5.7
CONCEPTUAL AND EPISTEMIC UNCERTAINTY IN PLANNING

Research for the renewal of industrial areas in Sweden

Anders Törnqvist

Introduction

Practitioners are often faced with the following question when addressing practical problems which are characterised by uncertainty: “What kind of problem is this and what do I need to know to solve it?” Planning problems are often “wicked problems” (Rittel & Webber, 1973). There may be difficulty in defining the problem (Schön, 1983). There is a need in planning practice to distinguish between conceptual and epistemic uncertainty. There is often uncertainty in planning about both goals and means – defined here as conceptual uncertainty (Friend & Jessop, 1977; Rolf, 2007; Simon, 1997). There is lack of empirical evidence for evaluating properly the consequences of planning alternatives – epistemic uncertainty (Faludi, 1987; Davoudi, 2006). Research in the planning field is often undertaken to help reduce both kinds of uncertainty. This chapter argues that exploration of the concepts and understandings that different actors use in practice can help with identifying practical solutions to real-world problems.

Swedish experiences of research focused on such issues are presented ahead to show how research helps to address both conceptual and epistemic problems. Who are the stakeholders? What conflicts are there? Are these conflicts of perceptions or of interests? What evidence is there to support these perceptions, interests and arguments? What can be learned from examples of renewal projects characterised by significant efforts in conflict management, negotiation and argumentation? Typical examples can be found in planning for renewal of old industrial estates. These estates are often located in semi-central areas, sometimes at waterfronts, which makes them commercially attractive for redevelopment. Offering low-cost premises in central locations, they are also valuable to current users, mostly small businesses, often turning out to be an important part of the urban and regional economy (Amin & Thrift, 1992; Green and Foley, 1986; Jacobs, 1969; Schoonbrodt, 1995). Full-scale renewal of these estates may be economically favourable in the long run, but can be difficult and risky in the short run. Successive, small-scale
renewal may show the opposite picture (Fothergill et al., 1987; Hall, 2002). How should planners and decision makers handle these goal—conflicts and implementation problems?

The research studies presented ahead have used several methods, including detailed surveys of firms and buildings in specific industrial estates, collecting quantitative data on property values and migration of small firms between different urban locations, space syntax analysis of three estates, interviews with small business entrepreneurs, cluster analysis of perceptions of industrial environments among planners and entrepreneurs, and analysis of examples of conflict management in planning for renewal. This research was undertaken during 1985–1996 at Chalmers University of Technology in Gothenburg, under the leadership of Joen Sachs, professor of workplace planning, and later at the Institute of Technology in Karlskrona by Anders Törnqvist. The research was financed mostly by grants from two Swedish research councils and in close cooperation with planners in five Swedish towns.

These studies have contributed to both conceptual and epistemic clarification. Although these buildings may seem run-down and inadequate in the eyes of some beholders, they often represent improved conditions for a growing firm. Spatial configuration of industrial estates, as articulated by spatial syntax analysis, and not only the standard of individual buildings, seems to be an important quality for small business. A picture-sorting study indicated that planners and entrepreneurs to some extent share the same perceptions of industrial environments, but have different interests and priorities. Planners need to be sensitive to these different interests and priorities. It has been assumed that such partly shared perceptions facilitate dialogue. Examples of such negotiation have been studied in order to evaluate different approaches to conflict management for resolving conflicts and reaching an acceptable settlement of planning issues. Identifying relevant aspects in the renewal of old industrial areas, as in the studies mentioned earlier, gives examples of conceptual clarification. Surveys of larger populations of firms and planners, indicating the extent and frequency of migration and the presence of common perceptions, and evaluating different approaches to conflict management, contribute to epistemic clarification.

Research for practice in Sweden

Many towns and cities in Sweden face problems of decay of older industrial areas. The planning authorities seeking to improve conditions and promote local economies are faced with many questions. How, for example, do small businesses select and use premises in old industrial districts? Why do they select such locations in spite of the seemingly low quality of the buildings?

