**IMARK**

**Module
Investing in Information for Development**

Information Dissemination

# Lesson 3: New Digital Opportunities

Learner Notes

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This lesson is part of the IMARK Module on "Investing in Information for Development". The Module contains six units. The unit on "Information Dissemination" comprises three lessons:

Lesson 1: Audiences and Markets

Lesson 2: Products and Performance

Lesson 3: New Digital Opportunities

This course is available in self-paced e-learning format on CD-ROM and the Internet (www.imarkgroup.org).

# Learning objectives

At the end of this lesson, you will be able to:

- Be aware of the relationship between audience, content, format and media;
- identify the advantages and disadvantages of digital media for information dissemination;
- recognize some of the issues involved in converting existing print materials to digital formats.

# Introduction

Suppose you are a senior manager responsible for information dissemination activities in your organization, and you want to create a dissemination plan.

You and your colleagues have just completed a detailed analysis of:

- **audience(s)** for your current information products and services;
- your potential **competitors and partners**;
- strengths and weaknesses of your **products and services**; and
- your organization's **current dissemination system**.

You wonder whether you can improve your information services by taking advantage of the new information technologies. The questions you ask are:

- Should we go digital or not? What are the issues I should consider for making this choice?
- Can we convert to new digital formats and media some of the materials that we are disseminating now?
- What are the management issues involved in converting and creating content for digital media?
- Do we have the budget to cover all the related costs?

# The relationship between audience, content, format and media

Before trying to answer these questions, let's consider the key principle that will shape all decisions:

**AUDIENCE NEEDS DETERMINE CONTENT, FORMAT AND MEDIUM**

Therefore, your products and services need to meet **three criteria**:

1.  They must provide **content** that your audience(s) want and need (text, data images).
2.  They must be presented in **formats** that your audience(s) can understand (analogue or digital).
3.  They must be in **media** that your audience(s) can access (print, audio or visual).

There are two implications of this principle:

*   No organization should choose a dissemination format or medium just because it has the technology resources to implement it. The audience's needs and nature of content should determine the choice.

*   Different audiences may require different content, or may even require the same content but presented in different formats and different media.

Therefore, the logical sequence is:

**Audience(s)** require content;
**Content** determines format; and
**Format** determines choice of **Media**.

# New digital approaches

Once you have determined that your content is aligned with your audience(s), you need to assess the ways to disseminate it effectively and efficiently. Where should you start?

First of all, you should know **the range of media available** for disseminating information.

In order to make a choice, you need to know not only the **potential**, but also the **requirements** and the **drawbacks** of each medium. When examining your options, consider that your services and products may be delivered in different ways. Also, you should make sure that the chosen medium suits your audiences' needs.

Let's start by having an overview of some products and services that may be delivered digitally. Here are a few examples of various types of traditional products and services that can be offered in digital media:

| | |
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| **1. News services** | You can produce versions of your newsletters to deliver via e-mail, and/or via the Web, instead of or as well as in print. Differences mostly appear when doing the layout and editing work (e.g. desktop publishing; creating a PDF version for the web, or a Content management System for the Web Magazine). You will need to build up electronic mailing lists (e.g. lists of regular clients of a specific sector, group of category) to distribute your newsletter by mail. |

| | |
|---|---|
| **2. Reference works** | Printed versions use various indices to allow users to search for information, but this type of search is time-consuming and complex. By making the content available digitally, you can provide a more integrated and user-friendly tool by adding features such as search tools, navigation aids, pictures, films, simulations and sound. The digital content allows more regular updates than a printed copy, and can also be tailored to local needs, and produced in local languages. |
| **3. Periodical publications** | Hard copies of periodical publications such as annual reports are often bulky and incur high production and postage costs. Preference is increasingly given to providing a digital copy of the report. Going digital, the style of your document can be more accessible by splitting the big documents into separate document files (e.g. MS Word or PDF format). It can also be made more manageable by adding bookmarks, indexes, annotated links and navigation tools. However, digital versions large reports are normally too bulky to be sent as attachments to emails, even with the document split up in different files. Dissemination via the web or on CD-ROM is still the best and cheapest option. |
| **4. Corporate document collections** | Collections of documents in print format have similar problems of access, in terms of physical location, searching and provision of copies. A repository of documents in digital format can be held and managed on a file-server, and made accessible through an organizational network.  This permits remote access from the desktop to documents, the addition of search tools and document indexes, and the addition of security features for selected documents. Users can download copies at will. |

| 5. Management information systems | Many organizations have moved management information, such as finance, personnel, activities and physical facilities, into digital format so that it can be managed and made accessible through an organizational network.  This allows integration of the different datasets into one interrelated system, remote access from the desktop of many users, the addition of search tools, and the addition of security features to limit access to data where necessary. |
|---|---|

# To go digital or not?

Once you know the range of possibilities, before making a decision about the best dissemination methods, you must evaluate the advantages and disadvantages of the new digital technologies.

