activities (thus expanding the home market), but also increases local supply of downstream output, leading to the market crowding effect [Bekes, 2004]. These two forces work against each other, and agglomeration occurs when the market expansion effect dominates the market crowding effect. In a cluster, centripetal forces are accompanied by centrifugal forces. When centrifugal forces exceed the centripetal forces, cluster decreases its attractiveness, and congestion is

one of the emerging disadvantages. Cluster development may lead to increasing demand for a specialized skilled workforce and, thus, to increased wages [Pedersen, 2005]. Cantwell mentions competitive deterrence effects [Cantwell, 1989]. This means that a high concentration of enterprises is perceived as a negative factor repelling new entrants from a given location. A cluster's disattractiveness may result from the fact that they are "structurally equivalent organizations", which means that companies have to compete with each other to acquire vital resources [Audia, Sorenson, 2000].

Porter speaks about inertia and "group thinking" – referring to rigidity about change and adoption of new ideas – which ultimately may lead to a lock-in situation [Porter, 2000]. Learning new skills is easy and unlearning old habits is tough [Van den Berg et al., 2001]. Endangered by sclerosis and petrification, clusters must be open to external energy to avoid an entropic death.

When MNEs enter a cluster, that entry may be perceived negatively by local inhabitants – employees, leading to social disturbances, lack of a willingness to cooperate etc. Lorenzen and Mahnke [2004] draw attention to social barriers existing in clusters, such as suspicion towards FDI or even threats of social sanctions against foreign companies. It is possible for most newly arriving firms to establish direct relations with local enterprise(s), invest heavily in them and, hence, build mutual trust and shared understanding. It may be much more difficult to become part of a network of indirect relations, because such networks are often 'identity based', i.e., based on social conventions and unarticulated ways of qualifying for trust and acceptance [Maskell et al., 2003]. MNEs may be excluded from some indirect relations and / or incumbent firms may 'hide' social norms or communication principles, allowing the newcomer into social networks but refraining from explaining how, where, and when local information sharing takes place. The severity of imposed barriers depends on how the incumbent firm view newcomers. Nachum and Wymbs [2005] claimed that the very homogenous culture of a cluster makes it more hermetic (airtight) and less accessible for foreigners discouraging them from the cluster. This is particularly true for FDIs originating in culturally-distant countries, which increases the difficulty of integrating in the cluster and taking an active part in the local collective learning that determine the benefits of a cluster's location [Yehoue, 2005].

Spinoffs, so popular in clusters, may have negative effects on mother firms [Pedersen, 2005]. The likelihood of a parent organization's survival decrease when highly skilled senior employees leave to found new firms. A parent-brain-drain represents a disruption in the routines of the parent, which clearly affects the future of the firm.

Duranton and Puga highlight the problem of inefficient herding, assuming that the wrong decision can be multiplied and repeated by other cluster members, since entities tend to replicate each other [Duranton, Puga, 2003]. This effect may increase cluster vulnerability to external shocks as well as contribute to subsequent cluster decline. The institutional framework present in clusters may facilitate the operation of FDI, but it

can also constrain it. Institutional thickness can provide for rigidity, limiting or even inhibiting activities.

High transparency and peer pressure observed in clusters may positively affect information asymmetry experienced by foreign investors and reduce the transaction costs they have to incur. However, Mody, Razin and Sadka have found, while investigating the role of information in driving FDI, that the degree of corporate transparency in the host country is negatively correlated with FDI flows [Mody et al., 2002]. The results obtained by these authors point to the fact that a transparent environment in the host country may be regarded by some FDI as detrimental to their profits. This is because the rent stemming for unique knowledge declines.

Summing up this part of the discussion, existing studies, although inclined to argue that clusters are indeed a place worth investing for foreign companies, point out the possible disadvantages of doing so. Cluster attractiveness is conditional, depending on a concrete dyad – the circumstances, stage of given cluster life cycle stage, particular type of FDI etc. Our closer look at three identified sources of cluster's attractiveness for FDI has revealed that the knowledge environment, agglomeration economies, as well as the social dimension of the cluster concept may be regarded as negative phenomenon [Götz, 2008]. In fact, under some circumstances they may adversely affect companies residing inside the cluster and/or deter new companies from coming.

