Buying and Selling Electronic Journals:
A Matter of Uncertainty Reduction

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Abstract:
In the fast changing landscape of scientific information delivery, both libraries and publishers find themselves struggling with the overwhelming possibilities offered by new information technologies. Whether it is the publisher marketing its new electronic services or the library evaluating the inexhaustible flow of new products, the uncertainties confronted by both are tremendous. This paper describes the process of "uncertainty reduction" that increasingly characterises the new way of buying and selling electronic (scientific) journals. It is argued that the ability of library and journal publisher to reduce uncertainty determines the likelihood that a mutually satisfying outcome will be achieved. Critical in this process is the exchange of information between library and publisher. Several "communication mechanisms" will be discussed that can support library and publisher to enhance communication, and as a result reduce uncertainty.

Introduction

In today's fast-changing world it is inevitable that organisations are faced with uncertainty: uncertainty about *how* the world around them is changing, uncertainty about *how* change will effect their business and uncertainty about *how* to react to change. Change management and managing uncertainty are key topics in management literature today. Of course, change and uncertainty are not new issues as such; it is just that they probably never been more relevant and urgent than now as information technology is changing the landscape so fast. This is even more true for organisations for which information itself is the core product, like libraries and publishers.

This paper will first look at the new process of buying and selling electronic journals, which is fundamentally different from the traditional print journal acquisition process. On top of that, many new issues have emerged, causing libraries and journal publishers to be faced with many uncertainties. Based on the process of "uncertainty reduction", a model is described that proposes a number of "communication mechanisms" that can be used by libraries and publishers in the buying and selling process to increase the chances for achieving mutually satisfying outcomes.

Buying and Selling Electronic Journals

The process of buying and selling print journals is well understood by all parties involved, including libraries, subscription agents, publishers and end-users. Because the product format has not changed much for many years (not taking into account the development of services by agents), not much interaction was required directly between library and publisher. The emergence of electronic journals is now fast changing the dynamics of the buying and selling process. Most importantly, library and publisher feel the need for direct, unmediated interaction in order to deal with increasingly complex and fast developing products. It is at the negotiating table that they find that issues, once so familiar in the print environment, have suddenly become sources of uncertainty, while also new issues have come into play requiring new expertise. It is the author's experience that in the process of buying and selling *ScienceDirect™*, the full-text electronic journal service from Elsevier Science, the following issues give rise to most discussion between library and publisher:

- Pricing. New business models for pricing of electronic information resources are developed virtually every day. Some pricing models are in a "traditional" fashion determined by the publisher, leaving the library the choice to "take it or leave it". However, increasingly new models come to existence as a result of library and publisher negotiating a "customised" price that benefits both parties. Although it is hard to predict what the future of pricing will exactly be, it is certain that the "one-price-for-all" concept is disappearing fast and that usage details, in combination with segmentation based on certain customer characteristics, will become the major driving force.
- Access. In a networked environment "access" has become a major topic, comprising a wide variety of issues that can basically be summarised by the question "*Who* gets access to *What*, and *How*?" The dimensions are manifold, including legal, commercial and operational (IT, collection management, user services, etc.). Publishers of journals have never really been

involved in "access" issues (other than physical distribution of journals), previously the domain of the library. Now, publisher and library depend on each other to create the best solution.

- Archiving. Clearly, this is a hot topic for libraries as it touches upon one of the key functions they fulfil in the printed information environment. Like with the "access" issue, close co-operation between publishers and libraries is necessary to find sustainable solutions that satisfy the interests of libraries and end-users.

- Interlibrary Loan (ILL). Like archiving, this is a much-debated subject among libraries and publishers. The dynamics of ILL in an electronic environment are not yet fully understood and much work needs to be done together by publishers and libraries to gain more insight. No doubt, developments in (digital) copyright regulation will have an impact on this issue as well.

- Licensing. Although licensing as such is not a new issue for libraries, in the context of electronic journals this is a relatively new phenomenon. While publisher and library may at the end of their negotiations agree on all the details of their agreement, legal issues may still form a hurdle for finalising the license.

- Support, Training and Marketing. In the context of electronic journals, these are all completely new topics, especially for journal publishers. While support, training and marketing were hardly required for print journals, in the electronic environment these become of critical importance. With "usage" expected to be a major driver for determining the "return-on-investment" of a new product, it is necessary for the publisher and the library to make sure that potential users become real users and, more importantly, frequent users.

