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## Different usage profiles for listeners of music delivered via interactive television, free-to-air radio, and personal music collections

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### Abstract

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## **Different Usage Profiles for Listeners of Music Delivered via Interactive Television, Free-to-Air Radio, and Personal Music Collections**

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Keywords; music, listenership, interactive television, free-to-air radio, CD collections, substitution effects.

### **Abstract**

This study examines the audience profile and usage patterns of interactive cable/satellite audio (ICSA) listeners and compares them with listeners of free-to-air radio (FTA) and personal music collections (PMC). A survey of ICSA users in Australia reveals that heavy users of ICSA are also likely to be heavy users of FTA and PMC. However, ICSA listeners are significantly older than FTA or PMC listeners and prefer music formats different to those reflected in radio audiences and CD sales.

### **1. Introduction: Music Delivered via Interactive Cable/Satellite Channels**

New technologies are the main catalyst for media innovations and changes in the consumption of recorded music (Day, 2000). Just as radio led to new patterns of media consumption that were subsequently altered by television (c.f., Auletta, 1992), the Internet and new technologies are now claimed as an epochal transformation of consumer behavior (Project of Excellence in Journalism, 2004). In addition, hybrid forms of media (e.g. pay television, interactivity) and supporting technologies (e.g. remote controls, video, digitalisation) have further altered music listening patterns (Morrison & Krugman 2001). In general, newer technologies have been adopted by younger consumers (Huang, 2005), with older consumers expressing disdain and even fear about the impact of each new product on society. The invention of the phonograph was universally denounced by music aficionados as diluting the music listening experience and catering to the unsophisticated masses (Day, 2000). When free-to-air (FTA) radio became a dominant channel of distribution for music, many social commentators wondered whether anybody would pay to hear music when they could hear it for free? But, of course, it subsequently became apparent that new technologies for the distribution of music were often complements rather than substitutes for existing channels, with radio proving to be an excellent medium for promoting sales of singles and LPs or albums (McLeod, 2005).

With respect to the impact of technology on contemporary music listening patterns, little attention has been given to interactive cable/satellite audio (ICSA) and its possible cannibalization of free-to-air radio (FTA) (Harwood, 2004). ICSA refers to the “audio only” channels offered by providers of cable- or satellite-delivered television programming. These channels usually reflect distinct genres or styles that are comparable to typical FTA formats (Hesbacher et al., 1976). Initially, ICSA channels were purely for music listening purposes, with the television screen essentially blank, except for the identification of the artist, the song title, and the title of the album or LP. However, over time non-music channels related to news, sports and foreign content began to evolve. More recently, technological developments have allowed for an interactive component to be displayed on the screen. Using a hand-held remote control, listeners can now initiate several enquiries or transactions, including (1) enquiring about an artist’s bio, (2) asking for a list of the artist’s recordings, (3) enquiring about upcoming concerts and other performances, (4) purchasing the artist’s recordings, and (5) purchasing tickets to upcoming

performances. For enquiries involving purchases, the provider of the cable/satellite programming arranges for the acquisition and delivery of the purchased items and simply adds the cost to the subscriber's monthly bill for verification.

The recent development of ICSA has created a potential substitute for FTA and personal music collections (PMC). However, as noted previously, there is also the possibility of a complementary relationship with FTA, PMC, and other channels of music distribution. However, no commercial research data is collected for ICSA, and given the paucity of relevant academic research, it seems inappropriate to generate a priori hypotheses. Instead, this research adopts a more exploratory perspective, which examines a number of issues related to the consumption of music via ICSA without expressing strong expectations about the associated outcomes. To better understand music consumption, and particularly the new ICSA medium, this research addresses the following questions:

**RQ1:** Do usage patterns for ICSA differ from typical usage patterns for FTA and PMC?

**RQ2:** What is the relative popularity and listener profile of each ICSA channel, and how do these preferences compare with the popularity of music formats suggested by radio audience sizes and CD sales?

**RQ3:** What are the age and gender characteristics of ICSA listeners, and do they differ from listeners of FTA and PMC?

**RQ4:** Is ICSA a complement or a substitute for FTA and PMC?

## 2. Method

Five thousand names and contact details were randomly generated from an Australian pay television company's subscriber list by randomly selecting a number between 1 and 406,430 (the total number of subscribers) and then selecting every 81st (406,430 / 5000) name from the list until 150 surveys were completed. There were no refusals, but 36 potential respondents were not at home at the time of the call. If a potential respondent was not at home, the interviewer simply proceeded to the next name on the list. All of the respondents contacted agreed to complete the survey. The overall response rate was 81% (150 / 186). After asking for and/or verifying that the person speaking was the person named on the subscriber database, and indicating the purpose and duration of the survey, the interviewer asked a series of questions regarding use of the various ICSA channels, and overall usage patterns for FTA and PMC (e.g. CDs/cassettes)..

