

An institutional analysis of the Burren Programme in Ireland using the interview-based Net-Map method

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This **research note**¹ investigates the institutional design of the Burren Programme (BP) in Ireland in terms of the key actors, the formal and informal interactions between them, their motivations, their influence in decision making, obtained benefits, as well as the challenges faced and the main success factors, as perceived by actors involved.



Fig. 1: Burren Karst Landscape © DorSteffen/Shutterstock.com



Fig. 2: Burren flora: Mountain avens © M. Fowler/Shutterstock.com

Key Points

- For the institutional analysis seven actors involved in the Burren Programme (BP) were interviewed using the Net-Map method for social network analysis.
- Based on the interview results, 14 key actors from all governance levels (local to international) with different professional background in agriculture, nature conservation, and tourism were identified.
- These actors cooperate with one another through a dense network of formal (i.e. based on written contracts and formal agreements), and informal ties (e.g. based on exchange of information or resources).
- Involved actors name diverse motivations for their involvement, including ecological and economic aspects, knowledge transfer, local connections/love for their region, social/networking, as well as obligation through assigned duties or mandates.
- The assessment of the perceived influence on decision-making processes and the obtained benefits from their involvement in the BP varies widely between actors.
- Named challenges relate to the EU's Common Agricultural Policy (CAP), the Covid-19 pandemic, unsustainable tourism in the Burren region, missing marketing concepts for local produce in the region and issues related to the current design of the BP.
- Main success factors of the BP are the high level of trust and commitment of actors, local connectedness, as well as the layered payment design, the flexibility, the ambitious standards, and long-term duration of the BP.

¹ This research note is based on a master thesis conducted in the context of the Contract2.0 project: Nietzsche, S. (2021): Analysing a results-based contractual model for the improved provision of ecosystem services with the participatory Net-Map method: the case of the Burren Programme in Ireland. The master thesis is available upon request from the author (contact e-mail: sophie.nietzschmann@gmail.com).

Background and research focus

Result-based Agri-Environmental Schemes (AES) are currently discussed as a promising alternative to action-based schemes. While action-based AES reward farmers for the implementation of specific pre-defined management measures, which are assumed to provide desired environmental outcomes, result-based schemes take the opposite approach: They reward farmers for delivering verifiable environmental outcomes in the form of ecosystem services (ES), while offering them leeway on the choice of management measures. Thus, result-based schemes are deemed both environmentally effective and economically efficient (Schwarz et al. 2008). Yet, lack of information on how best to set-up and design such result-based AES to optimise schemes' effectiveness and efficiency still represents an obstacle in the EU's Common Agricultural Policy (CAP) to fund and roll out more results-based AES (Burton and Schwarz 2013, Herzon et al. 2018). The BP in Ireland constitutes a successful example of a result-based AES, which is promoted as a role model to learn from for other schemes. The research focus of this study is therefore to investigate the institutional design of the BP regarding the key actors involved, their formal and informal interactions, actors' motivations, influence and benefits. Furthermore, current challenges and factors of success are explored. To do so, different actors involved in the BP were interviewed online, applying the Net-Map method for social network analysis.

About the Burren landscape and the Burren Programme in short

The BP aims to protect the unique Burren landscape located in the mid-west of Ireland which covers an area of about 720 square kilometres. The Burren is marked by two distinct regions: an upland plateau and lowland limestone plains (EFNCP 2021). Characteristic landscape components are the limestone terraces, the 'Karst' features such as limestone pavements, and the micro-solutional 'Karren' features (Schorn 2021, Karst Working Group 2000). About 320 square kilometres are designated as Natura 2000 to protect specific habitats, such as orchid-rich calcareous and wet grasslands, limestone heaths, scrub and woodlands, fens, turloughs and calcareous springs, or particular bird species, among them the Peregrine falcon and the Hen harrier (EEA 2019, Dunford and Parr 2020). The Burren's biodiversity is furthermore reflected in its wide range of native flora species, such as Mountain avens, Spring gentian, Bird's-foot trefoil, or Bloody cranesbill. Cultural wealth is equally important with archaeological findings suggesting human settlement around 6,000 years back (EFNCP 2021, CCL 2021). Natural site conditions led to the unique Winterage farming tradition, practiced over thousands of years. In contrast to other European regions, where summer pastures are most prominent, Burren farmers herd their cattle upland during wintertime (BW 2021). This traditional practice is also seen as a pre-requisite to preserve the Burren's species-rich grassland habitats, and in turn the farmed landscape itself. Overall, the Burren provides various ES, which comprise provisioning services, (e.g. beef, dairy products), regulating services (e.g. pollination, water purification), supporting services (biodiversity, habitats), and cultural services (e.g. landscape aesthetics) (BP 2021). Yet, agricultural intensification promoted by the CAP in the 1970s and 1980s undermined the traditional and eco-friendly farming practice (Dunford 2002), threatening many of the abovementioned ES.

