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Introducing Products for the Information Sector in the CPC
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Introduction

The Central Product Classification, while not strictly industry of origin in design, was nevertheless developed within the frame of reference of ISIC. Care has been taken for example to ensure that there is at least one class in the CPC to represent the principal output of every ISIC class.

"Each subclass of CPC consists of goods or services that are predominantly produced in a specific class or classes of ISIC Rev.3.1."¹

To maintain this relationship, it would be desirable to make changes in the CPC that reflect the revisions that will be made in ISIC for 2007. Which specific changes, if any, will be made to ISIC for 2007 is not yet known, but certain assumptions can be made based on the Concepts Paper distributed by the United Nations Statistics Division for comment and input by National Statistical Institutes. A relatively safe assumption is that an Information sector of some kind will be introduced in ISIC. The goal of this paper is therefore to examine whether the products of such a new sector are currently appropriately reflected in the CPC and, if not, to identify any changes that would need to be made to ensure that they are. In addition, where the need for changes or improvements is identified, the paper includes proposals drawn from the work completed to date on the North American Product Classification System (NAPCS).² In the end, the paper will raise more questions than it can answer but it can provide the basis for a work programme to address these questions in the context of the revision of the CPC for 2007.

An Information sector in ISIC

In the paper "A possible structure for the revised International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4", which accompanied the Concepts Paper, the UNSD includes a proposal for an Information sector, subdivided into seven sub-sectors.

- 10 Information and communication
- 10.1 Publishing activities (except Internet)
- 10.2 Motion Picture and sound recording activities
- 10.3 Broadcasting (except Internet)
- 10.4 Internet publishing and broadcasting
- 10.5 Telecommunications
- 10.6 Internet service providers and web search portals
- 10.7 Other information services

It comprises units engaged in producing and distributing information and cultural products and in providing the means to transmit or distribute these products as well as data or communications. There is still debate concerning structure within the sector as defined, in particular whether content services and infrastructure services should be separated. There are also outstanding questions regarding the coverage of this sector, in particular whether information technology services should be included here or with other professional and

¹ Central Product Classification, Version 1.1, paragraph 41, p.19

² In some cases, the NAPCS examples provided represent final three country agreements that have been reached between Canada, the United States and Mexico. In other cases, the examples are not quite final and subject to further revision.

technical services. This paper does not seek to address these issues directly, but in trying to identify appropriate products in the CPC for the sector as given, potential avenues for resolving these questions may emerge.

Products for the Information Sector

The CPC does not currently include at the Section or Division level something called information products. Whether the 2007 version (CPC Version 2.0?) should or not is one of the questions that will need to be addressed as the discussion progresses on the aggregation structure of the CPC. There are, however, dispersed throughout the classification, products that are the outputs of industries that are part of the proposed Information sector. These will be identified for each sub-sector in turn, followed by a brief discussion and a proposal for any changes or additions.

10.1 Publishing Activities (except Internet)

"This division comprises the publishing of books, brochures, leaflets, dictionaries, encyclopaedias, atlases, maps and charts; publishing of newspapers, journals and periodicals; directory and mailing list and other publishing (photos, engravings, postcards, timetables, forms, posters, reproduction of works of art and other printed matter). It also includes software publishing (production, supply and documentation of ready-made (non-customized) software) and publishing of multimedia products, such as CD-ROM reference books."³

The products in the current CPC corresponding to these activities are found in the goods portion, Section 3, and, for software publishing, in class 475 Audio and video records and tapes, and perhaps in class 83142, Software Consultancy Services. In Section 3, the products are:

322			Books, brochures and leaflets (except advertising material) printed, printed maps; music, printed or in manuscript
	3221	32210	Printed books, brochures, leaflets and similar printed matter, in single sheets, other than advertising material
	3222	32220	Dictionaries and encyclopaedias, and serial installments thereof
	3223	32230	Printed books (except dictionaries and encyclopaedias and serial installments thereof), brochures, leaflets and similar printed matter, other than advertising material, not in single sheets; children's picture, drawing or colouring books
	3224	32240	Atlases and other books of maps or charts
	3225	32250	Maps and hydrographic or similar charts (including wall maps, topographical plans and globes), printed, other than in book-form
	3226	32260	Music, printed or in manuscript
323			Newspapers, journals and periodicals, appearing at least four times a week
	3230	32300	Newspapers, journals and periodicals, appearing at least four times a week
324			Newspapers, journals and periodicals, appearing less than four times a week
	3240	32400	Newspapers, journals and periodicals, appearing less than four times a week

³ "A possible structure for the revised International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4", UNSD

325**Stamps, cheque forms, banknotes, stock certificates, postcards, greeting cards, advertising material, pictures and other printed matter**

3251	32510	Unused postage, revenue or similar stamps; stamp-impressed paper; cheque forms; banknotes, stock, share or bond certificates and similar documents of title
3252	32520	Printed or illustrated postcards; printed cards bearing personal greetings or messages, with or without envelopes or trimmings
3253	32530	Trade advertising material, commercial catalogues and the like
3254	32540	Printed pictures, designs and photographs
3255	32550	Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; hand-written texts; photographic reproductions and carbon copies of the foregoing
3256	32560	Transfers (decalcomanias) and printed calendars
3259	32590	Other printed matter

The value of information products in general, and in particular the products of publishing activities, lies in their content not in their format or in the physical materials of which they are made.⁴ In the case of 322, 323 and 324, these are unequivocally information products. They are products of publishing industries, the defining feature of which is that the publisher assumes responsibility for the content that is published, in contrast to the printer, who simply reproduces it. In this light, Class 325, however, contains a mix of publishing products and printing products. While one can identify a publishing component to greeting cards, catalogues, pictures and art prints and calendars (3252, 3253, 3254 and 3256), the printing of stamps, cheque forms and certificates and the printing of plans and drawings for architectural and similar purposes seem to be reproduction services only and would thus belong in 891, Publishing, Printing and Reproduction services.

As regards the structure of these classes, it is currently driven by the HS structure, which distinguishes, in the case of books, brochures, etc., between printed materials in single sheets or not in single sheets (for example, bound). In the case of newspapers, journals and periodicals, it distinguishes two classes according to frequency: four times a week and less than four times a week. Content figures very little in the classificatory logic for these products, even though it is the defining feature of information products. The importance of content in information products also gives rise to another characteristic: the same content can be delivered over a variety of media, and each constitutes a distinct information product.

In NAPCS, more emphasis was given to content and media, which led to the following structure. The main products are books, newspapers, periodicals and databases and directories. Each is subdivided first by type of content, then by media. Media include print, on-line and other media (which includes electronic other than on-line, for example CD-ROM). On-line information products that are the counterparts of physical print products, for example on-line newspapers, are included here for the sake of completeness, even though they will also be shown as products of 10.4 Internet Publishing and Broadcasting, where the issue of overlap with CPC class 843, On-line information provision services will be discussed.

Books are defined as single, non-periodic publications which may be published in print, on-line, electronic or other media. The class is subdivided first by type of content: Textbooks; Children's Books; Professional, Technical and Scholarly Books; Reference Books; and Adult Trade Books.

⁴ In fact, they are often immaterial, or intangible, so that their value lies solely in their content.

1.0	Books
1.1	Textbooks
1.1.1	Textbooks, in Print
1.1.2	Textbooks, on-line
1.1.3	Textbooks, other media
1.2	Children's Books
1.2.1	Children's Books, in print
1.2.2	Children's Books, on-line
1.2.3	Children's Books, other media
1.3	General Reference Books
1.3.1	General Reference Books, in print
1.3.2	General Reference Books, on-line
1.3.3	General Reference Books, other media
1.4	Professional, Technical and Scholarly Books
1.4.1	Professional, Technical and Scholarly Books, in print
1.4.2	Professional, Technical and Scholarly Books, on-line
1.4.3	Professional, Technical and Scholarly Books, other media
1.5	Adult Trade Books
1.5.1	Adult Trade Books, in print
1.5.2	Adult Trade Books, on-line
1.5.3	Adult Trade Books, other media