**Hours per week listening to ICSA channels:** The average hours per week spent listening to the ICSA channels was measured as: "Approximately how many hours did you personally spend listening to music/radio channels last week?" allowing an open-ended response format. Responses were given in units of hours and/or minutes.

**ICSA channels used:** In order to obtain a more precise indication of ICSA usage patterns, respondents were asked: "We'd like to know which music channels you prefer. With a simple "yes" or "no" response, please indicate which of the following music channels you listen to." The following music/radio channels were assessed: *Light Classical, New Age, Radio Italia, Sport 927, News and More, Rhythm Digital, Country, SMA Top 100, Smooth Café, Beautiful Moods, Classic Gold, Special Events, Star Radio, Underground Sounds, Retro Beat, Stage and Screen, Latin Heat, Blues, Soul Train, Cocktail Lounge, Hottest Hits, Great Symphonies, Adult Contemporary, Urban Pulse*, which captures the range of FTA formats available in large, diverse

markets (Hesbacher et al., 1976). The interviewer read the name of each ICSA channel, and waited for the respondent to answer “yes” or “no”.

**Hours per week listening to FTA:** The average hours per week spent listening to FTA was measured as: “Approximately how many hours per week do you spend listening to the radio?” using an open-ended response format. Responses were given in units of hours and/or minutes.

**Hours per week listening to PMC:** The average hours per week spent listening to PMC was measured as: “Approximately how many hours per week do you spend listening to CDs, cassettes, or other recorded music in your private collection?” Responses were again given in units of hours and/or minutes.

### 3. Results

RQ<sub>1</sub> asked whether there were any differences in the usage patterns between ICSA, FTA and PMC. Seventy-six percent of the sample responded that they were aware of ICSA as part of their pay television package, and 33 percent of those respondents who were aware of ICSA reported to listening to ICSA in the previous week (n=37). Hence, only 25% of the sample reported listening to at least one ICSA channel in the last week. Given the current penetration rate of 30 percent for paid cable television (Gluyas, 2012), this suggests that only 7.5 percent of the population listens to ICSA on a regular basis.

As shown in Table 1, FTA has both the highest level of audience penetration (83%) and average listening hours per week (17.56). Three-quarters of respondents reported listening to PMC at an average of almost 9 hours each week. To investigate whether there was any differences in usage between the various music channels, a series of paired t-tests were conducted. There were significant differences in the hours listened between all combinations: ICSA and FTA ( $t=-3.65$ ,  $p=.001$ ), FTA and PMC ( $t=4.52$ ,  $p=.000$ ) and ICSA and PMC ( $t=-2.69$ ,  $p=.011$ ).

**Table 1: Penetration Rates for FTA Radio, Recorded Music Collections and ISCA**

	FTA	PMC	ICSA
Media Penetration (% Users) in the previous week	83%	75%	25%
Mean Average Hours for Users	17.56	8.87	6.14
Standard Deviations	19.02	13.36	11.00

Analyses were undertaken to gain further insight into the heavy and light users of each form of media, and particularly whether heavy users were generic across the listening media or were media specific. A split by the closest hour to the median was used to divide heavy and light users. Heavy radio users reported tuning into mainstream radio for approximately 30 hours in the previous week compared to approximately 15 hours for heavy recorded audio users and 14 hours for heavy ICSA users. Significant differences were found in the average levels of use in radio and recorded audio ( $t=2.73$ ,  $p=.011$ ) and radio and ICSA ( $t=1.93$ ,  $p=.095$ ) by heavy users. No significant differences were found between heavy users of PMC and ICSA. Although FTA is still dominant among heavy listeners, it is interesting to note similarity of listening time between heavy users of ISCA and FTA, suggesting some success by ISCA in capturing enthusiastic consumers of music.

Usage patterns for light users were also examined using t-tests. Significant differences were found between light FTA and PMC listeners ( $t=4.75$ ,  $p=.000$ ), light FTA and light ICSA audiences ( $t=4.61$ ,  $p=.000$ ) and between light PMC and ICSA listeners ( $t=2.12$ ,  $p=.06$ ).