One of the most important conclusions that can be drawn from this is that the direct interaction between library and publisher needs to be much higher in order for both parties to find sustainable solutions. Increasingly, these solutions are different for every individual library and need to be re-assessed on a continuous basis. The process of buying and selling of electronic journals reflects this need for more interaction. Figure 1 characterises the main phases of the buying and selling process of *ScienceDirect*™:
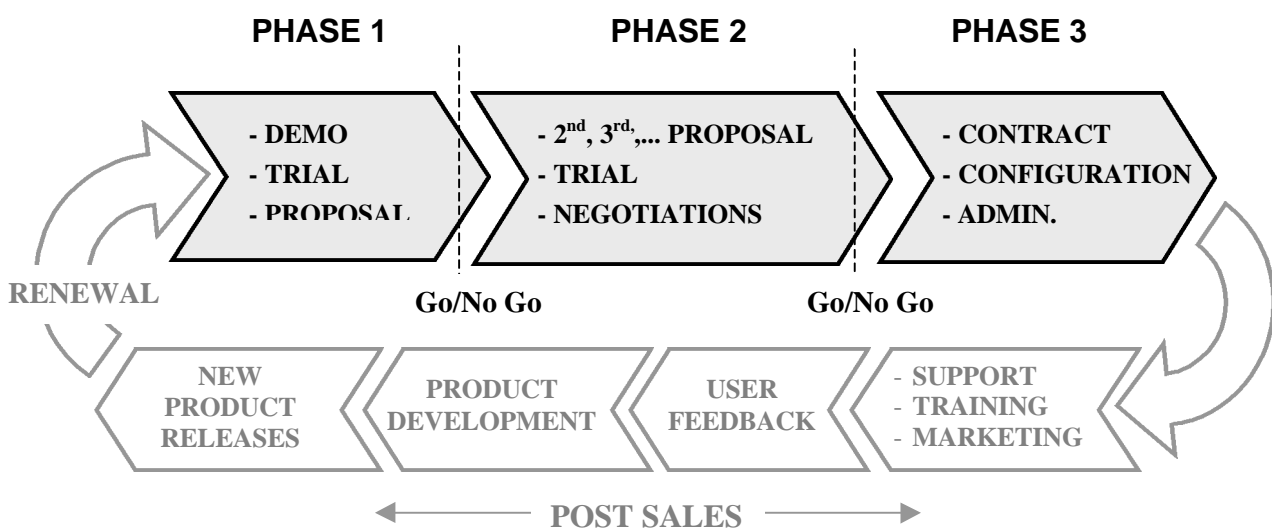
Figure 1

Phase 1

Typically, during the first "introductory" stage, library and publisher meet face-to-face to exchange information on a wide variety of subjects related to the (new) product, like pricing, access options, usage conditions, etc. Often a demonstration is given of the product. In order for the library to make a good first assessment of the product, staff will be present representing various fields of expertise, including serials management, document supply, electronic resources, IT and senior management. Preferably, a group of end-users has the opportunity to see the product as well as their commitment towards the acquisition of the product is critical. Following the first meeting, it is common for the library to make use of a trial period and request a first (pricing) proposal.

Phase 2

Phase one and two are separated by a "Go/No-Go" decision. If library and publisher do enter the second phase, the library has typically given a strong signal that it is seriously interested to negotiate further. Sometimes, first and second phase follow each other almost seamlessly. More often though, a longer period of time goes by before the library indicates to be willing to go ahead (e.g. because competing products are evaluated). During the second phase the trial often continues or is re-initiated for further or renewed evaluation, involving (key) end-users. Following a new round of discussions between library and publisher, a second proposal is extended that is more customised to fit the particular situation of the library. The major issue here is finding the right balance between the price and the content offered (value proposition). Even more proposals may follow over time as negotiations continue. Depending on the complexity of the agreement and the amounts involved, this process of "fine-tuning" can take anything from a couple of weeks to, in exceptional cases, a year or more. Especially in view of the issues as discussed above (pricing, archiving, etc.) and the pace at which these develop, libraries sometimes choose to step away from negotiations and wait for further developments in the market. Libraries are often uncertain as to whether they are making the right "deal" at the right time.