The Swedish planning system is characterised by comparatively autonomous local authorities. The current Planning and Building Law was first established in 1987 and restricted the power of central government over municipal spatial planning to dealing with a reduced number of defined issues: protecting areas with environmental and cultural heritage qualities, safeguarding health and security and serving the interests of national infrastructure and military defence. Local authorities have a ‘planning monopoly’, meaning that private developers are dependent on local authority consent to start planning development schemes. Following such consent, the local plan (detailed plan) produced by the local authority is often worked out in cooperation with the developer, detailing development rights and environmental restrictions, building design guidelines, etc.

Proposals for local plans must be exhibited and subjected to public consultation. Legally recognized stakeholders may appeal planning proposals to higher administrative and judicial levels. The legality of the provisions of the plan is checked. National government can intervene and invalidate the plan, if specific national interests are jeopardized. The local authority, after hearing the views of stakeholders, must explain in a public document its decisions when judging
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between opposing interests. The decisions of the local authority are strengthened when appeals are made if they can be shown to conform to an adopted comprehensive plan (översiktsplan), which covers the whole of the municipality, but is not legally binding. After the local authority has approved a plan and complaints have been overruled, developers can apply for building permits. If applications conform to the regulations of a local plan, which has attained legal status, they cannot be rejected.

The Swedish planning system seems to be clear at a general national level. How it is operationalised depends on local circumstances. It is difficult to draw conclusions from general information about planning at a national level, even if a certain planning problem is shared by many municipalities. Local conditions, power-balances, restrictions and possibilities for action are different. Research on planning problems with a focus on dialogue and conflict management needs to consider the specifics of local situations. It seems reasonable, therefore, to focus on specific cases when starting to study a specific planning problem.

There is a strong tradition in planning of using case studies as the basis for a research strategy. Case studies can be used as sources both for qualitative and quantitative data. The purpose of case studies can be *evaluative*, measuring degrees of success or failure in a certain case, or *exploratory*, learning more about problem aspects and cause-effect relations. They can be used for both generating and testing hypotheses (Thomas, 2011; Flyvbjerg, 2011). They are especially useful in addressing ‘how’ and ‘why’ questions such as those noted earlier (Yin, 2008). They can therefore be seen as an important component of a research strategy that addresses both conceptual and epistemic uncertainty. In the research reported ahead, practice-generated questions are explored through a range of case study examples.

**Research to inform the renewal of industrial areas**

Small businesses in central Gothenburg were worried in the late 1980s. The new comprehensive plan for the city designated the small, centrally located industrial estate of Kungssten for total renewal, to be replaced by offices and housing. The firms on the estate – established in 1945 and now housing some thirty businesses – formed a local business association, which contacted the Business Council of the city administration. The Council was sympathetic to the views of the Kungssten entrepreneurs. Some planners in the City Planning Department were also critical of the comprehensive plan. They contacted the Business Council of the city administration. The Council was sympathetic to the views of the Kungssten entrepreneurs. Some planners in the City Planning Department were also critical of the comprehensive plan. They formed a project group which contacted researchers at the Chalmers University of Technology and the University of Gothenburg, who secured funding from the Swedish Council of Building Research.

A research team conducted a thorough investigation of the buildings and businesses on the Kungssten industrial estate. Planners had observed derelict buildings on the estate; streets were in bad shape. Business analysts suspected that several firms were stagnant, low-profit enterprises in ‘overripe’ sectors, like car repair shops, plumbers and welders. They based their perceptions partly on the findings of a statistical survey of industrial areas in Swedish towns (Johansson & Strömquist, 1979), indicating a relation between old, run-down industrial areas and low productivity, profitability and wage levels. The study investigated businesses in hundreds of Swedish towns, mining public statistical data on property values and business performance, using postal area codes to relate the two sets of data, identifying old industrial environments and their locational relation to low-performing businesses. An important limitation of the study was that economic data was not available for the smallest businesses with less than ten employees.