Consistent with the findings associated with FTA's heavy listeners, FTA's light listeners generally reported being tuned in for longer periods than other audio entertainment. Thus, even among subscribers, ICSA listeners are much lighter audio consumers than FTA and PMC listeners. Whether ICSA's comparatively low audience for light users is because of the newness of the medium, a lack of flexibility or transportability of television sets (especially as FTA and PMC are often available in motor vehicles and via portable technologies), or inferior programming should be ascertained by additional research.

RQ2 asked about the fragmentation and relative popularity of ICSA's channels. Table 2 lists the 24 ICSA formats, along with the percentage use, average age and average household size of respondents tuning to each music channel. Due to the number of listening options provided by ICSA, many of the averages are based on a small number of respondents, which limited the analytical tools that could be applied to the data. Nevertheless, some interesting patterns are apparent.

**Table 2: Audience Profiles for ICSA Channels**

<b>Music Channel</b>	<b>% of Listeners</b>	<b>Average Age of Listeners</b>	<b>Household Size</b>	<b>Ave Listening Time Hrs</b>
Light Classical	29.7	51	3.0	6.9
New Age	24.3	43	3.7	4.3
Radio Italia	5.4	46	4.0	4.5
Sport 927	8.1	44	4.0	7.1
News and More	16.2	35	3.5	4.4
Rhythm Digital	5.4	45	3.5	4.5
Country	29.7	27	2.8	6.9
SMA Top 100	40.5	35	4.1	4.2
Smooth Café	5.4	35	3.0	4.5
Beautiful Moods	21.6	49	3.0	4.4
Classic Gold	37.8	33	3.9	4.2
Special Events	16.2	46	4.6	4.4
Star Radio	16.2	21	4.2	4.4
Underground Sounds	5.4	29	3.5	4.5
Retro Beat	13.5	39	4.0	4.4
Stage and Screen	18.9	42	3.7	4.4
Latin Heat	8.1	32	3.5	4.5
Blues	27.8	21	3.6	4.3
Soul Train	16.2	29	3.8	4.4
Cocktail Lounge	13.5	34	3.7	4.4
Hottest Hits	36.1	30	4.3	4.2
Great Symphonies	2.7	47	3.2	4.5
Adult Contemporary	24.3	30	4.2	4.3
Urban Pulse	5.4	28	4.0	4.5

Not surprisingly, the classical music channels attract the oldest age groups (Day, 2000), averaging 51 years of age for Light Classic and 47 years for Great Symphonies. The group listening to Light Classic was also ranked as equal second in the average time spent listening in a week, averaging 6.9 hours. Consistent with lifecycle profile of the average age of classical music listeners, household sizes were comparatively small with an average of 3 persons per household for Light Classical and 3.2 persons for Great Symphonies. The highest average time spent listening to an ICSA format was on the Sport927 channel with an average audience of 7.1 hours. This audience's age was typical with the overall average age of all respondents at 44 years (the overall average age of all respondents was 46 years), though only a comparatively small audience tuned to this channel (8.1%).

The highest percentage of users listened to the Top 100 format (40.5%) followed by Classic Gold (37.8%) and Hottest Hits (36.1%). These listeners are comparatively young, with average ages of 35 years, 33 years and 30 years, respectively. The average listening time for each group was approximately four hours. The ICSA channels falling under the general label "contemporary pop" (Hottest Hits, Adult Contemporary, Urban Pulse, Underground Sounds) tended to attract the youngest listeners, ranging from 21 years to 28 years. With the exception of Underground Sounds which averaged 3.5 members per household, each of these stations had an average of four or more persons per household. The age profiles of Blues (21 years) and Country (27 years) listeners seem young, but there are no apparent benchmarks for audience age and these averages are based on a limited number of respondents. With the exception of country music audiences who reported the second highest average listening time of 6.9 hours per week, all of these categories captured approximately 4 hours of the format during the week.

RQ<sub>3</sub> enquired about the age and gender characteristics associated with listeners from ICSA, FTA and PMC. Although a higher proportion of females reported listening to FTA and PMC, there were no significant gender differences found among any of the distribution channels. In contrast, there were some large differences found in the time spent listening to the various channels by age category. As shown in Table 3, the highest average time spent listening to PMC was found in the younger listeners aged in the 18-29 and <18 year age categories, who listened to 14 and 8 hours, respectively, in the week. T-tests indicated differences from the mean listening average for all respondents ( $t=3.95$ ,  $p=.00$ ). This indicates younger demographics prefer to select and play their own music rather than listen to FTA or ICSA. These results are consistent with research by Holbrook and Schindler (1989) suggesting that music preferences galvanize in early adulthood.