Phase 3

After phase two there is again a "Go/No-Go" decision by the library. If the library decides to go ahead, it agrees in principle to enter into an agreement. However, even then a lot of work needs to be done: drawing-up the contract, discussing legal implications, finalising subscription lists, sorting out access issues (user verification), invoicing and configuration of the account (*ScienceDirect*™ offers the library many choices in terms of account set-up, including transactional access, document delivery, personal IDs, etc.). Especially legal issue may form a hurdle on the way to having the agreement signed (e.g. conditions regarding ILL, authorised usage, warranties, etc).

Post sales

Not part of the buying and selling process as such, but increasingly important, is the post-sales phase. This phase encompasses a range of activities to be initiated in cooperation between library and publisher, including the official roll-out of the product, library and user training, PR, helpdesk support, usage analysis, user meetings and internal library marketing. These activities will get more and more important because they yield invaluable feedback for both library and

publisher to continuously improve the service/product and, ultimately, for both parties to enter into renewal negotiations upon expiration of the agreement.

To summarise, the following characterises the new process of buying and selling electronic journals:
- Rather than linear, the new buying and selling process is cyclical;
- Many activities are repetitive (multiple trials, multiple proposals, etc.) as a result of increasingly complicated products that are continuously developing;
- Direct, unmediated interaction between library and publisher is required to find mutually satisfying solutions;
- Throughout the process, multidisciplinary input is required;
- End-user feedback is continuously pushing publisher and library to develop their services and products;
- Post-sales activities increasingly determine the successfulness of new product implementations and, periodically, renewal negotiations;

Given the new issues that library and publishers need to deal with as well as the increasingly more complex process of buying and selling electronic journals, it seems inevitable that libraries and publishers form intensified relationships that go beyond straightforward transactions. Rather than a "best price" oriented relationship, a "solution" or even "partnership" based relationship seems more appropriate [1]. An added complexity is that both libraries and journal publishers have never been in a situation before that required them to work so closely together and therefore it is no surprise that they are sometimes uncomfortable doing so now. There are a number of barriers to the communication and relationship building between libraries and journal publishers at the moment:
- Lack of trust. The "serials crisis" that has developed over the last decades has not done a lot of good to fostering trust between libraries and publishers. Considering that trust is probably the most important ingredient for forming sound relationships, this is serious barrier.
- Lack of knowledge. This barrier refers particularly to the lack of knowledge that libraries and publishers have about each other's businesses. Organisations that do not have a good understanding about each other's objectives, processes, developments, issues and people are unlikely to be able to have meaningful discussions about doing things together.
- Lack of relationship building experience. Where other industries have already started developing "solution" and "partnership" based relationships over the past years, the relationship between libraries and publishers has never really progressed much beyond transactional buying and selling. The publisher sends its annual catalogue and the library sends back the orders. While many libraries have built relationships with other vendors (e.g. subscription agents), journal publishers have limited experience with forming intensified relationships with their customers.
- Cultural differences. On top of the barriers so far discussed, cultural differences between libraries and publishers make communication even more difficult. Evidence of this barrier can be found in the "stereotyping" that often underlies perceptions from libraries and publishers about each other. The extent to which both parties succeed in bridging their "thought worlds" is of great importance for the forming of relationships.

Given these barriers, how can libraries and publishers overcome them in the new process of buying and selling of electronic journals? Based on the process of "uncertainty reduction", a model is described in which a number of "communication mechanisms" are suggested that both parties can use to enhance the information exchange.

Communication Mechanisms

An important aspect inherent in dealing with change and one of the main reasons for organisations to form relationships is to manage uncertainty. One way of looking at uncertainty, is to define uncertainty as the difference between the amount of information that is needed and the amount of information that is available to accomplish a certain task [2]. This approach has been the subject of many studies related to the success of innovation projects, requiring the close co-operation or "integration" between different departments within a company, like R&D and marketing. Empirical evidence proves the positive relation between the success of innovation projects and the quality of the information exchange between the parties involved [3].

Taking this a step further, this paper argues that the degree to which the buying and selling organisations, library and journal publisher, are able to close the gap between the information that is needed and the information that is available, and thus reduce uncertainty, will greatly determine the success of their undertaking. Of critical importance in this process is the exchange of information, or communication. Based on the author's own experiences and observations from the buying and selling process of *ScienceDirect*™, the following model (figure 2) proposes a number of "communication mechanisms" that can be used to enhance information exchange and reduce uncertainty.