This is where the BP steps in: As a continuation of the initial Burren Life Project (2005-2010, 20 pilot farms involved) and its successor Burren Farming for Conservation Programme (2010-2015, 160 farms involved), it commenced as a fully-fledged AES in April 2016 for the entire Burren region (EC 2021, EC 2021a, Dunford and Parr 2020). Presently, around 320 farmers participate. The BP aims to conserve and support the Burren's environment, heritage, and communities by promoting the sustainable agricultural management of the region's high nature value farmland, improving water, soil and habitat quality as well as landscape aesthetics (BP 2021). Participating farmers receive a five-year contract in which result-based payments are made for ecologically successful management of species-rich limestone grasslands and associated grazed habitats, in combination with action-based payments granted for site enhancement works such as stone wall restoration or scrub removal (DAFM 2018). Action-based payments are supported by investments in physical assets through the Irish Rural Development Programme (ENRD 2016). To this effect, the BP represents a hybrid AES-approach, combining result- and actions-based components. Since results-based payments are not linked to specific management requirements, farmers have all freedom and flexibility within

the law to manage the land as they see fit, taking full advantage of their farm resources, local knowledge, experience and skills (BP 2021). Farmers are solely judged on the environmental outcomes of their land management, assisted by trained farm advisors and the local team which oversees the BP. Environmental outcomes on species-rich Burren grasslands and heaths are assessed annually via a habitat health checklist by trained advisors and/or farmers themselves compared to an ecologic baseline situation assessed beforehand (BP 2021, Dunford and Parr 2020). Field scores within a 0-10 range are calculated by weighted criteria reflecting habitat health (e.g. grazing level, level of bare soil and erosion, etc.) and then multiplied by field size (i.e. hectares), yielding the results-based payment per field. Payments are only granted for field scores within a 5-10 range, incentivising farmers to manage fields in a score-improving manner (BP 2021). Furthermore, payments are banded, with degressive payment rates applied for growing farm sizes (ENRD 2016). Result-based payments can be combined with action-based payments, if farmers perform additional works, such as stone wall restoration, fencing, scrub removal, provision of sheltering pens, watering or feeding facilities for cattle, creating access paths to the land, etc. These works may be fulfilled by the farmers or by hired contractors, carried out following best practice guidelines. Funding varies according to the assumed environmental value (e.g. 75-percent-funding for scrub works and only 25-percent-funding for animal handling pens) (DAFM 2018). Achieved environmental outcomes so far include that the 147 farms involved in the period 2010 until 2019 increased their scores from 6.6 to 7.4 on average, repaired 9 kilometres of broken stone walls, removed 87 hectares of scrub, and opened-up 40 kilometres of access paths (BP 2021).

Methodological approach

For the institutional analysis (cf. Vatn 2010) of the BP and its larger affiliated network of actors, the interview-based Net-Map method (Schiffer and Hauck 2010) was used for data collection. A social network analysis (Borgatti et al. 2009) was then conducted to analyse the collected data.