The observations do not undermine the previous conclusions regarding cluster attractiveness for FDI, but do underline the relativity of the identified factors. It is indisputable that clusters offer many tailor-made resources, facilitate production and learning processes, enable scale and scope economies, reduce risk etc., as the mainstream literature rightly points out, leading policy-makers around the globe to create science and industrial parks and enable agglomerations development. Nevertheless, the growing more recognition of the perceived side effects and unintended consequences of clusters have been gaining attention as well. They may result from having reached a certain level of cluster life cycle development, as the advantages provided may vary over time, eventually giving rise to certain disadvantages. They may also reflect the interaction between clusters and FDI, which is inherently cluster specific, depending upon the particular circumstances of individual cluster and a given investor's size, nature, mode, type etc.

The literature and results of the pilot study suggest that the ambiguity embedded in a cluster's attractiveness equates with the shifting balancing of certain factors, presented below (Table 1).

TABLE 1. Ambiguity – proposed scheme of switching points

agglomeration economies	-> agglomeration diseconomies
pool of suppliers, lower prices, more consumers	-> turn into pay rise, crowding out, resources becoming scarce
conducive knowledge environment	-> unfavourable knowledge environment:
knowledge sharing, learning	become knowledge leaking
uncertainty reduction	-> uncertainty increase:
lower transaction costs, community spirit, peer pressure	-> growing burden of institutional thickness, risk of specialisation, herding effects

Source: own elaboration

This balance of factors will necessarily be unique for each cluster, rendering the creation of a framework for developing a unifying theory for clusters generally, based on empirical data, problematic.

Design of the Study on Cluster's Attractiveness for FDI by GTM. The Proposed Approach

Our proposal for doing so – the grounded theory method – is possible thanks to the systematic identification, development and provisional verification of emerging theory in an iterative process of data collection and analysis [Strauss, Corbin, 1990]. The origins of grounded theory can be found in the work of Glaser and Strauss, who saw in the gradual iterative collection and analysis of information a way to generate theory strengthened through empiricism [Glaser, Strauss, 1967]. The main alternative to this approach, called classical by Glaser and Strauss, was proposed by Charmaz [2009] who stressed the role of the researcher involved and who questioned the neutrality of obtained findings. Eisenhardt, in turn, offers a complex look at the generation of theory based on empirical material, suggesting the road-map for this process [1989] and listing subsequent steps. Given the combination of factors impacting cluster attractiveness for FDI, GTM may be warranted as an approach that goes beyond qualitative single case studies, while addressing the shortcomings of conventional quantitative studies.

The grounded theory method is most used in the social sciences, sociology, anthropology, and to some degree psychology, and less so in economics, management and entrepreneurship. Most likely, this is accounted for by the nature of the processes occurring in business (in the widest understanding of that term), which is predominately cause-and-effect, more structured and well-planned, and minimizes the role reflection, emotion, or identification by the researcher with a given problem.

The GTM is a potential way to study relationships between clusters and FDI, if properly designed. Useful GTM guidelines are proposed by Eisenhardt [1989] (Table 2).

TABLE 2. Suggested sequence of research steps

Step	General presumptions
1. Definition	Precise definition of research problem; topic under investigation – defining basic categories for further explanation while avoiding outright hypothesis formulation.
2. Selection	Selection of the sample, that is, a set of inhabitants. The relatively small group of those “willing to talk” determines <i>de facto</i> so-called saturation, which is achieved when there are no additional data and it is possible to develop properties for categories. Nevertheless, the presence of inhabitants from firms of various sizes, financial backgrounds, and specializations enable fulfilment of the maximum diversity requirement [Patton, 1990].
3. Instruments	Varieties of information collecting methods – linking qualitative and quantitative data, improving grounding by triangulation, benefiting from synergies of evidence.
4. Field study	Flexible method of data collection, sampling and memoing, writing notes in the field, modifying and specifying questions in the process of “learning by doing,” agile adjustments to previous design, course corrections, casualties, feedback.
5. Data analysing – desk study	Both intra-case and inter-case (throughout and cross case) analysis, searching for patterns, rules, regularities, introducing further amendments if necessary.
6. Hypothesis formulation	Iterative flexing of the original research problem/ agenda with inflowing evidence. Searching for logic between causes, reasons for interdependencies, confirmation and confrontation, in order to validate or negate preliminary assumptions by discovered regularities.
7. Saturation/ literature consultation	Assessing findings with existing literature, reaching the saturation if possible, or sufficiency (Charmaz).

Source: Authors' modification of Eisenhardt's proposal [1989].

