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I. INTRODUCTION

Haldor had been travelling for several days. When he lined up to see the lawman, he was tired and anxious to get back to his family as soon as possible. His quarrel with the King over grazing rights was important to him, however, and he was thinking of how to formulate the issues concerned when a clerk stepped forward and announced that the lawman had suddenly taken ill and begged all to return the next day.

Haldor managed to find an inn which would put him up for the night, but he slept restlessly. He was one of the first to stand in line outside the lawman's house the next morning. But the lawman was not an early riser. The sun was burning down from high above before Haldor was lead into the presence of the scholar who was known to everybody in the land for his memorized mastery of all the law and as an indispensable source of knowledge in an age when paper was not yet known.

Haldor solemnly presented the problem, covering only the details which he felt were crucial to his case. The lawman listened impassively and then finally stated that due to the obscurity of the problem and the paucity of precedents, he required a few moments of tranquil reflection. Meanwhile, he suggested that Haldor consult the clerk regarding the settlement for his services.

The clerk, discreetly placed in a corner, routinely mentioned an amount which shocked and embarrassed Haldor. The amount exceeded his most pessimistic estimates and, in fact, his readily available funds.

Haldor was back in line the next morning with money borrowed from some distant relative in the town. After languishing in the line for what seemed an interminable period, with the sun still bearing down from a hot and cloudless sky, Haldor was brought before the lawman who commenced his discourse on the legal points involved. Almost at once Haldor became slightly disturbed by what he heard. The discourse contained several points of interest, but still he felt that it was somewhat offkey. He interceded and restated his prob-
lem, but to little avail. The lawman continued along the same train of thought as before.

Haldor was becoming desperate and suddenly had an inspiration. He recalled having heard of an old feud, which, while not exactly identical to his own problem, had many similar points. And that case had been decided against the King.

The lawman, however, was not impressed by this interruption and huffed that he had never heard of such a case. Unmoved he continued his exploration of the issues and finally concluded on a pessimistic note concerning Haldor’s chances, should he choose to instigate proceedings against the Crown.

With a sinking feeling, Haldor made his way to the clerk in order to make his payment. Confronting the clerk, he could no longer contain his disappointment and complained vehemently about the one-sided view of the law handed out.

The clerk, in an effort to quiet him down, soothingly started to explain the wisdom of their King. He especially noted that the King did his best to defend the Crown landholdings, a task which had not been properly attended to by his predecessor. And being a careful and intelligent man who did not relish the possibly negative effects which numerous court proceedings could entail, he had immediately issued a decree enlisting the lawman in the service of the Crown.

Slightly dazed, Haldor left feeling robbed and worried. He did not worry so much about his own case, which he had almost forgotten, but about his land, his King, and especially the lawman. Why was there only one lawman? Suppose the lawman was bribed, as he in a way was; suppose he had a serious accident; suppose he died; suppose the law could somehow be engraved for everybody to interpret; suppose . . .

This tale highlights certain basic issues inherent in all legal information services. These issues concern (a) the neutrality of the service and the representativity of its information, (b) the clarity and relevance of the information provided, (c) the cost of the service, and (d) the reliability of the service. The introduction of new technology will certainly affect these issues. Whether technology will affect these issues in a positive or negative way will depend on how the technology is used. It is the thesis of this article that the introduction of computer technology into legal information systems requires the state to formulate and pursue a legal information policy. There are several reasons for this. Among the most important are that (a) the old balance between the economics of legal information and the theory of legal sources breaks down, requiring a deliberate policy concerning the neutrality and representativity of legal sources; (b) due to the factors on both the supply and demand side, the new computerized legal information services will tend to be both
monopolistic and centralistic thus creating problems of cost and reli-
ability; (c) efficient marketing and distribution of computerized in-
formation services require a complex infrastructure, including a
well-developed data network; and (d) effective use of the new tech-
nology requires a higher degree of coordination and cooperation on
the supply side than was previously necessary. Thus, a new frame-
work, including channels of communication and various forms of
user participation, must be created. Only the state is in a position to
assume responsibility and to deal effectively with these problems in
a broad sense.