Newspapers in NAPCS are defined as publications issued daily, weekly, or at other regular intervals consisting mainly of current news together with editorials, features, correspondence and other information of current public interest. A considerable amount of space is devoted generally to photographs and advertisements. Newspapers are usually printed on newsprint, a lesser quality of paper designed for immediate consumption. They are also published online and in electronic and other media. In the NAPCS treatment of newspapers, there are two content categories (general and specialized content) and two frequencies (daily and other than daily), in addition to the media breakdowns.

1	Newspapers
1.1	General Newspapers
1.1.1	General Newspapers – daily-
1.1.1.1	General Newspapers – daily – print
1.1.1.2	General Newspapers – daily – on-line
1.1.1.3	General Newspapers – daily – other media
1.1.2	General Newspapers –other than daily
1.1.2.1	General Newspapers –other than daily– print
1.1.2.2	General Newspapers – other than daily– on line
1.1.2.3	General Newspapers -- other than daily — other media
1.2	Specialized Newspapers
1.2.1	Specialized Newspapers-daily-
1.2.1.1	Specialized Newspapers-daily-print
1.2.1.2	Specialized Newspapers-daily-on line
1.2.1.3	Specialized Newspapers-daily-other media
1.2.2	Specialized Newspapers-other than daily
1.2.2.1	Specialized Newspapers-other than daily-print
1.2.2.2	Specialized Newspapers-other than daily-on line
1.2.2.3	Specialized Newspapers-other than daily-other media

There is a similar treatment for periodicals, which are defined as publications issued at fixed intervals, less often than daily and more often than annually, usually on a weekly or monthly basis. Periodicals generally contain articles with more analysis and in-depth coverage than newspaper reports. They may also contain essays, stories and poems and are often illustrated or with photographs. The content categories in this case are general interest, subdivided into arts, culture, leisure and entertainment; home and living; political, social and business news; and other general interest. The other two content categories are business (including farming), professional and academic, with no further content subdivisions, and other periodicals, not classified elsewhere.

1	Periodicals
1.1	Periodicals, General interest
1.1.1	Periodicals, Arts, culture, leisure and entertainment
1.1.1.1	Periodicals, Arts, culture, leisure and entertainment, printed
1.1.1.2	Periodicals, Arts, culture, leisure and entertainment, on-line
1.1.1.3	Periodicals, Arts, culture, leisure and entertainment, other media
1.1.2	Periodicals, Home and living
1.1.2.1	Periodicals, Home and living, printed
1.1.2.2	Periodicals, Home and living, on-line
1.1.2.3	Periodicals, Home and living, other media
1.1.3	Periodicals, Political, social and business news
1.1.3.1	Periodicals, Political, social and business news, printed
1.1.3.2	Periodicals, Political, social and business news, on-line
1.1.3.3	Periodicals, Political, social & business news, other media
1.1.9	Other general interest periodicals
1.1.9.1	Other general interest periodicals, printed
1.1.9.2	Other general interest periodicals, on-line
1.1.9.3	Other general interest periodicals, other media
1.2	Periodicals, Business (including farming), professional and academic
1.2.1	Periodicals, Business (including farming), professional and academic, printed
1.2.2	Periodicals, Business (including farming), professional and academic, on-line
1.2.3	Business (including farming), professional and academic, other media
1.9	Other periodicals, not classified elsewhere
1.9.1	Other periodicals, not classified elsewhere, printed
1.9.2	Other periodicals, not classified elsewhere, on-line
1.9.3	Other periodicals, not classified elsewhere, other media

In the case of mailing lists and directories, three products have been identified in NAPCS, with no content breakdowns. These are mailing lists, directories and "databases and other collections of information". Each is subdivided by media, in print, on-line and other media. In the case of the on-line databases and other collection of information, we have here a complete overlap with CPC class 843, which will be discussed in a later section of this paper.