The research team’s detailed study of buildings and mostly small firms in the Kungssten estate showed a slightly different picture. There were indeed low-standard buildings and stagnant firms on the estate, but there was no obvious correlation on a micro-scale. Stagnant firms had
buildings in good shape and survived by letting space to expanding businesses. Many firms in low-standard buildings were expanding and had moved to the estate from premises elsewhere in even worse condition. Several quite small firms turned out to have specialised skills and a regional, or even a national, market for their products and services. Workplace environments and their impact on the surrounding environment were surprisingly satisfactory according to government inspections. These findings eventually led the city to invest in technical infrastructure in the area and modify the comprehensive plan. Instead of designating the Kungssten business estate for total renewal, the modified plan identified the estate as a valuable environment for growing businesses.

Four research questions emerged from this exploratory study (Törnqvist, 1995):

- What is the extent of the mobility of small firms and what are the incentives for small businesses to move from one location to another?
- What could explain the obvious differences in the evaluation of small business environments between entrepreneurs and planners?
- What are dimensions of “attractiveness” of the physical environment in the view of small business entrepreneurs?
- How can planning conflicts concerning land-use and environmental quality between businesses and other stakeholders be resolved successfully?

There was an opportunity to address the three first questions when planners of Trollhättan, a medium-sized town not far from Gothenburg, approached the Chalmers research team. Trollhättan planners needed to find a strategy to deal with several old industrial estates with abandoned, heavy industrial plants, as well as expanding old and new business environments for smaller firms. Three studies were carried out in Trollhättan: a migration study of some four hundred businesses in nine industrial estates, a picture-sorting study involving entrepreneurs and planners, and a spatial syntax analysis of three estates, trying to explain the differences in attractiveness of alternative locations for migrating entrepreneurs. The fourth question was addressed in case studies of conflict management in three other medium-sized Swedish towns: Växjö, Norrköping and Jönköping. The research questions, asking “what”, “why” and “how”, represent efforts in conceptual clarification, and a first step towards finding methods to manage the complex task of planning renewal of old industrial estates.

The migration study

A database of 190 properties and nearly four hundred companies in eleven industrial estates in Trollhättan was compiled for 1989 and 1992, supported by the municipality’s planning office. The purpose was to acquire more empirical data to address the first three research questions derived from the exploratory study. The data sources were several. Property sales are recorded in the Land Registry Office, and property values are available in the tax registers. Trollhättan planners painstakingly surveyed local business registers of the municipal Business Council, accessed registers from large property companies renting space to businesses, and traced migrating tenants by comparing address and phone books from the two years studied.

The nine largest estates were selected for closer study, since preliminary findings indicated that migration to and from smaller clusters of firms in the town was negligible. Figure 5.7.1
Renewal of industrial areas in Sweden

summarises the dynamics of migration and employment. Several firms closed down during this period, which included economic recession and a financial crisis in Sweden. Firms generally reduced employment. Bigger firms moved the Trollhättan branch to other towns to cut costs, but start-ups and small firm expansion partly made up for the losses of employment. This phenomenon was replicated elsewhere in the Swedish economy at this time (Davidsson et al., 1998).

In the late 1980s, some 15 per cent of all Swedish companies closed down each year and a slightly larger number were established, creating a net gain of some forty thousand new jobs. Analysis of the database showed that about half of the premises in the nine estates changed use through businesses moving during the survey period, averaging an annual change of 17–18 per cent. Telephone interviews and studies of property tax register data showed that a large majority (70 per cent) of the circa 130 migrating firms moved purposefully to improve their premises, whatever their starting level.

An example of conceptual clarification emerging from this study is that, contrary to common perceptions of planners and economists, the small firms in this population did not move to old premises to cut costs, trying to survive on reduced profit margins. They moved instead to expand and improve the conditions for their business. In some cases, large and relatively inexpensive premises stimulated the growth of new production activities. The relatively large number of firms in the survey and the amount of quantitative data to support this view are, of course, an example of epistemic clarification.