II. THE NEUTRALITY AND REPRESENTATIVITY OF
LEGAL INFORMATION

In the past, legal information services have rarely been planned;
they have developed over time according to the specific needs and
resources available. Consequently, legal information services are
not organized in the same way in any two countries. Still, it is inter-
esting to note how much different systems correspond in basic form.
This, of course, cannot be accidental, but rather seems to reflect a
practical interaction between the theory of legal sources and the de-
velopment and operation of information services.

According to legal theory, legal sources are roughly structured
as hierarchies of different types. The hierarchies are distinguished
from each other according to the authority behind the legal source.
Under the authority of the parliament fall the constitution, statutes,
treaties, and parts of the travaux preparatoires. The court system
is responsible for supreme court, district court, and lower court deci-
sions. Central and local government is responsible for regulations,
administrative court decisions, and administrative decisions. The
faculties of law and the legal profession are responsible for legal
literature. Together these sources make up a mass of information.
It is not always clear, however, who is responsible for gathering this
information. It is equally unclear who is responsible for making this
information available to the parties in need of it.

The state has, contrary to what one might expect, traditionally
played a very modest role in making legal information available.
The state normally publishes legal sources only where there exists a
legislative obligation, as is usual with respect to the constitution,
statutes, treaties, and general regulations. These publications are
often chronological. Because no attempt is made to compile up-
dated version where amendments are edited into the original ver-
sion, the use of these chronological journals can be both time-
consuming and complicated. In these cases the state thus techni-
cally fulfills its obligation, but does little to satisfy the broad and varying needs of users. This may, however, reflect sound legal judgment on the part of the state. Compilations of statutes and regulations tend to contain commentaries, citations, and sometimes abstracts of court or administrative decisions. In constitutional systems based on the separation of powers, annotated compilations should preferably be made by a neutral party, a role which the state does not play since it very often is one of the litigating parties. This is also the reason why it may be inappropriate for the state to publish case reporters. In fact, there are very few countries where the state performs this function.

In a computerized information system it is economically feasible to store all cases decided at all levels in the court system. Development in this direction would solve the problem of representativity. It would, however, introduce some new problems of its own. For example, it would introduce a lot of trivial cases into the system which are not precedents in any sense of the word, and for which there would be little demand. These cases would nevertheless be retrieved and thus add to the cost of using the system. Lower court and administrative decisions are often made in order to obtain a just result in each particular case without necessarily following the letter of the law. If such decisions became available in an information system, a judge might feel constrained to weigh the precedential aspects of his decision more heavily, thereby leaving less room for other aspects. Somewhat similarly, if precedents are readily available, a judge or civil servant may be tempted for various reasons to decide cases on the basis of these instead of arguing the case through for himself. This might lead to an unnecessarily rigid application of the law.

The question of which legal sources to make available in a computerized information system, therefore, has no easy answer. Most legal practitioners would agree that statutes, regulations, and supreme court decisions should be included, even when these are already published in a satisfactory way. Normally there will also be substantial demand for travaux preparatoires, handbooks, textbooks, and other legal literature which explain new legislation. The selection of lower court and administrative decisions to be included in the system should be done by a neutral party, and care should be taken to ensure a representative selection. The courts themselves should not be responsible for this selection. They may be neutral, but they may also lack the necessary perspective to make a representative selection. Since there is no ideal solution to this problem, the most prudent approach may be to use the principle of an independent editor. Thus the information service itself would be re-
sponsible for the selection of cases. As a safeguard, interest groups or individuals might be given the right to demand or suggest the inclusion of cases which were originally omitted.