Consistent with suggestions and guidelines in the literature regarding GTM, the authors propose a study design for probing the problem of the ambiguity of clusters in attracting FDI.

Step 1. Formulating the key concepts of the study with the central issue – the ambiguity of cluster attractiveness for FDI. This ambiguity, as indicated in earlier studies, would need more precise definition; in particular a specification of the tensions threshold, i.e., points at which factors facilitate or inhibit FDI should be undertaken. It would also be desirable to specifically define what constitutes the attractiveness matrix. Possible sources, such as the proposed trio – Agglomeration economies, Knowledge and Uncertainty involving competition, should be more precisely described and potentially broadened. This stage also requires deciding which cluster types and FDI profiles need to be included to assure

the maximum variety of groups. The literature suggests that cluster attractiveness is conceptualised in terms of pecuniary agglomeration economies, knowledge environment, and uncertainty reduction. Ambiguity, i.e. double-edge character of cluster attractiveness, is here defined as the shifting balance between advantages and disadvantages ascribed to these sources (Table 1). This approach implies assuming certain thresholds when positive externalities/economies or centripetal forces are outweighed by negative externalities/diseconomies and centrifugal forces. Though, a priori, no specific critical value/mark can be set or reasonably expected. It may therefore be of great importance to find out how involved actors perceive, interpret, and value this.

In this study foreign direct investment is understood in terms of M&A, Greenfield or Brownfield projects conducted within a cluster. The research focuses on clusters that meet certain agglomeration economies criteria (critical mass of entities concentrated in a given area and operating in a given sector), and are represented by a cluster organization.

Step 2. Selecting respondents should be based on a non-probabilistic process guided by the research focus. The chosen sample should exhibit a high level of variety. Initially, the decision should be made as to relevant clusters, bearing in mind their size, age, technology advancement, domestic/international character etc. Reference to existing typologies would be useful in this respect. Next, interviewees representing different kinds of investors (if suitable, enriched by cluster representatives) would be selected. The selection starting point might be the list of clusters established and published via PAED. To assure a relatively good representation of various types, the proposed short list of clusters should encompass high-tech and traditional industry, discovered (perhaps) using existing cluster classifications and official cluster directories to identify and select various cluster types, e.g., hub and spoke, satellite, endogenous or transplanted, science driven or industry pushed etc. In so doing, one should bear in mind certain tacit requirement of FDI presence. Once cluster types have been chosen, interviewees should be identified. Preferably, various foreign investors should be approached – representing different countries, modes of entry, and economic activity. The alternative to such heterogenous research material (different clusters combined with various FDI) might be a precise identification of specific target groups, e.g., either only advanced technology clusters or investors coming from a given country [Squicciarini, 2009]. This stage includes scheduling interviews.

Step 3. Preparing the instruments of data collection would focus mainly on drafting (semi) structured interviews or scenarios of in-depth interviews that include both closed and open questions. Conducting research according to the Corbin and Strauss version of GTM would mean preparing *ex ante* (semi) structured interviews that navigate the whole process, whereas the serendipity idea, as originally proposed by Glaser, would favor more spontaneous, unstructured exploration. The reference to theories is not clear. While some argue that such a filter would pre-conceptualize the exploration, others claim that a certain familiarity with the topic being investigated is recommended. The authors believe that the second approach is more suitable, and advocate for structured questions

or at least a list of the problems to be raised. Bearing in mind the topic under investigation – the ambiguous attractiveness of clusters for FDI- attention should be paid to the problem of alien status; that is, a foreigner's liability, which would profoundly affect the perception of the whole set of factors i.e. what may be advantageous and accessible for local indigenous firms may be beyond reach for companies coming from abroad. The concept of ambiguous attractiveness would mean dividing the research into at least three groups of issues – pecuniary agglomeration, knowledge and institutional aspects of clusters. In other words, generating clear data facilitating the development and application of a substantive theory would be furthered by a precise list of issues to be addressed in the field, which should be prepared/drafted in advance. This requires a precise definition of the problems being explored and a structuring of the field interviews that, in the authors' opinion, should draw on existing concepts and empirical evidence.