An example of space syntax analysis

Migration data also revealed that some estates were more attractive to firms than others. The Halvorstorp estate had recently been established close to a major road with good advertising opportunities for firms erecting modern, attractive buildings. Another popular estate, Stallbacka, was on the contrary an old estate with abandoned, heavy-industry buildings. A small real estate developer had acquired the land and built a new street connecting the estate with a major road,
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and a new office building at the entrance advertised the estate. The developer renovated the old industrial buildings and could provide a wide range of premises of different size, quality and cost. Halvorstorp (forty-nine firms in 1989) made a net gain of sixteen firms during the period. Stallbacka (thirty-four firms) made a net gain of ten firms, while another estate, Nohab (thirty-five firms), lost four firms.

Nohab was originally a plant for heavy industry. Small firms had moved into the subdivided, large, old brick buildings but at the time of the study also moved out. In interviews, entrepreneurs complained that customers had difficulties finding their premises in the large buildings. It was difficult finding the way from the entrance to the estate to the many small alleys between buildings. This suggested a hypothesis to be tested in more detail – namely, that the spatial configuration of the estates affected their attractiveness.

Spatial syntax analysis was selected therefore to explore further these suggestions (Hillier & Hanson, 1984; Hillier, 1999). The theory and method of space syntax analysis are based on the idea that ‘natural movement’ – the aggregated movement of large populations, pedestrians and motorists in urban space – is influenced by spatial configuration, quantifying topological relations between streets and other public spaces. As a basis for analysing urban spaces axial maps are established. An axial line is drawn on a map, showing how far one can see along a street or open space that is also physically accessible. Software then calculates a number of values, measuring the relationships between all axial lines.

Integration measures how many turns one has to make from a street segment to reach all other street segments in the network, using the shortest paths. Another term for such turns is “syntactic step”. A street segment needing fewer syntactic steps to connect with other streets and public spaces is considered more “integrated” than ones with more steps. Global integration of a space is based on the total number of steps of a street segment to reach all other public spaces in the urban district selected for analysis. Local integration values are calculated by limiting the number of steps – to three, for example.

Integration values are interpreted to represent the perceptual and cognitive complexity of reaching different parts of an urban district, if one does not have previous knowledge of how to find one’s way (Penn, 2003). The ratio of global and local integration in the analysed urban district is related accordingly to the ability of strangers to find their way from any one location to other locations in the area. The study indicated a correlation between spatial configurative qualities and attractiveness of the estates (Törnqvist & Ye, 1995). Halvorstorp and Stallbacka showed high ratios of integration. The low integration ratio of Nohab, with firms moving out, could be interpreted to support the views of the firms there that it was difficult for visitors to find their way (see Table 5.7.1). Other space syntax values for the estates confirmed their configuration differences.

<table>
<thead>
<tr>
<th>TABLE 5.7.1 Space syntax analysis of three industrial estates</th>
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<tr>
<td><strong>ESTATES</strong></td>
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<td>---------------</td>
</tr>
<tr>
<td>Halvorstorp</td>
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<td>Stallbacka</td>
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<td>Nohab</td>
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INT = Global integration value
INT(3) = Integration value of spaces, considered at three steps’ depth
The picture-sorting study

A picture-sorting study was conducted to discover what small business entrepreneurs find attractive in the built environment (Törnqvist & Corander, 1995). This technique involves showing respondents a number of pictures and asking them to sort these in different groups and explain the reasons for doing so.

The advantages of sorting procedures for exploring concept formation and evaluation of environmental qualities have been outlined by Groat (1982). Compared to semantic differential techniques (see Osgood, 1979), the sorting procedure does not require pre-specified constructs. Using semantic differentials, the respondent is asked to rate a picture or a phenomenon on a scale between two bipolar adjectives (e.g. ‘adequate-inadequate’, ‘new-old’ or ‘high cost – low cost’). In contrast, the sorting technique leaves the respondents’ judgments uncontaminated by the investigator’s preconceptions.

The study’s focus was on identifying the verbal constructs used by the respondents when sorting and describing groups of pictures of different industrial environments. This was done in order to clarify what concepts were used by stakeholders when describing qualities of industrial buildings and settings. Similarities or differences in the use of concepts between clearly identified groups of planners and entrepreneurs would in addition contribute to epistemic clarification.