For instance, when considering distributing information in digital form, the first thought is often to put information on the web.  However, there are viable alternatives for distributing information digitally (e.g. CD-ROM) that do not require the user to have a connection to the Internet.

In the next section of this document we will consider some of the major issues that need to be taken into account.

# Advantages of new digital media

There are several advantages of digital media, but the effectiveness of each medium will depend highly on the different contexts in which they are used. Here are some of the advantages:

## 1. VERSATILITY

Electronic documents are more versatile than printed documents: they can be edited, printed, shared and duplicated easily through a wide range of technologies (e.g. CD-ROM, Internet, networks, email or a range of digital storage devices).

## 2. INTERACTIVITY

Printed media present content in a discrete sequence or series, e.g. chapters in a book, articles in a journal.  Navigational aids are provided in the form of content pages and/or indices. With electronic media, there can also be a multi-dimensional access to the information content, which is presented in a more dynamic way.  Users may navigate from
one content set to another related one using tools such as menus and hyperlinks, and may also interact through feedback functions or tailored searches that allow more efficient location of relevant content.

## 3. COST-EFFECTIVENESS

Appropriate use of digital information technologies reduces costs of production, packaging and postage, and also reduces inputs of staff time. The costs for authoring and editing will not differ much, but the layout costs may be less than those for printed outputs.

## 4. INCREASED STORAGE CAPACITY/FAST RETRIEVAL

Increased storage capacity accompanied by fast retrieval is possible through the use of powerful search tools. By using standards such as templates, metadata, formats for texts and images, and classification and indexing schemes (e.g. controlled vocabularies and thesauri), it is also possible to organize a large quantity of data and access it easily.

## 5. INCREASED FLOW OF INFORMATION

There is greater capacity to share and exchange information within and between communities of practice and groups with shared interests. This also contributes to break down the barriers between types of stakeholders.

## 6. REDUCED DELIVERY TIME

Information can be delivered (via email, Intranet or Internet, mobile phone) and made available to the clients in very short time; also, staff time is not required for printing, packaging and labelling the information to be dispatched.

# Disadvantages of new digital media

There are also several disadvantages of digital media which should be taken into account. Here are some of them:

## 1. EASE OF REPRODUCTION

Information in electronic formats can be more easily reproduced and disseminated than in traditional formats, although restrictions may need to be established to limit access to confidential information or content being disseminated through paid products and services.

## 2. TRAINING OF STAFF

Training needs for those staff involved in the various stages of production and dissemination of information will be higher initially, as staff do not generally have the necessary knowledge and skills to use the newly acquired equipment and/or software for digital publication efficiently.

## 3. NEED FOR UPGRADES

Modern Information Technologies quickly becomes obsolete, with short operational lifetimes of two to three years. Consequently, an annual budget needs to be foreseen in addition to the initial capital costs to allow for software upgrades as well as for upgrading staff skills.  These costs should be recovered in the longer term through efficiency gains.

**4. HIGH INITIAL AND MAINTENANCE COSTS**

These costs are related to the purchase of new Information Technologies. Also, maintenance costs may be rather high, especially for some kinds of software application.

**5. RE-DEFINITION OF ROLES**

The adoption of digital media will probably bring about changes in the roles of staff. New roles will also emerge as existing information cycles within organizations are modified.

# Repackaging old content

Once you have made the decision to use digital media, you may face two challenges:

- **repackaging** old content; and
- **creating new content** in the selected digital format(s).

Many organizations will have to deal with both challenges.

When you decide to **repackage old information**, there are three main large categories of issues to consider:

**1. selection criteria;**
**2. staff-related issues; and**
**3. general costs.**

Let's start by considering the first category: **selection criteria.**
How do you select the documents that need to be put in digital format?

As it is a very time-consuming and costly process, factors that will weigh very much in the final decision are related to the:

**1. Validity**

Are updates necessary? (e.g. it may be more appropriate to discard information about a pesticide no longer sold or a cultivation technique that is no longer applicable).