Even if it seems obvious, it should be emphasized that different user groups have different information needs. These needs can probably best be satisfied if there is a proliferation of databases, each built according to the specific needs of a user group. For example, for technical legislative purposes, a database covering all statutes in force is extremely useful. For litigation and arbitration purposes, however, databases covering only one field of law, but including different legal source types like legislation, case law, or legal literature may be more useful. Together these sources state what the law is within the field (*lege lata*).

Legal literature is important to almost everyone. It not only attempts to analyze and explain the law, but also suggests how the law ought to be (*lege ferenda*). For legislators, however, it might also be useful to know how the law actually is practiced in the lower courts and in the administration. It cannot be assumed that the practice in the lower courts and in the administration always conforms to a strict interpretation of *lege lata* or even commonly accepted principles of *lege ferenda*. There may, of course, be sound reasons for this. It represents a safety valve which allows for a certain amount of flexibility in the application of law, depending on individual and local differences. It can also be interpreted, however, as violating the principle of equality before the law. Whatever view is taken, it is of interest to legislators to know how the law actually is applied and practiced in the lower courts and in the administration. This is not law as it is (*lege lata*) or law as it should be (*lege ferenda*), but law as it actually functions (*lege effecti*).

### III. THE ECONOMICS OF LEGAL INFORMATION

Legal information may seem as a luxury to some, but if the fabric of our society is to be maintained, legal information is an extremely necessary good. There will always be a demand for the primary legal sources (statutes, regulations, and supreme court decisions) even if the price is very high. Additional sources like commentaries, appellate court decisions, or certain administrative decisions, which from a strict legal point of view may not be absolutely necessary, will only be in demand at a much lower price. Still other sources may be of incidental interest and will be acquired only at very marginal cost. Thus the demand function of legal information conforms to the type which is representative of necessary goods. Such a function is shown below (\(p = \text{price}; q = \text{quantity}\)).
There is little reason to believe that the demand function for legal information changes much over time. The lower part of the curve may shift outward a little as the complexity of the law increases, because a more complex law will increase the demand for legal decisions interpreting the law and for literature in the form of papers, commentaries, and textbooks explaining the law.

The supply function of legal information has been, and to a large extent still is, based on the state of the art in the publishing industry. According to this technology, which has changed little for several hundred years, publication of large volumes of texts in small editions has been expensive. The result has been a relatively steep supply curve.

The supply and demand curves have so far intersected at a rela-
tively high point on the demand curve. The market has thus been able to supply printed versions only of the principal sources of law, i.e., the statutes, some regulations, supreme court decisions, and selected lower court decisions, in addition to a limited amount of textbooks and related material. Some of these publications are very simple. Regulations, for example, are often published only summarily with no attempt made to provide updated versions of all regulations in force.

Computer technology is in the process of changing the publishing industry dramatically. This change is shifting the supply curve outward and making it economically feasible to increase the range and quality of legal publications by, for example, publishing more frequent editions of statutes and regulations in force or by publishing the statutes and regulations in a certain area of the law annotated with commentaries and court decisions. The new technology also makes it possible to distribute legal sources by means of data networks, thus eliminating the publishing process in the traditional sense. This will cause an even greater outward shift in the supply curve.

\[ p \]

\[ q \]

The extent to which the supply curve is shifted probably depends not only on available technology, but also on the competition within the supply industry. If the supply side is dominated by one supplier, there will be no incentive to shift the supply curve beyond \( S' \), as this will actually decrease revenues for the industry as a whole.

Experience so far suggests that the investment required to establish and maintain large legal databases is considerable compared to expected demand and that the tendency thus is toward a monop-
IV. THE MARKETING AND DISTRIBUTION OF LEGAL INFORMATION

The assumption that ignorance of the law normally is no excuse for noncompliance with the law is only meaningful if the state fulfills certain obligations on its part. In particular, the state must educate its citizens so that they are able to recognize the legal aspects of problems. Furthermore, the state must ensure that when a citizen is confronted by legal problems, he has access to sufficient information to exercise his rights or fulfill his duties. The educational aspects of these obligations involve not only formal education and vocational training, but a continuous stream of information branching into a host of different fields. Active participation in the political process is also very important in this connection.