Step 4. Conducting meticulous observations of in-depth interviews, preferably with various representatives of given investors to assure a certain triangulation of sources. Conducting research strictly in line with the GTM guidelines requires a degree of researcher embeddedness – in business studies this may pose a challenge. Chief executive officers and managers tend to be reluctant to share knowledge, fearing competitors. Therefore, eliciting valuable information might mean falling back on various sources, long-term meticulous observations, and interviewing lower level managers and staff. As envisaged by the GTM guidelines, the first tranche of information received might imply a course correction and modifications of earlier assumptions, or the expansion of interviews to new entities worth investigating but not foreseen as valuable at the start of the research. Clusters operating in legally organised forms serve as platforms for their members (e.g., meetings, seminars, networking opportunities), and participating in such events may enable the capture of relevant information. At this stage, researcher reflections (however broad) would be recorded as potentially valuable input.

Step 5. Analysis of collected material searching for patterns, similarities, differences, investor subgroups, and subcategories of cluster advantages. At this stage, it may become necessary to modify earlier assumptions – e.g., the originally conceived turning point/switching moment when positive, centripetal forces turn negative. For instance, one may presume that such a perspective may apply only to pecuniary agglomeration economies, i.e., labor pool and backward-forward linkages. For a knowledge environment, this approach might be not appropriate. In order to arrive at a substantive theory well-grounded in empirics, it may be reasonable to seek out tools embedded in the data by drawing graphs, diagrams etc. One may expect a resulting matrix of possible relationships between clusters, FDI, and given sources of examined FDI attractiveness. This process would encompass labelling the units of data (i.e., open coding), and then collapsing them into high order constructs.

Step 6. Proposing research hypothesis. A possible research proposition emerging from the study might be that “SME investors may accept higher level of diseconomies due to

a lack of alternatives as far as the provision of certain benefits is concerned than investors in MNEs who are more vulnerable to centripetal forces”. Interpretation of the complex phenomenon of ambiguous cluster attractiveness may point to the idiosyncratic problem of foreign investor preferences. In this phase, data would be integrated into theoretical concepts.

Step 7. Reaching saturation/sufficiency and assessing results with reference to the existing literature, should conclude this process.

Given the *ex ante* theoretical filter / sensitization applied, it seems that this literature review can be reasonably limited or perhaps even skipped. It makes sense to refer to other studies and concepts if GTM is applied purely in sense of serendipity and researcher starts as *blank carte* without any previous knowledge. In other cases, particularly when interviewers selection has been heavily influenced by earlier desk research such reference does not seem necessary.

Despite its attendant rigor, design of a high level of serendipity (as advocated by the classic GTM approach) is recommended. An analysis conducted from the classic GTM perspective originally proposed by Glaser would presumably focus on emerging categories thanks to application of a “coding paradigm,” i.e., open, axial, selective and theoretical coding. It is beyond the scope of this paper to list all possible codes that result from simple open coding, i.e., ascribing labels and indentifying key words line by line of text. More feasible is identifying likely categories. The authors suggest that the central one might be “seeking the *balance* of power, stipulating what makes the cluster attractive place to foreign investors is the right combination of factors with advantages outweighing disadvantages”. In the authors’ view, in light of actual obstacles with acquiring information, different approaches in subsets of GTM (classic, revisionist and constructivist) and ambiguity as to how use it in practice (based on arbitrary applications in earlier studies), the hybrid approach combining the advantages of all attitudes is recommended. This means constant comparisons and iterative modifications and course corrections. Reference to existing theories before commencing a field study seems reasonable as well in the authors’ opinion. If not a strictly coding paradigm, than a family of codes, should be applied. Due to possible difficulties with reaching so called *saturation* as suggested by Glaser, seeking *sufficiency* of research might be good alternative. In other words, a combination of the classic approach of Glaser (assuming spontaneous *grounding*) with revisionist attitude of Strauss and Corbin (advocating rigorous *systemizing*) would be most the beneficial for the quality of the study.

Due to assorted difficulties and restraints involved with factual theory and empirical data, the GTM shall be treated simply as a sort of analytical structure. Yet, it has the potential to be harnessed for complex processes and phenomena such as cluster attractiveness. A research process on ambiguous cluster attractiveness for FDI embedded in the GTM framework can be designed as follows:

- from the process of memoing (writing memos) *open codes* may emerge,

- grouping of codes should enable the isolation of *concepts*,
- these concepts may become the starting point for the formulation of *working categories* with reference to the coding paradigm or axial coding,
- comparing cases would enable the generalization of categories and reformulation of the concepts into the *properties of these categories*,
- simple connections between established categories, including selecting the central category (*selective coding*) would enable the configuration of a substantive theory (*theoretical coding*).

