

INFORMATION TECHNOLOGY NEEDS FOR THE AUSTRALIAN RED MEAT INDUSTRY

T.LARNER^A and S. NEWMAN^{A,B}

^ACSIRO Tropical Agriculture, Rockhampton, Qld 4702

^BCooperative Research Centre for the Cattle and Beef Industry (Meat Quality), Rockhampton, Qld 4702

SUMMARY

The Australian meat industry is now very aware that a consistent, good eating quality product must be delivered to the food service industry and consumers. One of the primary challenges ahead for the industry is the development of a cohesive and timely information retrieval system to allow the free-flow of information between producer and processor. Ways in which information technology can be used to achieve this goal is discussed in terms of education, costs, structural constraints and knowledge management. Guidelines are suggested for content providers and users on wise use of information.

Keywords: Internet, telecommunications, information technology, livestock industry

INTRODUCTION

The Australian meat industry is just one of many industries taking advantage of the Internet as a communication and information resource tool. This paper briefly looks at how and why information technology (IT) should become a permanent part of the flow of information within the industry. The advantages and disadvantages of using IT is discussed within the context of the Canadian and American meat industries. Recommendations for Internet content providers and Internet content users on how to effectively utilise the Internet as a communication and information resource are also provided.

FITTING IT INTO INFORMATION FLOW

Who are the main players in the flow of information in meat industry? They are red meat producers, industry organisations, feedlotter, processors, meat scientists, information specialists, research and extension officers, retailers and consumers. All of these groups are both users and suppliers of information vital to the advancement of the Australian meat industry. Communication breakdowns occur where one or more parties fail to either provide or receive access to information. The Internet improves accessibility to information and services. It also enables a better sharing of information among users, enhances the potential for two-way communications between providers and users, greatly expands the availability of specialized information resources and provides broader opportunities to access the global information market in a quick and relatively inexpensive manner (FAO 1996). Meat industry representatives in both the US and Canada have anticipated an increase in interaction between all sectors of the industry due to electronic communications. The new information technology of the Internet allows individuals and organisations to travel beyond the traditional one-way or linear communication model (Figure 1).

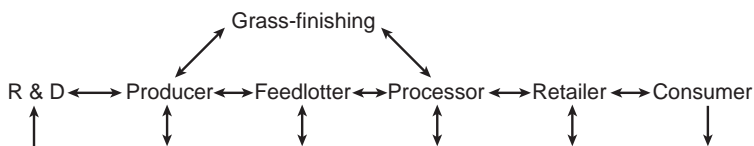


Figure 1. The ideal flow of information within the meat industry

A number of issues should be addressed before the Internet can be fully utilised.

Have and have not

There will always be the argument that those who have access to the information will have a greater competitive edge than those who don't. Technology does not come cheaply but is becoming more and more affordable. The cost of processing and transmitting information is supposedly decreasing by 50% every 18

months, largely due to the convergence of computer, telecommunications and broadcasting technologies (FAO 1996). Within Australia, funded research projects have enabled those who perhaps wouldn't have access to the Internet, the opportunity to find out what the Internet is about and how to use it for their own benefit, whether it be in an educational, social, or managerial context.

The Australian meat industry is taking a cautious but organised approach to integrate the Internet into the current flow of information. The American and Canadian meat industries are at the early stages of using the Internet as a mechanism for information exchange and to transform the way the industry communicates and shares information. However, there is a distinct lack of policies and research funding to support both the time and effort required to ensure industry effectively and efficiently utilises this technology; this is so from perspectives of both Internet content providers and Internet users. The Australian meat industry has funded research to help industry make the best use of electronic information and communication systems. This research is being developed according to industry feedback and is providing an opportunity for industry to learn, something that the Canadian and US meat industries appear to lack.

Education

At this stage, the Internet is seen by those in the US and Canadian meat industry organisations, such as National Cattlemen's Association and the Canadian Cattlemen's Association, to be used as a primary means of direct contact with consumers. This view of the Internet as a marketing tool to consumers has a great deal of potential given the increasing uptake of this technology among the younger generations of meat consumers. However, in both North American and Australia, there is a void for meat producers and others outside government or academic environments to learn how to make effective use of the Internet. A website is worthless if the target audience doesn't know it exists or how to access the information. It is up to innovators to adopt the technology at this early stage. Eventually, through budget cuts and staff reductions within many organisations, users might find themselves forced to adopt new technology to access information only available via a Homepage on the World Wide Web.

There is a great need within the Australian meat industry to provide education on the use of the Internet to extension officers who are often considered be one of the main links between industry and research. Within the US, the Land Grant Universities incorporate extension with industry as part of their agricultural-based studies. This allows transfer of technology from research to extension directly allowing more expedient and timely transfer of technology. With an educated target audience, there is also the potential for development of Intranets specific to industry organisations and members.

Costs

The Australian Telecommunications industry was deregulated in July 1997. This is providing opportunities for potential Internet users. Currently there is wide variation in Internet Service Provider (ISP) offerings. An average rural user may pay approximately \$5 to \$7 per hour for connection. Telstra's ISP 'BigPond' offers rural clients connection for the cost of a local call, overcoming the high cost of distance, time-charged calls. Special rates are offered for high usage. Compare this with some programs offered in both the US and Canada. For example, Cadvision, a Canadian ISP, offers connection for approximately \$20 per month for unlimited usage. The relatively high charges in Australia are still comparable to the producer placing calls during the day to make contact (often at peak telecommunication times and charges) with an extension officer or scientist, and then waiting for the printed material to arrive in the mail. The costs of using the Internet as a communication medium can also be high for the content providers. The majority of organisations - government, academic and private - in the North American meat industry had not yet included the Internet as a budget item, nor were they prepared for the time and costs involved in establishment and maintenance of websites.