The distribution and marketing of legal information is also of concern. The primary problem is to make the law available to an individual when and where he needs it. More specifically, the individual should be given access, in a way he understands, to the parts of the law which are relevant to him. This information problem involves two dimensions: first, retrieving the relevant sources, and second, interpreting the sources in a legally adequate way.

Because most legal sources need interpretation, legal sources can only be marketed directly to the public to a limited extent. This direct marketing primarily involves legal material which has been interpreted in a general way, e.g., newspaper stories, pamphlets, or books explaining the law in a specific field. Most marketing must be done indirectly by distributing the sources to legal intermediaries like civil servants and lawyers.

The public market can be increased by developing problem oriented systems which can be accessed through home computers or terminals. The development of such systems will be difficult and costly. Each system will cover only a rather narrow field of law. It would work by prompting the user to give the relevant and correct facts in the case and would then provide a legal opinion.

It is the legal professionals, such as the legislators, the lawyers, the civil servants, and the administrators, however, who make up
the main market. These professionals need direct access to legal sources. The sources are marketed essentially as printed matter or through computerized information systems. Both printed matter and computerized systems have their own advantages, and both are equally necessary.

Proponents of computerized systems sometimes tend to forget the enormous advantages of printed matter. A book or stack of papers is easy to read almost everywhere, gives a feeling of wholeness and completeness where every part of the text is visually related to all other parts, and makes it easy to add to the text in the form of underlining, scribbles, or margin notes. Judged according to the same criteria, computerized information systems are almost a total disaster. Information is only available at terminals. The text is tiresome to read, and the screen gives no feeling of context or wholeness. At worst, text on a screen can be compared to a book where the pages have been torn out and scattered at random.

This is not to say that computerized systems are without advantages. Through a single terminal, a user can access an enormous amount of material. Due to the high cost of printed matter, it has previously been possible to assemble comparable amounts of information only in a relatively small number of law libraries. Computer systems also make very powerful retrieval tools available. A whole library may effectively be searched in minutes, a task which in a traditional library might take days or simply be impossible. Lastly, computer systems make it possible to update the material continually, a task impossible to do effectively in a system based on paper.

Printed matter and computerized information systems in fact complement each other, and both should be encouraged to flourish. Printed matter can be distributed through bookstores, in journals which are available by subscription, and by direct mailing according to address lists available to the distributor. Distribution through the open book market and through periodicals, which can be subscribed to by everyone, ensure access on equal terms to all interested parties. Similar marketing mechanisms do not yet exist for computerized legal information. The technical infrastructure in terms of data networks, which would make computerized information available to the public at large, do not as yet exist in any country. The use of today's systems must therefore be rationed, either by limiting use to certain groups or by charging a suitably high price.

In some countries, the necessary networks could probably be provided in a relatively short time, should the market generate sufficient demand. In other countries, which from past experience need more time to adapt to growing markets, an effort should be made to impress upon authorities the tremendous traffic which these net-
works must carry in the future, traffic resulting not only from legal information systems, but from all other types of information systems as well. Thus, if the principle of equal access to information, which is important not only to the principle of equality before the law, but also to a host of other principles we tend to take for granted, are not to be undermined, the authorities must provide the network necessary to support information systems which can be universally accessed.

Ideally perhaps, all legal information systems should be open to all categories of users. Our constitutional freedom to organize, however, necessarily allows institutions, corporations, and professional societies to establish systems for their own employees or members. In cases where such systems would give a restricted group of people access to legal sources, which are useful, but not available to others, the same sources should be made available through a system offering its services on a nonexclusive basis. Ways of achieving this are discussed in the section which follows.