For the Net-Map interviews seven key actors of the BP were interviewed online using the video communication platform Zoom. Potential interviewees were identified from the BP's website (BP 2021). Further contacts were provided by interviewees later on. Interview requests and possible appointments were all arranged via e-mail. Interviewees finally included a farmer, a farm advisor, a local tour business and contractor hired by farmers, as well as representatives from the BP team, National Parks and Wildlife Service (NPWS), Department of Agriculture, Food and the Marine (DAFM), and the Burrenbeo Trust, an environmental non-governmental organization based in the region. Upon the start of each interview, first informed consent was obtained from the interviewee, also asking permission to audio-record the interview. Context information on the Contracts 2.0 project, the purpose of the study and the applied method were communicated in advance. Interviews followed a general interview guideline with 10 questions, asking about the key actors of the BP, their formal and informal interactions, their motivations, their amount of influence in decision-making, the amount of benefit each actor received from being involved, as well as current challenges and factors of success. All interviews were conducted in English within the period November 2020 to March 2021. On average interviews lasted about 60 minutes. In parallel to the interview process, the responses to the different questions are visualised in MURAL, an online visual collaboration platform. The visualisation can be done by the interviewer, the interviewee him-/herself, or together, depending on the preferences of the interviewee. This also constitutes the participatory nature of the method. Following this method, maps of the network the interviewee engages in are created showing the identified actors as nodes and the formal and informal interrelations between them as ties. Also, attribute data of the individual actors are visualized, such as actors' motivations shown as icons, or their amount of influence in decision making or their obtained benefits displayed as towers in different heights, both assessed within a range between 0 (no influence/benefit) and 5 (very high influence/benefit). With the help of the Net-Map method, interviewees do not only report their own ties to other actors in the network, but also report their perception of the ties between other actors as well as their attributes (Schröter et al. 2018).

For the social network analysis, firstly, collected data from each interview were entered into an Excel sheet creating an adjacency matrix (Borgatti 2018) that lists all actors in columns and rows in the same sequences, and at the intersections gives the information if a tie between two actors does (1) or does not (0) exist. Secondly, this information is

aggregated for all interviews, creating information on the thickness of ties as measured by the number of interviews in which a particular tie is confirmed. All given attribute data per actor were documented in a separate sheet. Finally, the data were visualized with the open-source software Gephi.

Results

Identified key actors and their roles

Overall, 14 key actors were identified through the interviews, representing actors from all governance levels, i.e. the local (i.e., municipality), regional (i.e., county or federal state), national (country), and international (i.e., EU) level. The actors were involved in the BP in the following roles: the local **BP team** coordinates the BP on-site and supports the participating farmers. It consists of a manager, scientific officer and administrative team, field and programme assistants. Around 320 **farmers** participate in the BP and manage grasslands and grazed habitats according to BP guidelines. **Advisors** liaise with farmers, discuss and elaborate farm management plans, advise them for the implementation, conduct farm audits and monitoring activities to assess scores. **Contractors** are hired by farmers to carry out farm works. The **IFA** (Irish Farmers Association) represents the interests of Burren farmers at a national level. The **DAFM**, amongst other things, is responsible for rural development and the sustainable development of the farming sector. National funds are channelled through the DAFM directly to the participating farmers and the BP team. Further BP funding is received from the **NPWS** which is responsible for the designation of conservation sites in the Burren and makes sites available for public access. The **Steering group** oversees the BP and is composed of representatives of the main actors, including the BP team, farmers, advisors, IFA, DAFM, and NPWS. The steering group meets three to four times annually. The **Burrenbeo trust** is a landscape charity which aims to connect the locals closer to their region via events, communication and education. The **tourism network** promotes the region as an international destination for eco-tourism. **Local businesses** run local enterprises in the Burren, such as tourism agencies, restaurants, or bed & breakfasts. National and international **visitors** come to the region as tourists, attracted by the Burren's unique landscape, culture, and history. **Research** entities, including the national universities, undertake research activities in the Burren covering topics such as plant ecology, conservation biology, or biodiversity. The **EU** provides co-funding for the BP to the DAFM.

Formal and informal interactions between actors

The two figures below show the formal (i.e. based on contracts or formal agreements) and informal (i.e. based on exchange of information or other resources) interactions between the actors of the BP. Actors are represented by nodes where the node and the tag size corresponds to the number of ties an actors has. The colours of the nodes then indicate the governance level at which an actor is involved: dark blue/green to light blue/green for local to international. The formal and informal interactions between them are depicted as ties, where a thicker tie corresponds to a higher number of interviews in which this tie was confirmed.