Structural constraints

Structural constraints on those wishing to be connected to the Internet, particularly rural Australians, are now very much in the public arena due to research projects such as the NFF/Farmwide '1000 Farmers online' project aimed at getting rural Australian online. Feedback from this and other projects has highlighted some of the barriers to rural Australians utilising the Internet. The telecommunications industry deregulation may provide some solutions. Telstra has recently called for project proposals to 'Network the Nation' addressing this issue of structural constraints particularly in rural areas.

Knowledge management

With the advent of electronic information, there is now unprecedented capability for integrating and interrelating knowledge. The use of electronic-based information retrieval and dissemination places greater emphasis on relationships between information in a document and other information within the electronic database. In the hypertext model for organising information, knowledge is organized as a network of nodes and links (Beck and Cilley 1994). Each node represents a concept, and links connect a node to other nodes containing related information. The traditional document becomes a collection of nodes where the reader can choose whether or not to follow the link to more information. A phrase that is commonly used to describe, and decry, the Internet is information overload. It is only through effective knowledge management that we will not become victims of the information explosion; rather we should use software tools and search engines to organise and locate electronic information. Librarians and other information specialists can ensure that valuable information will not be lost in the vortex of cyberspace.

Within the realms of knowledge management applied to electronic information, there is the need to integrate packages of information. The development of the National Identification and Information System in Canada has created an identifiable need for integration within the Canadian meat industry. The Australian meat industry is also developing a number of electronic information software packages including programs for carcase information, chemical residue, and several herd management packages. However, there is the danger that data cannot be transferred from one software package to the next. One of the biggest advantages of electronic information, ie data portability, is overlooked. Sources of information need to be integrated to enable a smooth flow of information to aid in decision-making.

These issues, and others, are being addressed by a Meat Research Corporation-funded initiative concerning basic research into the application of electronic communication and information systems. This project, called MECIS, is conducting research in three coordinated areas. Two groups of beef producers have been involved in pilot projects investigating information requirements, training, support, provision of information electronically, and electronic commerce. Multimedia is being used to develop training for beef industry Internet users, with the assessment of producer needs nearly complete, and the CD-based version being available mid-1998. Groups of producers can collaborate to help determine 'what makes a difference' in farm productivity and a technology-based protocol for development of action plans and information needs will be field tested with groups of producers.

Technology - is it better?

Technology is a four-syllable word that makes things faster, cheaper, easier to access but not necessarily better. Representatives of the US and Canadian meat industries cited a number of advantages and disadvantages associated using the Internet :

Advantages:

- There are incredible dollar savings - very economical way to reach many people.
- You have control of the message - it's not distorted by other mediums such as the press. People link to your site but do not recreate or claim credit for the information that is ultimately yours.
- There is the idea of 'deepening democracy' removing the 'middleman' from some negotiations.
- The Internet encourages a higher degree of interactivity.
- The accuracy and timeliness of information - particularly if you are the provider of the information. You can update your information so easily and quickly.
- 'Shrinking of the world' - you can access any information easily, cheaply and at your leisure.
- The incredible amount of information available

Disadvantages:

- Unless targeted by other means, you can miss the percentage of population not on Internet
- It is difficult to get statistics about who in the industry is online and so evaluate effectiveness.
- The need to learn how to use the technology to access the information.
- The Internet content provider plays a passive role - the user has to choose to go to your site.

- A substantial amount of time is required to get a website functioning as well as to keep it current and interesting enough for people to keep coming back to the site.
- This particular industry is a hard nut to crack with regards to technology.
- It is not part of this industry's current culture to put up information and make it freely available to everyone - particularly export information.
- The incredible amount of information available

DISCUSSION

The advances in IT discussed so far reinforce both economic and social changes in business and society. In essence, an information economy is developed where information is the critical resource and the basis for competition (Talero and Gaudette 1996). Likewise key industry organisations, markets, products and services depend increasingly on IT. Enterprises can raise the efficiency of production and management with networks of facilities and markets. More importantly, these sophisticated information processing capabilities are increasingly within reach of small to medium enterprises, communities and private homes. For this infrastructure to succeed within the Australian meat industry, certain guidelines will need to be followed, including:

For Internet content providers

Target your audience - who are your main clientele? What systems do they use - does it support graphics? Should you have a public page with contact details and generic organisation information and then a password protected area for members or paying customers?

Content - make it appropriate for the medium. A document is so much more when it is a webpage document - explore the use of graphics and hypertext to keep your audience interested and informed.

Institutional policy for the coordination of information - Implementing an institution-wide policy of electronic information delivery is no small task. There needs to be balance between creativity and ensuring the organisations information delivery conforms to set guidelines.

Follow your users - make the most of log analyses of website usage. There are packages available that provide feedback on what the 'visitor' to your website connected to and how long they stayed.

For Internet content users

Discipline - With the Internet's broad range of information available via the Web, seamlessly linking one fascinating page to another, the chance is high for forgetting what you started searching on. Focus on what it is you are seeking. If you come across great links - use your bookmark facility to mark those pages for later retrieval.

Organisational skills - learn how to make the most of organisational features of your email software and web browser. Use bookmarks and favourite address features to keep track of those sites you value. This saves time and money in retrieving those sites you consider to be regular valuable sources of information.

Education - During the development of printed information, the masses had to learn how to read - these days we need to learn how to use the medium to access the information so that we may read it. Attend courses if possible or undertake one of the many online tutorials available via the Internet itself. Ask questions of those who use the Internet regularly and learn by their experiences.

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