V. THE ORGANIZATION OF LEGAL INFORMATION SERVICES

It is not the thesis of this article that the state itself should run a legal information service. The state does have the responsibility, however, to formulate a legal information policy and to establish the framework and channels of communication necessary to implement such a policy. The actual operation of legal information services should preferably be left to the private sector.

The exact way a legal information policy is formulated and implemented will depend on the legal, political and economic traditions of the country concerned. There seem to be certain basic principles, however, upon which such a policy should be based.

As a matter of policy, the state should make sources of law originating within the state apparatus available in machine readable form on nonexclusive terms to all interested parties. In order not to be ineffective, or even counterproductive, such a policy demands a certain amount of planning and cooperation between state suppliers and the different services. While the investments and copyrights, acquired in the preparation of commentaries, supplements, and indexes to the primary sources supplied by the state, should be respected, they should not be used unduly to restrict the desired wide distribution and marketing of these sources.

The policy should encourage user participation in the development of the services. User participation is especially important with
respect to the coverage of the databases and the ease with which the systems can be used.

The policy should also try to ensure that the services include at least one system which is truly public and nonexclusive. Such a system should not be subsidized, at least not heavily, as this inevitably seems to lead to rationing according to user groups. The reason for this is quite simple. When a system is subsidized, the price charged for its services falls, thus generating an increase in demand. To supply the extra demand at this price requires additional subsidies. If the service is heavily subsidized, demand can build up to such an extent that the service must be rationed in order to prevent the burden of the subsidies from growing out of all proportion. Thus only a system charging a full price for its services will be able to meet demand in what promises to be a fast growing market.

Norway has approached the organizational aspects of legal information services in the following way. In order to formulate a policy, the Ministry of Justice has established a Legal Information Council (1) to encourage an adequate and efficient coordination of existing and new information systems, (2) to keep informed about developments of legal information systems nationally and abroad, and contribute towards the spreading of knowledge about such systems, (3) to try to increase interest and encourage work and research to solve problems within this area, (4) to be aware of the problems created by existing and developing information systems within this area, and (5) to suggest measures which may reduce undesirable side-effects, especially those created by new technology. The Administration and Planning Division of the Ministry of Justice functions as the secretariat of the Council.

The users of legal information services participate in the development of the services through membership in the Council. At present, the Council is made up of representatives of the main producers, intermediaries, and users. The members include the Ministry of Justice, the Faculty of Law at Oslo University, the Norwegian Bar Association, the Office of the Prime Minister, the Ministry of Administration and Consumer Affairs, the Office of the Parliament, the Supreme Court, the Attorney-General, the Public Prosecutor, the National Insurance Institution, the Central Tax Authority, the Government Institution of Organization and Management, the Consumer Council, the Norwegian Association of Judges and the Central Organization of Norwegian Municipalities. Each institution is represented by a member and a personal deputy. In appointing the members, high-level representatives have been sought within each of the organizations in order to emphasize the intended function and authority of the Council. The main work of the Council
is performed by smaller working groups where nonmembers may also be called in when required. The groups present their reports to the Council for discussion and comment. At present, the main issues, which have been or are being investigated, include the following areas:

a) User research. An analysis of the existing national and international literature and research on user information.

b) Regulations. A plan for establishing a data base of regulations in force. In addition to being available in a computerized system, the data base may be used for the publication of regulations through updated subcompilations for certain fields of law or geographical regions, for example.

c) Statutes. A plan for the computerization of bills at the earliest possible stage through the use of word processing. Cooperation with Parliament and the relevant agencies is necessary.

d) Court decisions. An analysis of alternative publishing systems for the decisions of the ordinary courts with emphasis on the extent to which decisions of the lower courts should be published, and how a selection of such decisions should be made in order to secure a representative selection with respect to the importance and geographical origin of the decisions; possible improvements of the present publication services and options of future development, as for example, the possibilities of publication in microform or of on-line access to a data base.

e) Administrative decisions. An analysis of the extent to which administrative decisions should be made generally available and practical means of achieving this objective.