In the case of these "traditional" publishing products, the issues to be considered for the CPC are:

- Should classes 322, 323, 324 and 325 be redefined as information products?
- Should their structure be altered to take into account type of content and media?
- Should they be moved in the structure of the classification?

To complete the coverage of the products of the publishing industries, the CPC will also need to address software publishing. In the proposed ISIC structure, this activity involves the production, supply and documentation of ready-made (non-customized) software. In CPC ver. 1.1, the phrase "package computer software" was added to the class 4752, which now reads "Records, tapes and other recorded media for sound or other similarly recorded phenomena (except cinematographic film and cards with magnetic stripe); packaged computer software." This addition clearly separated packaged software from services to develop or customize software, which are found in 83142, Software consultancy services. Class 4752 therefore probably covers all the products of software publishing. It also covers, however, all sound and video records and tapes and there well may be significant analytical interest in providing more detail for this class.

In NAPCS, packaged computer software has been subdivided into two broad categories, system software, defined as software required to manage computer resources and support the production or execution of application programs but which is not specific to any particular application, and application software, defined as a software program that performs a specific function directly for an end user. Both categories are further subdivided by type, as shown below.

1.9	Packaged Software
1.9.1	System software
1.9.1.1	Operating systems software
1.9.1.2	Network software
1.9.1.3	Database management software
1.9.1.4	Development tools and programming languages software
1.9.1.5	Other systems software
1.9.2	Application software
1.9.2.1	General business productivity and home use applications
1.9.2.2	Cross-industry application software
1.9.2.3	Vertical market application software
1.9.2.4	Utilities software
1.9.2.5	Other application software

Therefore, regarding software publishing, the issues that need to be addressed in the CPC are:

- Should class 4752 be redefined to split out packaged software?
- Should the structure of the new class be more detailed by type of software?
- Should the new class be moved in the structure of the classification?

There are at least one additional issue to be considered in relation to the products of the publishing industries. It deals with music publishing. In CPC ver.1.1, class 3226 covers music, printed or manuscript, and class 4752 covers audio records and tapes. This split corresponds to the current ISIC treatment with publishing of music books in 2211, Publishing of books, brochures, music books and other publications, while the production of audio records and tapes is covered in 2213, Publishing of recorded media. In the proposed ISIC structure, music publishing, whether in print or recorded on other media, is included in 10.2, Motion picture and sound recording activities. In redefining CPC classes 322 and 475, it would be desirable to create a separate product for music publishing, regardless of media, again placing the emphasis on content, which will be further discussed in the next section of the paper.

10.2 Motion picture and sound recording activities

"This division includes production of theatrical and non-theatrical motion pictures whether on film, video tape or disc for direct projection in theatres or for broadcasting on television; supporting activities such as film editing, cutting, dubbing etc.; distribution of motion pictures and videotapes to other industries but not to the general public; as well as motion picture or video tape projection. Buying and selling of motion picture and video distribution rights is also included. This division also includes music publishing, i.e. publishing of gramophone records, compact discs and tapes with music or other sound recordings, publishing of printed music, and publishing of other sound recordings. Activities of sound-recording studios are included."

This proposed new sector encompasses all activities related to producing and distributing video and audio recordings, including related services, which produce a very wide range of products. For the sake of simplicity, products will be presented first for sound recording activities then for motion picture.

In CPC ver.1.1, the products of sound recording activities are found in class 4752, as noted before, for the actual audio records and tapes, 3226 for music books and sheet music and 9611 for Sound recording and audio post-production services. In the new version of the CPC, it would be desirable to split out sound recordings from 4752 and group them with 3226 in a new class for music publishing. In addition, it may be useful to provide further detail for this new class. In NAPCS, the following products have been identified.