Entrepreneurs (N=26) and urban planners (N=20) in Gothenburg and Trollhättan were asked to sort twenty photos of industrial and business environments. The selected photographs showed a wide range of buildings, from simple workshop sheds to modern office buildings. Respondents were selected among entrepreneurs moving to and between the nine industrial estates in Trollhättan and interviewed about their reasons for doing so. They were representative of the total population in the respect that they were businesses in manufacturing, repairs and private services (non-retail), with between one and sixty employees.

Respondents were asked to sort the photographs in groups according to some kind of similarity and then characterize the environments grouped together. No restrictions on the number of groups were given, nor were any clues provided as to the criteria that could guide the sorting. Only one sorting was made by each respondent, and extensive notes were taken of all the terms and expressions he or she used when describing the sort. In most cases the sortings were quickly made, and many entrepreneurs were surprisingly quick in characterizing the different groups. They could also quickly choose the group to which their current premises corresponded and also the group corresponding to accommodation they would consider moving to in the near future.

The original assumption was that there is a significant difference in the way entrepreneurs and planners perceive, describe and evaluate industrial environments. A small pilot study with 5–6 entrepreneurs and planners seemed to give some support to this and indicated that the difference could be related to the tendency of each group, respectively, to use concepts describing either the physical qualities of the built environments or the businesses likely to use them. This generated two hypotheses for further investigation:

First hypothesis: There is a significant difference in the way entrepreneurs and planners use verbal constructs in sorting and characterizing pictures of an industrial environment.

Second hypothesis: Planners tend to use constructs describing the properties of the built environment as such, and entrepreneurs tend to use constructs referring to the businesses likely to use the buildings shown.
The first task when analysing the material was to identify the constructs behind the respondents’ terms. Terms such as ‘old buildings’ or ‘newer accommodation’ were easily categorized as a construct referring to building age. ‘Family business in manufacturing, or repairs’ indicated a construct referring to building use. The majority of the range of constructs clearly referred to either the physical, technical and economic qualities of the built environment or the potential business users of these environments.

Several statistical techniques were used to analyse the distribution of constructs used by the respondents – cluster analysis, lattice analysis and multidimensional scaling analysis. All techniques yielded results that tended to support the two hypotheses concerning differences in the use of constructs by entrepreneurs and planners respectively. Here the main findings are summarized with particular attention to the results of the multidimensional scaling analysis.

What primarily explains the clustering of planners and entrepreneurs in two fairly distinct groups is the entrepreneurs’ much more frequent use of constructs referring to different branch classifications. A branch classification construct such as manufacturing summarised a much greater number of different terms used by the entrepreneurs (nine terms) than by the planners (three terms). In addition, entrepreneurs differ from planners in preferring the general construct building type (factory, office, warehouse) to other, more developed building constructs.

A cluster analysis was also made of the sorted pictures in order to identify possible similarities. In contrast to Groat’s (1982) study, it was not one of the purposes of this study to explore the respondents’ ability to identify certain characteristics in the pictures presented. It is natural to expect, however, that obviously similar pictures of old buildings, for example, would be put in the same group by several respondents. Possible differences in the sortings would also be of interest, particularly if the differences could be related to the type of respondent – entrepreneur or planner. On the other hand, the absence of significant differences in sorting would highlight differences in the use of constructs between the groups of participants.

On the basis of clusters of pictures sorted, measures of association between entrepreneurs and planners were calculated. One measure is the proportion of clustered pairs of pictures similarly classified by participants belonging to the two different groups. This value, which can vary between 0 and 1, was equal to 0.83, which means that a high proportion of the pictures were similarly classified by entrepreneurs and planners.

