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The Telecommunications Industry: New Challenges for Classification

Paul Johanis and Tony Malfara
Statistics Canada

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Background

Investment in and development of new technologies, convergence of technologies, and changes to the regulatory framework governing telecommunications and broadcasting are changing the nature of the telecommunications sector. As a result, current treatment of this sector in industry classifications may no longer be suitable in the near future.

In the consultation draft of ISIC revision 4, the proposed structure of the telecommunications sector is patterned on NAICS 2002. This structure, however, is being questioned within North America and may not be retained in NAICS 2007. This paper outlines the changes occurring in the telecommunications industry and examines various options for changes that could be made to better reflect this activity in the 2007 version of ISIC and the other industry classifications used around the world.

Proposed structure for Telecommunications in the consultation draft of ISIC rev.4

In a general movement towards more comparability between the industry classifications used in Europe, North America and around the world, the ISIC rev. 4 consultation draft includes a proposed restructuring of the telecommunications industry that is patterned on NAICS 2002. The proposed structure is as follow:

ISIC rev4		NAICS 2002
56	Telecommunications	517
561 5610	Wired telecommunications activities	5171
562	Wireless telecommunications activities	5172
5621	Wireless telecommunications activities (except satellite)	
5622	Satellite telecommunications activities	5174
563 5630	Cable and other subscription programming distribution	5175
564 5640	Other telecommunications activities	5179

This structure, however, may no longer appropriately describe this industry in North America, and elsewhere, and is likely not sustainable looking forward beyond a few years. The reason is a fundamental change brought about by the gradual replacement of networks designed to deliver specific services by networks that can deliver the so-called triple play of voice, Internet and video services. The specificity of networks at the core of the current NAICS structure for telecommunications industries may well no longer exist in a few years.

Classification issues raised by changes in the telecommunications sector

The impacts of these changes are already visible to some extent. In Canada, the cable industry is a major supplier of high speed Internet access, there are market trials for video by DSL by a few telephone companies, one cable company is offering voice telephony with success, and a small number of resellers of long distance services have launched VoIP services. But the most fundamental changes are still to come. The most important are:

- It could become difficult to distinguish between wired telecommunications and cable and other program distribution in the future, at least on the basis of underlying technology (both networks are now 2-way communication systems) or outputs (the range of outputs could be very similar though the relative importance of each could remain significant).

- Internet access and Internet transport are already largely outputs of the technologies employed by the wired telecommunications industry and the cable industry rather than the output of the resale technology underlying the Internet Service Providers industry (5721 is ISIC rev.4). It is probable that there will no longer be an ISP industry in a few years. The anticipation is that surviving establishments will be those that provide a range of telecommunications services. Some have already announced their intention to do so.

- There are early signs of convergence and integration of the wired telecommunications and wireless telecommunications industries. It is not clear how long these industries will remain distinct, although the disappearance of a wireless telecommunications industry is probably not imminent.

In addition to these structural changes, there are pragmatic issues to resolve.

- The telecommunications resellers industry (5173 in NAICS 2002) has shrunk to a few players serving niche markets and may no longer warrant a separate class. At the very least there will be a need to refresh the definition of the industry since its future depends more on VoIP that on reselling long distance services (a service that may well disappear).
- The satellite telecommunications industry and the other telecommunications industry are also very small and are candidates for collapsing in NAICS 2007.

Changing industry classifications to reflect these changes is complicated by at least 3 factors:

- While it is clear that all or some of the anticipated changes will occur, it is not clear when they will occur and which one will be implemented successfully, and whether the implementation will be done at the same pace and in the same manner across countries.
- It is not clear how enterprises will organize themselves to successfully compete in this new environment. Consolidations and re-organizations may well redefine the boundaries of establishments (along with their processes and outputs), which in turn would affect the boundaries and definition of industries. The definition of establishments as distinct from enterprises is particularly difficult in this industry.
- While in theory we can argue that there is convergence of industries, the main interest will be for statistical indicators of transition. For example, users will want to know how well cable operators are doing in the telephone market, how well telephone companies are doing in the video market, and who is winning the high speed Internet battle. It is easier to answer these questions if separate industries are recognized.

Classification options

Ideally, we would wait a while longer to see how these changes materialize in our respective countries. If we cannot afford to wait, it may be to take a prudent approach that leaves room to adjust, at least at the national level. With this in mind, the following options are offered for consideration:

Option one

The structure proposed in the ISIC rev 4 consultation draft is adjusted slightly to recognize that:

- ISPs belong here because they employ telecommunications technologies to deliver telecommunications services
- Some industries are too small to warrant a separate class.

The revised structure would be:

Telecommunications services industries
- Wired Telecommunications Carriers (including integrated telecommunications companies)
- Internet Service Providers
- Cable and Other Program Distribution
- Wireless Telecommunications Carriers (except Satellite)
- Other Telecommunications

The Other Telecommunications category would be expanded to include satellite telecommunications, and resellers (except satellite).

Option 2

Options 2 is a variation on option 1 that merges the first 3 industries (the most likely to converge in the short term), and possibly re-assigns resellers on the basis of whether they provide fixed telecommunications or mobile telecommunications. National detail could be elaborated at a lower level, as required.

Telecommunications services industries
- Fixed telecommunications and multi-channel video service providers
- Mobile telecommunications services providers
- Other telecommunications service providers

Option 3

There would be a single telecommunications services industries aggregate at the division level of ISIC, with no further detail below. National detail could then be added, according to the extent and pace of convergence, when it occurs, and what form it takes.

Assessment:

Option 1 provides the most detail and may be appropriate to describe the pre-convergence environment and to track the transition to the converged state. However, for countries in which the convergence is well advanced, this option contains classes that will quickly become very small or null sets (ISPs and cable and other program distribution).

Option 2 would be appropriate to describe the post-convergence state. However, traditional telephone companies and cable companies would no longer be separately identified, which would likely not be acceptable in countries in which the convergence is occurring more slowly.

Option 3 offers the most flexibility and is perhaps the most prudent course. However, it fails to distinguish mobile telecommunication service providers, perhaps the most dynamic segment of the industry on a world scale, and provides little basis for international comparison of the telecommunications industry except at the most aggregated level.

Conclusion

In general, classifications should follow rather than lead change. The danger in anticipating change is the creation of structures that never become relevant during the life of the classification if the evolution of a sector takes a different course. In the case of telecommunications, we on the cusp of a change that has been much discussed for many years. It was perhaps premature to react before now to the convergence phenomenon. However, it may be unwise not to reflect these fundamental changes in classifications meant to appropriately measure the economy for the period 2007 through to 2012.