2 Phonorecords

2.2.1 Musical Compact Discs

2.2.2 Musical Cassette Tapes

2.2.3 Electronic Musical Phonorecords

2.2.4 All Other Formats

2.2.5 Non-musical Phonorecords

4 Publishing of Print Music

4.1 Music Books

4.2 Sheet Music and Folios

In addition to these content products, a number of services involved in the production and distribution of these products can be provided on a fee or contract basis. Some of these are specialized technical services such as sound engineering and audio mixing, others are specialized business services, like distribution. In CPC ver.1.1, classes 96111 covers sound recording services and 96112 Audio post-production services. These cover specialized technical services adequately. CPC 96122, Radio programme production services, could also be considered a specialized technical service in this area. While more detailed products might be identified in each category, at this point no agreement has been reached in NAPCS on more detailed products. Regarding specialized business services, however, the current CPC does not contain a separate class for distribution services of sound recordings, which would be analogous for sound recordings to class 96141, Motion picture, video tape and television programme distribution services. Such services have been identified in the NAPCS work, where it is defined as arranging for the mass production and subsequent shipment to retail outlets of phonorecords that receive creative and financial backing from others. It is subdivided between distribution of records produced domestically and distribution of records produced in another country. Such a class should be included in the CPC.

In the area of sound recording activities, therefore, the following questions should be addressed in the CPC:

- Should the audio records and tapes in 4752 and sheet music in 3226 be combined in a new class?
- Should this new class be further detailed as per the NAPCS model?
- Should a class for distribution services of records and tapes be added?
- Should these products be grouped and/or moved in the structure of the CPC?

The other set of activities in this proposed sector includes motion picture and video production and associated activities. As for the sound recording activities, the products of these activities can be divided between content products and services involved in their production and distribution.

In CPC ver.1.1, video records and tapes are in 4752 while there is no class for recorded cinematographic film, probably on the basis that there are no market exchanges for these products. However, while there is no market exchange in the physical recorded film, the film "property" is owned by the producer and can be transacted. Similarly, television programmes can be bought and sold and should perhaps be represented as products for this activity. As for specialized technical and business services, CPC ver.1.1 contains a number of products which cover this area: 96121, Motion picture, video tape and television programme

production services, part of 9613, Audiovisual production support services, part of 9614, Services related to the production of motion pictures, video tapes and television and radio programmes and 9615, Motion picture and video tape projection service. In the case of 9613 and 9614, the question is whether strictly audio production services and services related to the production of radio programmes should be broken out and included with an "audio" group of products.

In the area of motion picture and video activities, therefore, the following questions should be addressed in the CPC:

- Should video records and tapes in 4752 be broken out into a new class?
- Should films and television programs be identified as products?
- Should audio production support services and support activities for the production of radio programme be split from 9613 and 9614 to form a new class for audio support services ?
- Should these products be grouped and/or moved in the structure of the CPC?

10.3 Broadcasting (except Internet)

"This division includes units that create content or acquire the right to distribute content and subsequently broadcast the content. This includes units that operate broadcasting studios and facilities for over the air or satellite delivery of radio and television programs of entertainment, news, talk, and the like. They are often engaged in the production and purchase of programs and generating revenues from the sale of airtime to advertisers and from donations, subsidies, and/or the sale of programs. This also includes units operating studios and facilities for the broadcasting of programs that are typically narrowcast in nature (limited format, such as news, sports, education, and youth-oriented programming) on a subscription or fee basis."

In the CPC, there is only one product for this industry, class 9616, Broadcasting (programming and scheduling) services. It may seem more difficult in this area to apply the content versus specialized services approach to identifying products but it is applicable as well. The content product in this case is a "broadcast", which can include one or many programs in specific combinations and schedules. A broadcast is owned by its producer, who can limit the uses which purchasers and viewers can make of it. Broadcasters control another commodity which they can sell, air time. Both of these intangibles can belong in a product list, though the former is produced while the latter is non-produced. In the case of subscription or fee based television, the content product is the same as for traditional broadcasters, a package of programming, but the business model is different.

In the NAPCS work, the following products have been identified in this area.