In conclusion, the study supported the first hypothesis concerning significant differences between entrepreneurs and planners. The differences are most prominent between entrepreneurs and the Trollhättan planners, whereas the Gothenburg planners show greater individual variations. The study also supported the second hypothesis, with the modification that it is mainly in the frequent use of branch classifications that entrepreneurs differ from planners. Entrepreneurs tended to describe the type of business the building was suitable for – a small family business in the construction sector or a high-tech firm, for example. Planners tended to describe the physical building – an old brick building in bad condition or a modern office building, for example. Their descriptions thus reflected their professional perspective. These characteristic differences between the ways entrepreneurs and planners describe and interpret pictures of industrial environments are further enhanced by the fact that according to the cluster analysis both groups tend to perceive the visual similarities between the pictures as such and sort them accordingly. These findings have practical relevance and indicate the potential for dialogue. Planners and entrepreneurs actually share some common perceptions of industrial environments and see similarities and differences in the premises for small firms. They evaluate them differently, however, according to their professional perspective and priorities.
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Conceptualisation as a basis for dialogue and conflict management

The picture-sorting study suggests that the visual attractiveness of old industrial estates is partly, but not completely, in the eye of the beholder. Planners and entrepreneurs observe and classify industrial environments in similar ways, but evaluate them differently. The migration study showed that when small firms move, which they often do, they typically move to bigger and better premises. This indicates a need for diversity, in size, cost and location of premises for small firms, perhaps greater than many planners realize. Complete redevelopment of old industrial environments can be compared to eliminating the lowest rungs of a ladder: vital for small, newly established firms with the potential to move upwards, growing in size and profitability. The importance of spatial qualities of small-firm environments, as measured by space syntax analysis, is supported by empirical evidence on location preferences in the migration study. High integration ratios of an estate indicate high accessibility and orientability and make the estate attractive for firms dependent on new customers. Space syntax analysis can consequently also be used to identify and provide spatial diversity, in the sense that some firms with bulky and untidy production could preferably be ‘hidden’ in a less accessible and less expensive part of an estate.

How then can these research examples of conceptual and epistemological clarification be used to improve planning for small firms? Our research suggested that the findings could be used as tools and evidence in promoting collaborative interaction between stakeholders – an enlightened dialogue (Davoudi, 2006; Forester, 1989, 1999; Healey, 1997). There was an opportunity to explore this idea through a grant from the Research Council of the Swedish Association of Local Authorities to Blekinge Institute of Technology, Karlskrona. We set out to examine the conditions of successful conflict resolution in additional studies in three medium-sized Swedish towns (Törnqvist, 2006). These towns were considered representative of towns, where industry was being gradually replaced by cultural services, commercial services, and housing. The research team had had previous personal contacts with the towns’ planning officials, which facilitated the studies. Geographical accessibility also contributed.

The number of examples was increased to reduce the effects of local conditions and broaden the quantitative base for analysis – supporting epistemic clarification. Planning cases were found by asking planners about recent planning cases concerning workplaces with manifest conflicts between stakeholders: local authority planners, businesses, resident neighbours and environmental protection agencies.

Typical conflicts in these towns, as elsewhere, concerned whether to allow new businesses or the expansion of existing ones in central locations, with risks of subjecting resident neighbours to environmental disturbances, such as noise pollution, sometimes exceeding existing legal regulations. The objective of facilitating businesses was also linked to political goals to protect and increase employment opportunities, not least in the vicinity of problematic housing estates with high rates of unemployment. The nine cases selected for study typically concerned proposals to change the local plan to allow for other types of activity, such as private services instead of only manufacturing, for the expansion of existing businesses, and also to allow for the establishment of workplaces in residential areas. To protect other stakeholders, technical performance criteria that limited environmental disturbances were sometimes included in the proposed plan.