Each actor has at least one **formal interaction** with another actor in the BP network. Overall, between the 14 actors, 29 formal links can be detected. Here we only describe the formal interactions between the four actors with the highest number of confirmed formal ties: the BP team, the farmers, DAFM and NPWS: For participation in the BP, farmers sign a 5-year contract with the BP team and send them their farm plans and field assessments. The BP team also sends team members to the farms to conduct assessments. The BP team and the NPWS work closely together whenever a farmer submits a request to create an access track on his or her farmland or plans another intervention which needs to be authorized by the NPWS. The BP team and the DAFM have a contract with one another which specifies how the BP oversees and administers the programme on site on behalf of the DAFM. After collecting farm assessments, the scores are sent out by the BP team to the DAFM to initiate payments to the farmers. The DAFM and farmers also formally interact, as the DAFM makes payments to farmers according to their assessed scores and completed farm

works. Furthermore, farmers are formally engaged with other local actors, such as their hired contractors and advisors or local businesses to sell their produce and/or services.

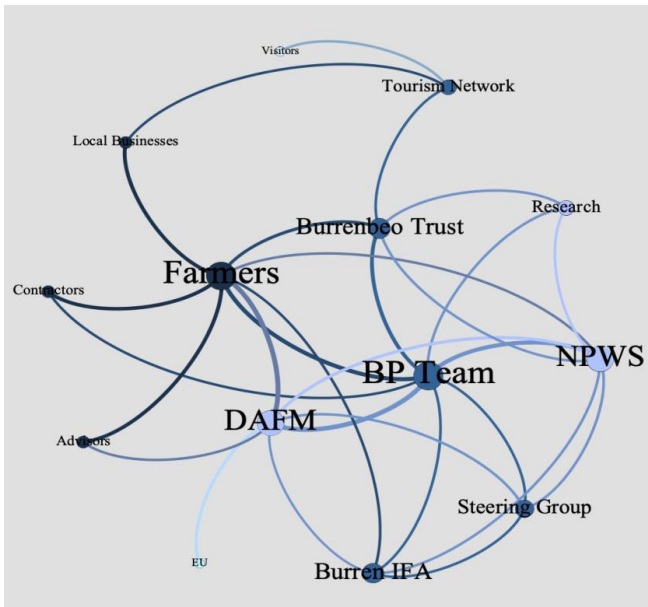


Fig. 3: Formal interactions between BP actors

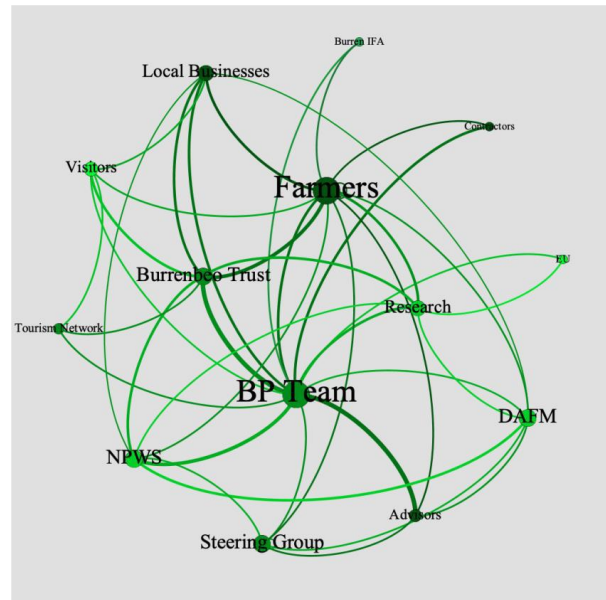


Fig. 4: Informal interactions between BP actors

Furthermore, each actor has at least two **informal interactions** with another actor in the BP network. Overall, between the 14 actors, 42 informal links were confirmed by interviewees. As actors with the most informal ties, the BP team and the farmers are in the core of the informal network, exchanging information and resources with numerous other actors. Also, both actors are attributed the highest closeness and betweenness centrality, a measure used in social network analysis to identify actors who are very well connected within the network. The BP team, for instance, offers farmers as well as advisors free training, helps advisors to plan farm assessments to ensure all of them follow the same assessment procedure and exchanges information with the NPWS about farmer requests on a regular basis. Farmers then share information with researchers when they conduct research on their land or with visitors and local business who are allowed access for guided walks. Farmers also informally connect to the Burrenbeo trust, to help organize volunteer events to help with scrub cutting or archaeological works on their farmland. One specific event organized annually by the Burrenbeo trust is the ‘Burren Winterage Weekend’ which brings together farmers, researchers, advisors, and government representatives. Here farmers demonstrate their work and explain the result-based BP in practice.