1.1	Air time – broadcast television
1.2	Air time – radio
1.3.1	Public and non commercial programming services – Television
1.3.2	Public and non commercial programming services – Radio
1.4.1	Specialty programming services – television
1.4.2	Specialty programming services – audio
2.1.1	Basic programming package
2.1.2	Discretionary or premium programming package
2.1.3	Pay-per-view

No specialized technical or business services have been identified specific to broadcasting although it may be possible to imagine that there could be a product for broadcasting on a fee or contract basis.

In the area of broadcasting, therefore, the following questions should be addressed in the CPC:

- Should air time and broadcasts be identified as products?
- If so, should more detail be provided for these products along the lines of the NAPCS example?
- Should broadcasting services, understood as a standalone service on a fee or contract basis, be retained as a separate product?
- Should these products be grouped and/or moved in the structure of the CPC?

10.4 Internet publishing and broadcasting

"This division comprises economic units engaged in publishing and/or broadcasting content on the Internet. These units may or may not provide traditional (non-Internet) versions of the content that they publish or broadcast. Units in this class provide textual, audio, and/or video content of general or specific interest on the Internet. Included are Internet book publishers, Internet entertainment sites, Internet game sites, Internet news publishers, Internet periodical publishers, Internet radio stations, Internet sports sites, and Internet video broadcast sites."

The products of these activities are almost exclusively content, an intangible entity, delivered in an intangible transport. Many of the same issues and approaches as those considered for traditional publishing and broadcasting apply here as well. The on-line counterparts of traditional publishing products have been identified above in 10.1 (on-line books, newspapers and periodicals) as well as on-line databases and other collections of information. Certain types of content have no counterpart outside the Internet however and these need to be identified here. As for Internet broadcasting, the operators of these broadcast channels provide essentially the same products as the traditional broadcasters, but again with a different business model.

In CPC ver.1.1, the products of this activity roughly correspond to class 84300, On-line information provision services. However, the current class is too focused on information only rather than entertainment and other content and the definition would need to be updated. The current class probably also covers web search portals, which in the ISIC proposal are produced by division 10.6, Internet service providers and web search portals. It may be desirable to split this product out so as to maintain a cleaner relationship with the industry of origin.

The NAPCS work is not final in this area but general agreement has been reached on a definition - publishing and broadcasting audio, video, text and graphics on the Internet. This includes subscriptions, pay-per-view, membership fees, digital downloads, and other forms of licensed access - and on the following products .

1	Internet Publishing and Broadcasting Content
1.1	Newspapers - online
1.2	Periodicals- online
1.3	Books - Online
1.4.	Directories and Mailing lists
1.5.	Other Online Content
1.5.1	Online Games
1.5.2	Adult content online
1.5.3	Other Internet Publishing and Broadcasting content
1.5.3.1	News content
1.5.3.2	Art, Entertainment, and Literary content
1.5.3.3	Educational content
1.5.3.9	Other Miscellaneous content

Sale of on-line advertising space or air time is also seen as a significant product of this industry.

In the area of Internet publishing and broadcasting, therefore, the following questions should be addressed in the CPC:

- Should advertising space and air time be identified as products?
- Should on-line content be defined and detailed along the lines of the NAPCS example?
- Should class 84300 be re-defined and expanded to include all forms of on-line publishing and broadcasting products, including the on-line counterparts of traditional publishing and broadcasting or should these be grouped with their physical counterparts?
- Should web search portals be split out of 84300 and placed with 842, On-line access services?
- Should these products be grouped and/or moved in the structure of the CPC?

10.5 Telecommunications

"This division includes the operation, maintenance, and provision of access to facilities for the transmission of voice, data, text, sound, cable programming, and full motion picture video. A transmission facility may be based on a single technology or a combination of technologies."

The telecommunications products were completely updated in CPC ver.1.1, (class 841) essentially based on the work completed in the NAPCS project. As the ISIC proposal for Telecommunications mirrors NAICS, and the NAPCS products were developed in the context of this definition, there is no need to make any further changes in the CPC for this area.

10.6 Internet service providers and web search portals

"This division includes the provision of: (1) access to the Internet and (2) search facilities for the Internet, i.e. aiding in navigation on the Internet."