Stakeholders were interviewed concerning their views and reasons for or against the proposals. Planning documents were analysed in order to classify the modes of conflict management. These modes formed one axis of a matrix in which the cases could be placed. The other axis classified the outcomes of conflict management (see Table 5.7.2).
The classification of modes of conflict management

The classification itself was drawn from the work of Faludi (1987), Forester (1989), Sager (1994) and Healey (1997). Under decision-making rationality, the decision maker should consider all the alternatives open to her in a certain decision situation. She evaluates the consequences following from each alternative and selects that alternative, the probable consequences of which would be preferable in terms of her most valued ends. When analysing the nine planning cases in this study, we considered such a mode to be present if at least three decision alternatives were considered, including the zero-alternative of taking no action. This is admittedly a crude criterion. It succeeded, nevertheless, in discriminating between the cases. The mode of communicative rationality was defined drawing on the work of Sager (1994) and Forester (1989). This mode was considered to be present in the cases if, through a flexible approach by planners, a dialogue was opened between the parties in which minimum levels of comprehensibility, truth, sincerity and legitimacy could be verified (Forester, 1989).

In view of the discussion of whether these Habermasian prerequisites of an “ideal speech situation” could ever be met, this approach was perhaps naive. In the actual cases it seemed possible, however, to apply low-key versions of these criteria of communicative rationality to discriminate between the cases.

The interdependence of communicative and decision-making rationality

A conflict resolution, which is considered acceptable by all the parties, is not necessarily rational in the classical sense. It may be short-sighted and opportunistic; relevant alternatives may not have been considered and some factual truth neglected. Sager (1994) recommends reference to planning principles to prevent opportunism in flexible conflict management. In the form of strategic goals, for example, to promote employment opportunities in environmentally friendly branches and locations, planning principles can be seen as an indication that a wider range of alternatives have in fact been considered and their consequences evaluated. In this sense such principles and goals serve to uphold decision-making rationality according to Faludi (1987). Technical performance criteria in the plan or building permit, limiting, for example, levels of acceptable emissions from industry, is another way of preventing opportunism and damage to third-party interests (Healey, 1993). So, in addition to observing the modes of decision-making and communicative rationality in the studied cases, note was also taken of references made in planning documents to strategic goals and technical performance requirements.

Problems of rationality

Even if decision-making rationality and communicative rationality are rewarded by success in resolving conflict, this may not have been an obvious or expected outcome beforehand. A flexible approach, striving for innovative solutions in trying to resolve conflict, may not be rationally justified. Elster (1987) highlights another risk relevant for planners considering the potential benefits of entering a dialogue with uncertain outcomes. The risk is not only wasting resources without any results to show for it but also being blamed for the failure. This can lead to playing safer than the actual odds of succeeding may justify (Elster, 1987, p. 32). Professional reputation is a precious asset and more easily hurt than strengthened. Both bold risk taking and prudent conservatism may therefore lack rational justification and entail risks of professional blame.
The classification of outcomes

Sager (1994, p. 152) suggests a scheme for classifying outcomes of conflicts as solutions or settlements. In our study, we developed the following definitions. Settlement means a state of manifest conflict, but where manipulation is no longer used. Manipulation is used here to mean the deliberate holding back of useful information, concerning preferences and strategy in negotiations, or trying to influence a decision by appealing to other actors than the ones directly involved in the negotiations. An example of settlement is where a decision has been made by the local authority, going against a party with objections to a planning proposal, but where this party does not pursue the matter, for example, by appealing to a higher judicial or administrative level, although arguments of persuasion are still current. Solution means that manipulation and also persuasion have ceased, usually implying a satisfied consensus among the parties. The parties are no longer arguing or negotiating but have reached an acceptable compromise.

The results of this analysis indicated that successful conflict resolution in the studied cases can be related to application of rationality, both decision-centred as well as communicative. But there is a paradox involved, which is illustrated by the anomalous case of Växjö Bakery (case number 7 in Table 5.7.2), where no mutually acceptable solution was found, in spite of the application of rationality and extensive mediating efforts. There was only cessation of protests and appeals, or settlement. This case illustrates the aforementioned risks that planners take when venturing into a potentially fruitful but time-consuming dialogue with stakeholders – risks of being blamed for