Actors’ motivations

Overall, six main motivations for actors to be involved in the BP were named by interviewees. Thereby, motivations stated for their own actor group resonated with those stated by other actors. Motivations included ecological (i.e. protecting the environment) and economic (i.e. generating additional income) aspects, interest in knowledge transfer (i.e. teaching others, learning from others), strong local connections (i.e. feeling connected to the Burren landscape, love for their region), social/networking (i.e. connecting to one another), and obligation (i.e. fulfilling assigned duties or mandates). Notably, almost all actors were ascribed an ecological motivation. Besides, all actors are assigned more than one motivation to participate in the BP. Farmers are motivated to participate through the provided economic incentive, but equally important are creating positive ecological impacts and strong local connections.

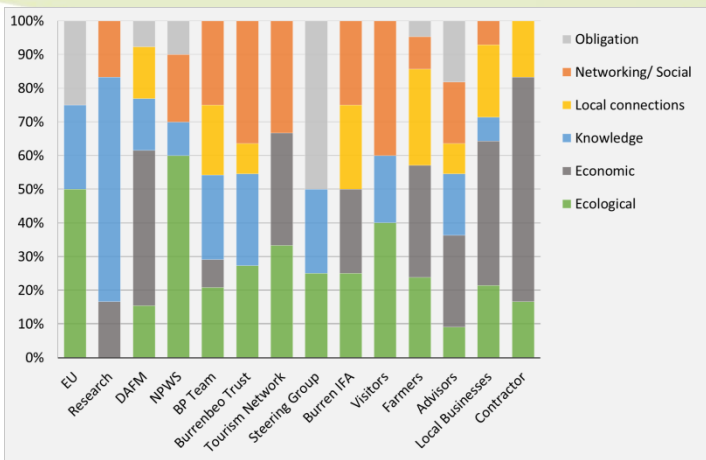


Fig. 5: Motivations of BP actors

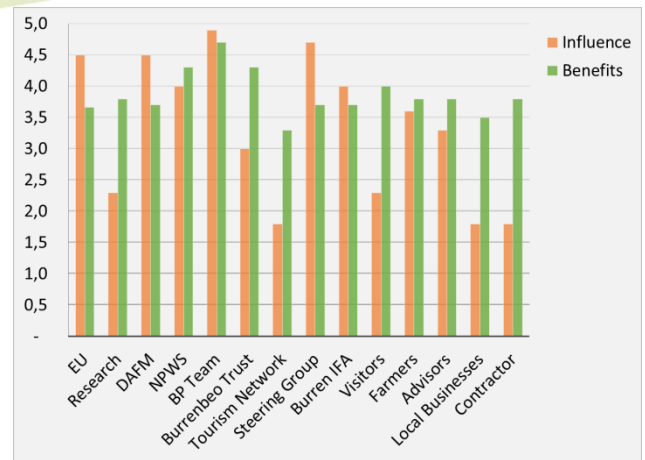


Fig. 6: Amount of influence and benefit of BP actors

Actors' amount of influence and benefit

Furthermore, each interviewee estimated for all identified actors the amount of influence in decision-making and the perceived amount of benefit from being involved in the BP on a range between 0-5 (low to high).

Highest **influence** is assigned to the BP team and the Steering group as the two actors coordinating the BP implementation. This is followed by the EU and the DAFM as the actors defining the overall policy framework at EU and national level under which the BP operates, and the NPWS as the actor responsible for designating protection areas and deciding if requests made by farmers can be reconciled with the protection status. The assessment of farmers' influence varied most across interviews. On the one hand, they were assigned a high influence as there are over 300 farmers involved in the BP and without them there would be no results, but on the other hand, it was stated that farmers do not have enough influence on the decision-making process relating to the scheme design. Yet, farmers have a very strong influence within their own farm, acting as co-authors of their own farm plans which define the environmental aims they want to achieve. On training days for farmers, they can address the BP team with concerns.