A similar situation arises for this activity, the products of which were updated in CPC ver.1.1 (class 842). The web search portal products, however, would need to be added, moving here from CPC 84300.

10.7 Other information services

"This division includes activities of providing information, storing information, providing access to information, and processing information. This includes news syndicates, libraries, archives, and data processors."

In CPC ver.1.1, the products of these activities are found in 844, News agency services and 845, Library and archive services. These cover the full universe of products in this area and are sufficiently detailed.⁵ There are no further suggestions from the NAPCS project as no work has been undertaken in NAPCS for these activities to date.

Recap

To introduce products of the information sector in the CPC, it would be desirable to expand and re-organize the existing content of the CPC in a number of ways. At the top, and this question is related to the decisions that will be made regarding the aggregation structure of the CPC, there is the issue of whether products of the information sector should be regrouped in a new division of the CPC or dispersed across several divisions, as is currently the case. At the bottom, there is the question of whether additional detail is required for existing or proposed new classes of the CPC, along the lines of the work that has been completed to date for the NAPCS project. And throughout the classification, there is a need to take into account the particular characteristics of the products of the information sector.

⁵ Products for "data processors" are not listed here because data processing is part of 13.5, Computer Services, in the ISIC proposal. Considerable work has been completed in NAPCS for this activity, which could be considered when addressing that part of the CPC. A separate paper on this topic has been prepared for the 18th Voorburg Group meeting, "Classifying Information and Communications Technology (ICT) Services", Daniel April, Statistics Canada

In this respect, we have seen that these products fall into three broad categories: services, content and information products. We will introduce in this section a related attribute that is relevant for information products, rights, which will need to be well understood and articulated in a revised CPC.

Many products of this sector are simply specialized technical or business services, that pose no particular conceptual or implementation difficulties. These services generally represent outsourced activities in an overall process of origination, production, distribution and preservation of information and cultural products. One could also find here fairly large parts of the overall process performed on a fee or contract basis, for example 8911 Publishing, on a fee or contract basis. Consideration should be given to identifying additional products of this nature, where applicable.

The other two types of products identified in the information sector are content and information products. The latter are the output of the origination step in the overall process, the latter result from the production step. To date in the CPC, we have only been concerned with the information products, and of those, only those that have a tangible physical embodiment. What we need to address is whether content should be considered a product, distinct from the information products in which it is embodied. We also need to consider whether to define information products that are intangible in nature.

By reviewing the proposed changes to the CPC described above, we can identify the content and information products that have been noted and also any gaps. Much of the content of information products originates outside of the information sector, in particular in the Arts, recreation and entertainment sector. The issues related to identifying content as a product are therefore most relevant in the definition of the products of this sector. For example, CPC class 9632 Services of authors, composers, sculptors and other artists, except performing artists, covers the services of such artists on a fee or contract basis. But, does it adequately cover the output of the author engaged in the authoring of a written work on a speculative basis, hoping to find a publisher and eventually earning revenues? In copyright terminology, what the author produces is a "work", essentially a content product. Similarly, the product of a composer is a composition. Should these types of products be represented in the CPC? This question can also be asked regarding producers in the information sector, certain of which also originate content. For example, films, radio and television programs, broadcasts as well as the originals for software programs are content products that originate within the information sector.

Content, regardless of its origin, can then be embodied in a product (or delivered in a live performance). These can take different forms, in different media. Most of the products identified to date for the information sector falls into this category: books, newspapers and periodicals, whether in print, online or in other electronic form, music and other sound recordings on disk, tape, in print or online, movies and other video productions on disk, tape or online, etc. are all examples of information products. For those in tangible form, we will need to ensure the list is complete and decide whether to create and structure new classes to represent them. We will also need to precisely define those products that are in intangible form, as distinct from content, for example live performances and online delivery.