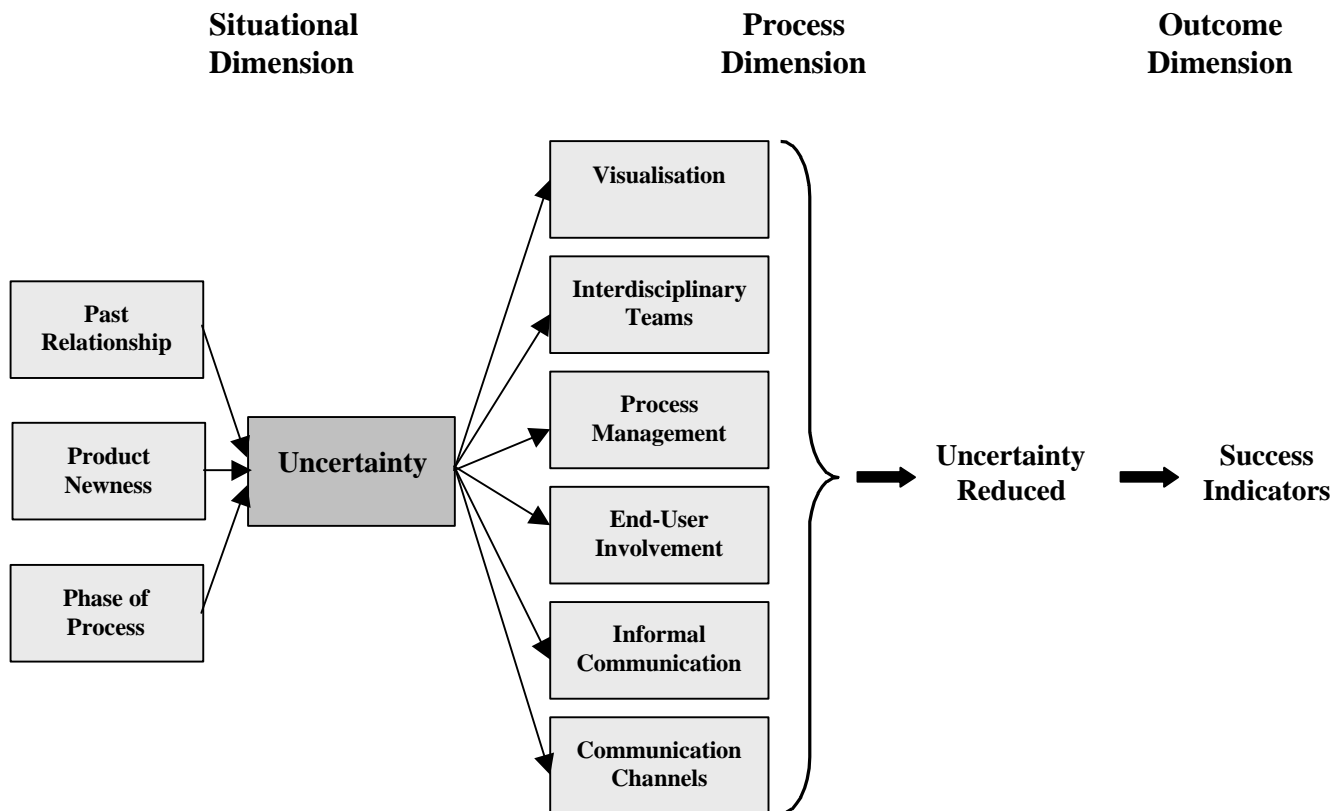|		
Situational Dimension	**Process Dimension**	**Outcome Dimension**

Figure 2

The model has three dimensions [3], each of which will be described.

Situational Dimension

The variables in the situational dimension determine the level of uncertainty. Three particular situational variables are considered here [3, 4]:

1. Past Relationship. If library and publisher have been doing business before, their relationship has "history" that, depending on how positively or negatively this is regarded by both parties, can either decrease or increase the uncertainty. As has been discussed earlier, the post sales phase plays a critical role here when library and publisher engage in renewal negotiations.

2. Product Newness. Product newness has many dimensions, including pricing, technology, functionality, etcetera. Considering the issues described earlier (pricing, archiving, etc.), electronic journals score high on many dimensions of product newness, resulting in a high degree of uncertainty.