**Table 3: Demographic Characteristics and Average Usage per Media**

<b>Age Group</b>	<b>Hrs P.W Recorded Audio</b>	<b>Hrs P.W ICSA</b>	<b>Hrs P.W Normal Radio</b>
< 18	8 hrs/wk	3.3 hrs/wk	5.4
18-29	14.2 hrs/wk	4.8 hrs/wk	8.8
30-39	6.1 hrs/wk	3.5 hrs/wk	12.5
40-49	6.6 hrs/wk	6.6 hrs/wk	19.4
50-59	4.7 hrs/wk	2.3 hrs/wk	26.3
60 +	5.5 hrs/wk	19 hrs/wk	15.3
<b>Gender</b>			
Male	43.8%	50.7%	46.0%
Female	56.2%	49.3%	54.0%

There was a significant difference in listening time by age category among ISCA users, with t-tests finding significant differences with the mean average for all respondents ( $t=-7.1$ ,  $p=.000$ ).

This finding was influenced by the comparatively long length of time (19 hours per week) reported by listeners in the 60+ years demographic when all of the other demographics were grouped between 2.3 hours and 6.6 hours. As a general trend, the average length of time spent listening to FTA increased with age, until the demographic 60+, when it declined (coinciding with an increase in ICSA's audience for this demographic). Significant differences across the age categories were found with the mean average for overall listening time ( $t=7.99$ ,  $p=.00$ ). An intuitive relationship is suggested between the older demographics and preferences for classical music on ICSA.

RQ4 concerned whether ICSA was a complement or a substitute for FTA and PMC. In order to assess this, the audio patterns of non-users of ICSA were reviewed against ICSA users in order to contribute to an overall perspective of the audio market. In general, ISCA listeners reported more hours of listening to PMC (mean 8.49 hours) and FTA (mean 21.69) than non-ISCA listeners for PMC (mean 7.10 hours) and FTA (17.35). However, these differences were not statistically significant. To further explore possible complementary relationships among the three distribution channels, regression analysis was used to examine whether hours per week spent listening to FTA and PMC were predictors of hours of ICSA consumption. The results indicate a positive relationship with the dependent variable explaining approximately 33 per cent of the variance in ICSA use ( $F=14.29$ ,  $p=.001$ ). However, the model excluded PMC, leaving FTA as the only significant predictor ICSA consumption ( $\beta =.57$ ,  $t=3.78$ ,  $p=.001$ ). Collectively, these results suggest that ICSA consumption is a complement to listening to FTA, and perhaps, to PMC.

#### 4. Discussion

This study presented insights into the development of consumption patterns for the new music distribution channel of ICSA. The results indicated that there were distinct segments of music listeners with differing consumption patterns. Contemporary youth listened to much more PMC than other groups of respondents and more than other forms of music distribution. This result is not surprising given the importance and centrality of music in the lives of adolescents and young adults (Holbrook & Schindler, 1989; Hayes, 2006). This research indicates an older, and perhaps more affluent, audience for ICSA compared to FTA. This was confirmed directly via the overall age profile of listeners as well as indirectly via the most popular ICSA channels.

However, the age profiles *within* each ICSA channel are more consistent with FTA and PMC listening patterns. Once the style or format of the music is taken into account, ICSA, FTA, and PMC age profiles are quite similar. Heavy consumers of hip hop are disproportionately likely to be in the 15 to 29 age group, regardless of the distribution channel selected. However, the results also indicate that these younger music consumers are more likely to be listening to these musical genres via FTA or PMC than ICSA. This result has obvious managerial implications. The cable-satellite television provider in the present research currently packages advertising rates across all ICSA channels in order to offer a large audience to potential advertisers. Although this may make sense for mass marketed products like soft drinks and snack foods, potential advertisers targeting more specific demographic segments are likely to want specific ICSA channels with music formats that match their target segments. Given media buyers' experience with FTA advertising, this suggests that providers of ICSA may have to consider specific advertising rates for each channel as well as packages involving combinations of channels.

The data indicated that there may be complementary relationships among the ICSA, FTA, and PMC channels of distribution. That is, ICSA may essentially add to music consumption options, which results in increased overall listening time. Not only did ICSA users listen to more hours of FTA per week than non-users, but regression analysis also revealed a positive relationship



between hours of ICSA listening and FTA listening per week. In short, the more time a respondent spent listening to FTA, the more time they devoted to ICSA consumption. These results suggest that ICSA increases the number of music consumption occasions for respondents (McLeod, 2005), and there is very little evidence that ICSA competes with other distribution channels for consumers' time or money (Huang, 2005).

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