Thus, as a result of work in empirical data, a certain hypothesis can be “grounded” or established, approximating a substantive theory within the GTM framework and, at the same time, serving as a research proposal for further analysis in the area of the ambiguous role of clusters regarding FDI.

Conclusions and Limitations of the Study

As Steiner stresses, there is no universally accepted methodology for analyzing clusters. The balanced approach taken in this paper – weighing cluster advantages against possible disadvantages – addresses the criticism that the cluster concept is superficial and chaotic; a sort of policy and academic fashion item equating quite different types, processes and spatial scales of economic localization under a single all-embracing universalistic notion [Martin, Sunley, 2002]. The urgent need for studying FDI and, more generally, the international dimension of Polish clusters, clearly emerges from the authors' own research conducted on selected cluster organisations. The findings suggest a low level of awareness in this respect, accompanied with good intentions and willingness for internationalisation.

The empirical study suffers from some limitations. Firstly, the results are based on the perception of cluster attractiveness of managers who represent COs. There is no guarantee that their view of reality reflects the view of foreign investors. To get more reliable findings, interviews with particular foreign companies that invested in Poland within Polish clusters should be conducted. Secondly, the results are a snapshot. A longitudinal study will be necessary. The limited sample being examined does not enable any generalisation, but the findings can be treated as a good exemplification of a certain problem. The outcome can serve as a good indication of the need for further in-depth studies. Since the qualitative approach seems recommended given the peculiarity of the problem under investigation and likely difficulties with proper operationalization necessary for quantitative study, the importance of the right design of further research process cannot be underestimated.

Against the background of peculiar challenges occurring when investigating the ambiguity of clusters in the context of attracting FDI, the grounded theory method (GTM) might be a promising alternative. Conducting research with this method requires the

correct design of the whole examination, to overcome objective stumbling blocks. The most important and widespread one in qualitative field research being to organize the group of those “willing to talk”, to gather participants who agree to take part in in-depth interviews, and to obtain necessary information from businesses where data may be considered confidential. The GTM implies significant researcher involvement in interpreting collected data, the coding processes, and subsequent generation of a unifying theory – all of which may contain the researcher’s bias, which cannot be ignored and (if present) will affect the final results. The outcome thus needs to be regarded with caution as substantive theory / middle range theory is meant to be an abstract interpretation of a given contextualised process. That being said, this does not reduce the research power of the GTM, particularly when the topic under investigation is a relatively new/ under-investigated, complex process and when the aim of the study is not to specifically test existing theories but rather to explore a certain issue. The GTM may be regarded as residing somewhere in between a simple “case study” devoted to a single firm on the one hand, and mass quantitative studies based on a large population of entities on the other. In this way, it can address some of the problems arising from the above methods – it goes beyond dwelling on one case, while enabling a more detailed in-depth analysis that is often impossible in large panel studies. Whiteley [2000], suggests in this respect the use of the term “grounded research” to emphasize that in some situations the grounded theory method cannot be applied in its pure form. Although, in light of existing obstacles using pure grounded theory may be impossible; it is possible to carry out research in its spirit. The GTM offers an interesting alternative framework for examining the role of clusters for foreign investors, which might help foster a better understanding of the idiosyncratic nature of these links. Patterns and regularities recognised thanks to GTM should be subject to further robust quantitative investigation if possible, and also pave the way for new research topics.

The value added of the presented study consists in conceptualizing the problem of ambiguous cluster attractiveness for FDI based on the review of literature, and an attempt to operationalize it for the purpose of research using the grounded theory method. Specifically, this paper highlights the double edge character of cluster allure for investors while simultaneously recognizing that such attractiveness is multi-dimensional. Moreover, due to the role played by knowledge in contemporary economics and business, it elaborates the knowledge dimension of attractiveness more deeply. It offers a certain simulation of research devoted to this aspect that would use the guidelines of the grounded theory method. The results of this unique pilot study on Polish cluster organizations offer valuable insight into the phenomenon that we propose to call a “passive, inward-looking internationalisation of clusters” denoting the inflow of foreign firms into clusters and actions facilitating this, as opposed to an “outward-looking internationalisation” referring to the expansion of local companies abroad and steps undertaken to foster this processes. The outcome – although based on relatively small sample – certainly can enrich existing scarce knowledge with respect to cluster internationalisation [Jankowska, 2010, 2013]. Summing

up, this paper is a conceptual one exploring GTM as a way to better understand the ambiguity of clusters and FDI, underpinned by pilot empirical research on Polish clusters.

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