**2. Appropriateness to your audience's needs and abilities**

Is the old content still relevant to your audience's needs? Which documents will be disseminated widely and/or which documents will be needed by a limited group of users?

**3. Volume of information**

How large is the document? If it is very large, can the document be divided into sections of higher and lower priority?

**4. Ability to repackage in different ways**

Will it be possible to re-use the old content in digital format for new product and services?

The second category to consider is **staff-related issues**.

Does your organization have enough trained personnel to manage a conversion process? It is paramount to consider the following issues:

- How will the process be organized?
- Who will be in charge?
- What will be the roles of your current publications officers, librarians and computer services staff?

If you do not have sufficient human resources in-house, either in terms of skills or numbers, you will probably need to consider two options:

- decreasing the amount of material that you want to convert; and/or
- "outsourcing" some of the document conversion process to other organizations.

The third category to consider is **costs**.

Do you have the budget required for:

- **equipment** (e.g. scanners, computers and storage devices)?
- **software** (e.g. for scanning, Optical Character Recognition, word processing, spell-checking and image management)?
- **human resources** (staff time and skills)?
- **the intended size of the project** (costs will also depend on how many pages and how much graphics content will have to be converted)?

Also, have you considered recovering some of the production costs by selling some of your products or services?

Once you are aware of all the main issues regarding repackaging old content into a digital format, you can go ahead and start the process. The **typical steps** to implement are:

1. Select the documents to be included in your digitizing scheme.
2. Secure copyright permission to use these documents for your clients.
3. Scan and process into machine-readable form (using OCR and/or sometimes manual retyping) of the hard copies which are not in digital format.
4. Convert the documents to a suitable format (HTML or MS Word), integrating text and images.
5. "Tag" the chapters, paragraphs and images of the digital documents to enable the different parts of a document to be independently selected and displayed.
6. Organize the digital documents into a structured digital library, assigning metadata ( keywords, subject categories, etc.) for easy retrieval.
7. Build the digital library or collection into your in-house library database.
8. Print and distribute the documents on diskettes,  CD-Rom and/or the Web.

# Creating new content in digital format

Whatever decisions you make about the conversion of old content, your organization will almost certainly create much of its new content in digital formats. Most information that your organization produces is probably already available in digital format (e.g. documents from word processors; tables of data from spreadsheets; data records from databases).

Most of the issues to keep in mind when creating digital content are similar to the ones we have already considered concerning information quality, staff and costs.

However, the simple fact that a document has been created in a digital format does not mean that it is ready to be delivered via digital media. Materials that are destined for digital dissemination must be created with that goal in mind and must meet certain standards.

Let's see a basic outline of the production process for a digital document. To produce a digital document, before defining your production and dissemination workflow, you will have to:

**1**. **Define the final output medium** of your digital documents (print-only, CD-ROM, Web-based document, etc.)

**2**. **Define standards** that should be consistently applied in-house (structured templates, metadata, formats for files and texts, images, house style-sheets, naming of files).

**3**. **Identify the necessary software** and other tools (MS Word, HTML, Document systems) that your staff need to apply these standards, manage the workflow, and ensure efficient storage/access/search. Some of these may need to be customized to fit your specific requirements, and free or open-source options may exist.

**4**. **Specify the key roles** of the various staff/team members (such as author, publications officer, librarian, Webmaster) in charge of the various tasks described in your production and dissemination workflow.

# Conclusions

We have seen that dissemination of an information product/service depends on good planning and systematic management decisions.

Let's list the basic steps again:

- Analysis of the information needs of your various audiences.
- Assessment of your current products/services and your dissemination services.
- Examination of the market, with particular focus on competitors and partners.
- Understanding the relationship between audiences, content, digital formats and digital media.
- Setting priorities.
- Assessing costs and benefits.

# Summary

Audiences' needs determine content, format and medium. This is particularly important when deciding the appropriate dissemination method.

There is a full range of new digital media for information dissemination. In order to make a choice, you need to know not only the potential, but also the requirements and the disadvantages of each medium.

Once you have made the decision to go digital, you may have to face two challenges:

- repackaging old content; and
- creating new content in the selected digital format(s).

In both cases, you should consider three areas of analysis:

- selection criteria;
- staff-related issues; and
- general costs.

Also, it is important to notice that the process of creating a document has changed, and therefore changes will have to be introduced in the production workflow.