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<th>Modes</th>
<th>Outcomes</th>
<th>Decision-making rationality</th>
<th>Communicative rationality</th>
<th>Strategic goals</th>
<th>Technical performance criteria</th>
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<td>(2) V. Mark changing local plan</td>
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<td>(3) I11 informal comprehensive plan</td>
<td>Yes</td>
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<td>(4) Navestad Youth hostel – temporary building permission</td>
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<td>(6) Araby shops – allowing temporary use</td>
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<td>(7) Växjö Bakery – changing local plan</td>
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<td>(8) Araby Catering – allowing temporary use</td>
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<td>(9) Navestad workshop – allowing temporary use</td>
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failure and waste of resources. In summary, some degree of conceptual clarification was achieved, relating different concepts of rationality as tools for conflict management to satisfying outcomes. There is a need, however, for further conceptual clarification of paradoxes and problems involved, perhaps by introducing in continued studies the concepts of ‘institutions’ and other social structures for reducing uncertainty and risk (March & Olsen, 1988; North, 1990; Healey, 1999).

Conclusions

This chapter has presented a sequence of research studies, which have progressively aimed at conceptual and epistemic clarification as a basis for planning policy. An exploratory case study of a small business estate in central Gothenburg was initiated jointly by the business association for the estate, city planners and researchers at Chalmers University of Technology. The detailed study indicated that the physical standard of buildings and the economic performance of the businesses in this estate were less problematic than assumed. This result in turn led eventually to modification of the city comprehensive plan. Instead of designating the small business estate as ripe for total renewal, it was identified as a valuable environment for growing businesses.

The study further led to four research questions, indicating the need for both conceptual and epistemic clarification when addressing the complex problem of planning for renewal of industrial estates, while also promoting adequate environments for small, growing businesses. The four research questions were pursued in studies carried out in four medium-sized Swedish towns.

A survey of some three hundred businesses in nine industrial estates in Trollhättan, a medium-sized town not far from Gothenburg, indicated high mobility among these small firms over a period of three years. Interviews among migrating entrepreneurs indicated frequent movement with a large majority thereby improving the size and quality of their premises. In a period of economic recession this partly made up for close-downs and reduced employment in larger firms, an observation supported by larger, macroeconomic studies – a contribution to epistemic clarification.

Some estates proved more attractive than others when firms migrated to improve their premises. Spatial syntax analysis and a picture-sorting study helped in understanding aspects of the attractiveness of industrial environments, contributing to conceptual clarification. Spatial configuration qualities, such as physical accessibility and ease of orientation, partly explained why some estates were more popular than others, according to this analysis.

Entrepreneurs tended when sorting pictures of different industrial environments to describe the type of business the building was suitable for – a small family business in the construction sector, for example. Planners tended to describe the building as such – an old brick building in bad condition, for example. Their descriptions thus reflected their professional perspective. Entrepreneurs rated building age and building standard differently from planners, which indicates the need for planners to be more observant about the total supply of environments for small firms. A dynamic perspective seems necessary, with the goal to provide and protect continuously a broad spectrum of locations and premises, where small firms can grow and develop.

Both entrepreneurs and planners tended to perceive visual similarities between the pictures as such and sort them accordingly in largely similar groups. Partly similar perceptions but different perspectives and priorities among stakeholders – entrepreneurs, planners, neighbours, the general public – are assumed to make dialogue both possible and necessary. The modes and outcomes for such dialogue were on the basis of this assumption studied in a variety of planning
cases, providing examples of manifest planning conflicts. The results indicate the value of flexible approaches, criteria-driven evaluations and the application of both decision-making and communicative rationality, and can be interpreted to confirm the usefulness of conceptual clarification. The role of conceptual clarification as a condition for effective conflict management also raises the issue of how planners should be trained in negotiation and argumentation. This issue has been addressed in a later study testing methods of teaching skills in this area by the use of software and other educational tools (Törnqvist, 2011). As others in this volume have commented (see Harris, Chapter 1.3; Campbell, Chapter 1.5), there are many ways in which teaching can be infused by, and contribute to, research inquiry.

Notes

1 See the introductory chapter of the book and selected chapters in part 3.
2 Lattice analysis is described in technical detail by Corander (1996). For cluster analysis and multidimensional scaling, the reader is referred to Arabie et al. (1996) and Green et al. (1989), respectively.

References


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