3. Phase of the process. The degree of uncertainty is likely to vary depending on the stage of the buying/selling process. Uncertainty is likely to be larger at the beginning of the process, when a lot of information needs to be exchanged about the product and the current needs of the library and its users. Later in the process, there is typically a point where "it gets serious" when both parties feel that there is a good chance for an agreement to be closed. At that time, many different issues, operational, IT, legal, etcetera, become important. They are usually

very time-consuming and require input from various different, specialised people from both sides.

Process Dimension

Central in this dimension are the "communication mechanisms". These are aimed at enhancing the information exchange and thus reduce uncertainty. The following communication mechanisms have been found valuable by the author to help achieving this:

Visualisation

Looking at the services currently available that offer access to full-text journals, the differences between them are enormous in terms of content, functionality/features, support, training, etcetera. Therefore, it becomes increasingly important to make "visible" what the product is all about, in order to enhance the understanding of both parties. Product demonstrations are commonly used to achieve this, but other tools can be applied as well, like showing sample usage statistics, demonstrating marketing materials and the training program, product trials, cost-analysis, etc. An interesting example of how visualisation contributed to the understanding of a library about *ScienceDirect*™, was where IT and library representatives of the potential customer visited an existing customer to see a real implementation. Until that moment, negotiations had stagnated as the library found that the price was too high for the value offered. After having heard the experiences of the existing customer and having seen the product implemented, the library representatives had a much better understanding of the product value which helped to progress negotiations. Without visualisation, negotiations tend to become one-sidedly focused on price, while after obtaining a full understanding of the product, a more valuable discussion is possible about price versus value. Visualisation is also of key importance in order to get feedback from the ultimate end-users.

Interdisciplinary teams

The range of issues surrounding the buying and selling of electronic journals is so diverse that it requires the involvement of specialists from different areas [5]. In the buying and selling process of *ScienceDirect*™, typically the following areas of expertise are represented:
- IT. Issues range from user verification, software installation and configuration, advice on hardware purchase, compliance with certain standards, product customisations, integration with library automation tools, OPACs, etc.
- Legal. The emergence of license agreements makes legal advice often necessary. Especially when it concerns long-term contracts involving cutting-edge products and high amounts, it is important for both parties to understand the implications of the contract they sign.
- Operations. Electronic information changes the process of information delivery by the publisher to the library and end-user as well as from the library to the end-user. From the publishers side this usually requires involvement from order fulfilment and customer support departments. From the library side various disciplines can be represented, like serials/collection management, document delivery/interlibrary loan, user services and user training.
- Support, Training and Marketing. The issue of customer and user interaction becomes more and more important as products become more sophisticated. Libraries spending significant amounts on new electronic resources will demand details on what kind of support they can

expect after the agreement is closed. After the purchase this means that specialists from the publisher work with the library on training, promotions, usage statistics, etc.

- Senior management. In the case of high-level partnership agreements and large contracts, the involvement of senior management from both the library and the publisher is often required: not only to sign the contract, but more importantly to strengthen the ties between both organisations and give a clear signal to other people involved that it is "serious business".
- Project Coordination. Typically, two people representing the library and the publisher coordinate the activities that need to be undertaken on a day-to-day basis. They form "linking-pins" with the various specialists within their own organisations.

It is the author's experience that, without exception, an interdisciplinary team approach contributes significantly to the decision-making process. Libraries that choose to involve a wide range of specialists right from the beginning can make sure that at any time during the process, they have a complete picture of the issues involved. Likewise, ScienceDirect sales offices world-wide employ specialists in all relevant areas, including IT, commercial, account development (marketing, training) and user support (helpdesk), to facilitate the *ScienceDirect*™ sales process. Having these specialists from both sides working together reduces communication barriers, not only between library and publisher, but also between different functional groups within each organisation.

Process management

The process of buying and selling electronic journals can hardly be defined as a project. On the contrary, as both library and publisher have little experience with this process, planning of activities and allocation of resources is difficult, let alone predicting the outcome. Rather, the process can be better characterised as "improvisation", without a straightforward sequence of activities. Therefore, project management techniques as such may be difficult to apply. Nevertheless, the process can be so complex that some degree of "process management" is advisable to enhance the communication flows. Unfortunately, practice has showed many times that a lack of following some basic principles of "process management" can lead to misunderstandings, delays and wasted time and energy, causing "damage" to the relationship. Activities that can already make a lot of difference are as simple as agreeing on the objectives before every meeting, wrapping up a meeting with a list of action points and timeframes, and keeping good documentation (like meeting minutes).