This distinction between content and product, the embodiment of content in information products, followed by the distribution of products, provides the context for the supply chain in which content and products flow one way and value, usually in a monetary form, flows the other way. In effect, the owners of the content can give others in the supply chain the right to use it, with or without conditions and limitations, in exchange for payment. Because of the intangible nature of the content throughout the supply chain, and the relative ease with which the products can be replicated, this reverse flow of value depends on the recognition of property rights in the content at every stage of the process and on some kind of monitoring and administrative regime to ensure it happens.

The property rights themselves are not products. The fact of their existence is construed and recognized by the state or by self-regulation. However, licensing others (meaning giving the right to others) to use content is an economic activity and licensing is an important source of revenues for owners of content. In CPC ver.1.1, class 733, Licensing services for the right to use non-financial intangible assets, was introduced to cover this product. Two detailed classes, Licensing services for the right to use computer software and

Licensing services for the right to use entertainment, literary or acoustic originals, are relevant for the products of the information sector. A review of these classes will be necessary to ensure they are coherent with the treatment that will be adopted for the identification and description of content and information products in the CPC.

Seen this way, an information product is comprised of content, an embodiment of the content in some tangible or intangible form, which can be bought or sold as any normal product, and of one or more properties, which give rise to revenue flows. This basic framework can be found in the ISO standards on the identification and description of information resources, and in particular in a recent technical document on content delivery and rights management.⁶ It would be desirable for the CPC to consider such a framework so as to adopt a coherent, standards based approach to identifying and defining the products of the information sector.

This paper has raised a number of questions ranging from the overall approach to identifying and defining content and information products to detailed questions regarding specific classes of the CPC. These are summarized in Appendix 1. While we cannot expect to provide definitive responses to all of these in the context of a single meeting of the Voorburg Group, they can provide the basis of a work program over the medium term for introducing products of the information sector in the CPC.

⁶ ISO Technical Report 21449, "Content Delivery and Rights Management - Functional Requirements for Identifiers and Descriptors for Use in the Music, Film, Video, Sound Recording and Publishing Industries"; For excerpts and diagrams, see www.nlc-bnc.ca/iso/tc46sc9/21449.htm and also in Appendix 2.

Appendix 1 Summary of questions raised - Information and communication

10.1 Publishing activities (except Internet)

- Should classes 322, 323, 324 and 325 be redefined as information products?
- Should their structure be altered to take into account type of content and media?
- Should they be moved in the structure of the classification?

- Should class 4752 be redefined to split out packaged software?
- Should the structure of the new class be more detailed by type of software?
- Should the new class be moved in the structure of the classification?

10.2 Motion Picture and sound recording activities

- Should the audio records and tapes in 4752 and sheet music in 3226 be combined in a new class?
- Should this new class be further detailed as per the NAPCS model?
- Should a class for distribution services of records and tapes be added?
- Should these products be grouped and/or moved in the structure of the CPC?

- Should video records and tapes in 4752 be broken out into a new class?
- Should films and television programs be identified as products?
- Should audio production support services and support activities for the production of radio programme be split from 9613 and 9614 to form a new class for audio support services?
- Should these products be grouped and/or moved in the structure of the CPC?

10.3 Broadcasting (except Internet)

- Should air time and broadcasts be identified as products?
- If so, should more detail be provided for these products along the lines of the NAPCS example?
- Should broadcasting services, understood as a standalone service on a fee or contract basis, be retained as a separate product?
- Should these products be grouped and/or moved in the structure of the CPC?

10.4 Internet publishing and broadcasting

- Should advertising space and air time be identified as products?
- Should on-line content be defined and detailed along the lines of the NAPCS example?
- Should class 84300 be re-defined and expanded to include all forms of on-line publishing and broadcasting products, including the on-line counterparts of traditional publishing and broadcasting or should these be grouped with their physical counterparts?
- Should web search portals be split out of 84300 and placed with 842, On-line access services?
- Should these products be grouped and/or moved in the structure of the CPC?

10.5 Telecommunications

No changes required

10.6 Internet service providers and web search portals

Move web search portals from 84300 to 84200.

10.7 Other information services

No changes required.