In terms of **benefit**, it is also the BP team which is ascribed to receive the highest benefits. The BP team is described to be very committed and to take great pride in their work. The NPWS is also seen to gain high benefits as the BP contributes to achieving environmental targets in the protected areas. Due to the BP, potential conflicts between farmers and the NPWS are mitigated, as the BP team mediates between the two actors. The DAFM benefits in terms of lessons learned and the sharing of information by the BP team. The EU benefits in terms of increased biodiversity and landscape preservation. Advisors and contractors benefit in the sense that they receive income. Advisors also learn through the BP. Local businesses are said to benefit from the success of the BP, in terms of economic gains through more visitors. Farmers are stated to benefit in the sense that they take great pride in their contributions to conservation farming and that every extra effort is translated into a higher reward. Regarding the economic benefit, interviewees said that the amount of money farmers receive is very modest or even amounts to nil, due to the cost they have to bear for the advisors, yet, they are happy to receive it as an acknowledgement for their work. Even with no financial benefit, some farmers still enrol in the scheme because of their strong local connections with the Burren landscape.

Perceived challenges and factors of success

Perceived **challenges** in the context of the BP as stated by the interviewees encompass: the rigid design of the CAP as the umbrella policy framework for the BP (e.g. too much bureaucracy, does not allow full consideration of the local conditions nor enough local autonomy; announced budgetary cuts for new CAP period worry participants since the

share allotted to result-based schemes is still unclear); coping with the Covid-19 pandemic (e.g. linked financial uncertainties, low participation of farmers in training now conducted online; lack of IT infrastructure and IT support for BP team); missing collaboration between the agricultural and tourism sectors (e.g. although it is the farmers, through the nature of their work, who create the conditions for the beauty of the landscape and its biodiversity, which attracts tourists from all over the world, farmers do not benefit enough from tourism economically); unsustainable tourism in the Burren (e.g. mass tourism, in particular too many day-tourists which leave a high environmental footprint but render only little benefits for the local economy); lack of marketing and a missing label which allows consumers to identify sustainably produced products from the Burren region, including beef (if beef production becomes uneconomical, farmers give up beef production which also means the loss of farmers who practice 'Winterage' grazing); lack of a 'whole-farm'-option in the BP (allowing farmers to enrol all their land in the BP, including non-designated land, and add other environmentally-friendly measures currently not part of the BP, i.e., tree planting measures from other national schemes, or, generally combining the BP with other schemes, such as the green low carbon scheme 'GLAS', all in one farm plan); the BP's low attractiveness for small farms (where the cost of hiring an advisor eats away the rewards offered through the BP); difficulties in winning over the next generation of farmers for the BP; concerns about the future staffing of BP team when the current members will retire.

In the opinion of the interviewees the following factors determine the **success** of the BP: the high level of trust between actors built through long-term cooperation in the BP; strong local connections as a very powerful motivator for farmers to participate in the BP; committed work of the Burrenbeo trust, which also functions as a multiplier by communicating the success of the BP to other actor groups beyond the farming sector, such as the visitors; the layered payment design rewarding each extra conservation effort taken by farmers motivating them to strengthen efforts further; the result-based approach in general which creates true value for money and which helps to justify continuation of support payment co-financed by the EU; flexibility of the BP which allows adaptations to the local conditions and the unique landscape (within the rigid frame set by the CAP); ambitious standards set by the BP team which motivate participating farmers to achieve high field scores; general expectation that the BP will be carried on long-term as opposed to other AES with shorter runtimes.

Conclusions

The acquired knowledge gained through the institutional analysis of the BP may be used to strengthen existing ties among actors (e.g. between agriculture and tourism), raise awareness of the importance of informal ties, and suggest ways to enhance organizational performance of the BP (cf. Serrat 2017). If the BP, as a result-based AES, should be transferred to other interested regions, an explicit analysis of relevant actors should take place in advance in order to understand the feasibility of the intended policy change (Grimble and Wellard 1996). An institutional analysis of how actors already interact with one another may then generate knowledge on actors' intentions, interests, influence and resources to support or go against the intended policy change (Brugha and Varvasovsyky 2000). In top-down policy decisions, often key actors are assumed to be only policy framers, neglecting other relevant stakeholders at the regional and local level (Sabatier 1986). However, for implementing national and international environmental policy change, decision makers increasingly recognize the importance of wider participation. Thus, institutional analysis can be employed as a tool to identify and empower stakeholders to be included into the decision-making process right from the start and to strategically build connections between them, as effectiveness and efficiency of a policy system can be explained by the extent to, and manner in which actors interact (Hjern and Hull 1982).



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