User involvement

As users have increasing flexibility to obtain or purchase access to (new) sources anywhere regardless of their physical location, both publisher and library may find themselves by-passed when the products they offer do not fit the user needs. Therefore, obtaining input from end-users is essential in every phase of buying and selling process as well as in the post-sales stages. This is particularly true when the "newness" of the product is high and/or the potential end-user group is not well known. In general, libraries tend to be reluctant to involve end-users in an early stage of the buying process, as they do not want to raise expectations from users while not knowing whether they will actually be able to purchase the product. This is understandable, but in the perspective of increasing user power potentially dangerous. On the other hand, some of the libraries that the author has worked with have developed very good user interaction models, where a group of dedicated users is involved right from the first evaluation. Typically, these libraries and users have worked with each other for a longer time, making them a good team in

which interests of both users and libraries are carefully balanced. The experience with these customers in the process of buying and selling process of *ScienceDirect*™ has been very good as the user input gives an important extra dimension to the communication exchange, facilitating the negotiations between library and publisher. User involvement is even more important where the introduction of a particular product represents a drastic change in the library, like going from print to all-electronic

Informal Communication

Informal communication is known to be very powerful [3]. Especially as libraries and publisher need to put a lot of energy in building trust and learning about each other, informal communication can be very supportive. Although informal communication is not something one can easily "push", certain activities are particularly supportive like customer platform meetings, conferences, user meetings, product launch events, etc.

Communication Channels

Underlying the proposed model is that communication mechanisms reduce uncertainty. In that sense, all communication between library and publisher is important. Nevertheless, it is the author's experience that two "channels" are particularly useful: (1) face-to-face meetings and (2) email.

Face-to-face meetings. Considering the fact that library and publisher are dealing with a lot of new issues surrounding electronic journals, and that they do not know each other very well, it is simply impossible to negotiate without meeting face-to-face. For the publisher this means that costly investments are needed to have representatives around the world that can meet with customers. As the complexity of products increases and the requirements for support and training become higher, the publisher may have no choice than to set-up offices itself with qualified specialists, rather than depend on an intermediary organisation (e.g. a subscription agent).

Email. Notwithstanding the fact that people complain about the time they spend on reading and replying their email, the benefits are significant. The most important benefit of email in the perspective of building relationships is that it tends to be much more informal than letters and faxes. Especially where relationships are tense between libraries and publishers, email tends to "loosen-up" communication, which facilitates the information exchange. It is likely that the advent of even more advanced communication tools, like Internet video, will offer even better opportunities for library and publisher to meet each other "virtually".

Outcome Dimension

The extend to which uncertainty has been reduced, i.e. the gap is closed between the information needed and the information available, greatly affects the successfulness of the new product implementation. Different from print journal acquisitions, for electronic journal services library and publisher can now really measure the success of their joint undertaking because they get continuous feedback from users reflected in for example usage statistics. Should this feedback reveal that the product does not fit the library and/or user needs, it is likely that communication during the acquisition process has not be sufficient. For example, particular product features have not been well understood or end-users have not been properly involved. This then affects the post sales stage and ultimately renewal negotiations.

Conclusions

It has been argued in this paper that libraries and publishers have no other choice in the challenging process of buying and selling electronic journals, than to intensify their relationships. Following the trend that has been underway for some time in industrial, business-to-business markets, forming close relationships between buyers and suppliers gives libraries and publishers the best chance to create sustainable, competitive advantages for the future. Although libraries and publishers still have some way to go to form relationships that enable them to deal confidently with the fast-changing world around them, the attitude towards working together is already changing positively. However, for real partnerships to be formed, actual behaviour will have to change as well. Based on the process of "uncertainty reduction", this paper has described six communication mechanisms that can support libraries and publishers to take a step in that direction during the actual process of buying and selling electronic journals:

- Visualisation
- Interdisciplinary Teams
- Process Management
- End-User Involvement
- Informal Communication
- Communication Channels

In the process of buying and selling *ScienceDirect*™, the full-text electronic journal service from Elsevier Science, these communication mechanisms have been found to enhance communication flows between library and publisher, thus reducing uncertainty and increasing the chances for a successful outcome.

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