In order to facilitate the implementation of the policy regarding legal information services, the Ministry of Justice and the Faculty of Law at Oslo University have established a nonprofit foundation, Lawdata. The charter of Lawdata states that Lawdata should establish, maintain, and operate legal information systems. Lawdata can offer services to the public as well as the private sector. Lawdata can also contribute to research and development within the legal information field. Lawdata shall operate on a cost basis. This shall not, however, prevent it from accumulating funds for capital investment and research purposes. Members of the Board of Directors include the Ministry of Justice, the Ministry of Administration and Consumer Affairs, the Faculty of Law at Oslo University, the Norwegian Bar Association, and the Norwegian Association of Judges. The Legal Information Council is also the Council for Lawdata. It may
perform certain advisory functions and has the authority to amend
the charter of Lawdata.

As implied by Lawdata's charter, state and private institutions
can ask Lawdata to establish and maintain data bases to be run as
part of Lawdata's system or on the institutions' own computers.
Publishers can order texts and indexes from Lawdata. If desired the
texts can be delivered with the necessary typesetting codes.

In order to supply these services, Lawdata will establish and
maintain databases covering statutes and regulations in force and
supreme court decisions. Databases covering other legal sources
like travaux preparatoires, lower court decisions, administrative de-
cisions, and legal literature will be established and maintained ac-
cording to demand and subject to the overall policy of the Council.

Lawdata will furnish data bases to all parties who wish to run a
retrieval service within their own organization. To the extent that a
database is "new" and of a type which should be generally available,
it will be required that the data base also be made available in
Lawdata's own system. Thus Lawdata will provide a general re-
trieval service for those who are not able to or who do not wish to
run their own system.

One of Lawdata's main goals will be to contribute towards the
overall reliability of the legal information services. Several meas-
ures will be used. Redundancy in the system will be encouraged.
Where possible, institutions will run their own retrieval services,
thus in fact duplicating data bases and reducing the dependancy on
the networks and a single installation. Strict control standards will
be used in establishing and maintaining databases. For example,
the amendment or repeal of regulations must conform to the same
formal standards as is used for statutes, so as to insure the proper
identification of regulations in force. In its own retrieval system,
Lawdata will attempt to set high standards regarding system docu-
mentation, user training, security measures and reliability.

VI. CONCLUSION

In recent years we have witnessed a tremendous development
in the technological basis of legal information systems. This article
has attempted to analyze these developments in terms of their im-
plications on information quality, cost, distribution, and organiza-
tional requirements. Specifically, the traditional relationship
between the accessibility of sources and their importance within the
hierarchy of source types has changed. Today, all source types can
become as easily accessible as statutes and supreme court deci-
sions. In fact, it is becoming easier and cheaper to supply the mar-
ket with more and more legal information. The investment required to enter this field will grow; however, the cost of such services is becoming considerable compared to expected demand. This strengthens conditions which favor a monopolistic or highly oligopolistic supply structure.

Printed matter and computerized information systems complement each other and will continue to coexist in the future. The greatest growth, however, will occur in computerized systems, and if the principle of equal access to information is not to lose its meaning, authorities must ensure that data networks capable of supporting universally accessed information systems are established. These developments offer a challenge which requires the state to formulate and pursue a legal information policy. While the details of such a policy necessarily must depend on the political, legal, and economic traditions in each country, the main issues involved are probably similar in all countries. These issues primarily concern the neutrality of the services and the representativity of their information, the clarity and relevance of the information provided, and the cost and reliability of the services.

This article also outlines how the challenge of a legal information policy has been approached in Norway. Two new institutions have been established—a Legal Information Council to ensure user participation in the formulation of an overall policy and an independent nonprofit foundation, Lawdata, to establish, maintain, and operate legal information systems, and to offer services to the public and private sector.