Comparison between Census software packages in the context of data dissemination

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CensusInfo

Application Characteristics	CensusInfo	DevInfo*	CsPro (Census and Survey Processing System)	Redatam (REtrieval of DATa for small Areas by Microcomputer)	SPSS	SAS
License	Owned by UN, distributed royalty-free to all end-users	Owned by UN, distributed royalty-free to all end-users	CSPro is in the public domain. It is available at no cost and may be freely distributed. It is available for download at www.census.gov/ipc/www/cspro	Version free of charge for Download	Properitery license	Properitery license
DATABASE MANAGEMENT						
Type of data	Aggregated data.	Aggregated data.	Individual data.	Individual data.	Individual and aggregated data.	Individual and aggregated data.
Data processing	Easily handles data disaggregated by geographical area and subgroups.	Easily handles data disaggregated by geographical area and subgroups.	CSPro lets you create, modify, and run data entry, batch editing, and tabulation applications	Using Process module allows processing data with programs written in Redatam command language or limited Assisstants	It allows entering primary data, define variables and perform statistical data processing	It lets you interact with your data using integrated tools for data entry, computation, editing, and retrieval.
Data consistency checks	Yes, Database administration application allows editing of indicator values. Does not facilitate consistency edits for microdata	Yes, Database administration application allows editing of indicator values. Does not facilitate consistency edits for microdata	CSPro contains a common procedure language to implement data entry control and edit rules	Create module allows creating/editing proprietary format R+SP databases from ASCII or xBase format files	Provides various data editing options from within the system and also externally	Using integrated tools for editing and validation
On-line data entry	Yes, through database administration application	Yes, through database administration application	No. It creates a stand-alone data entry environment	No	Yes, SPSS Data Entry builder makes data entry easy. The data entry forms can be deployed online	No
System user defined data/indicator	Yes, based on database template methodology	Yes, based on database template methodology	Data is defined as cases (questionnaires), variables are defined to represents the cases, variables are selected to tabulate	Microdata defined in proprietary format can be used to generate data/indicator	One or more variables can be used to define indicators	Yes
Metadata storage	Yes with admin-defined tags. In CensusInfo Admin application	Yes with admin-defined tags. In DevInfo Admin application	All data is recorded as text defined by variables. Metadata can also be recorded as text	All data is recorded as text defined by variables. Metadata can also be recorded as text	Metadata is stored seperately as primary data	Additional module required: SAS Metadata Server
Common database elements across databases	Yes, supports SDMX-compliant registry to normalize database dimensions. CensusInfo Registry allows for importable global database elements	Yes, supports SDMX-compliant registry to normalize database dimensions. DevInfo Registry allows for importable global database elements	Data defined as variables and cases are database specific	Data is organized through entities/levels and entity elements.	The structure of the database including its elements are defined by user. Hence the database elements across databases may vary.	Via additional module SAS Enterprise Data Integration Server
DATA PRESENATION						
Tables	Yes, user-defined content for rows and columns. Instant table preview as well as customizable table editing features,Includes frequency tables, cross-tabs and histograms	Yes, user-defined content for rows and columns. Instant table preview as well as customizable table editing features,Includes frequency tables, cross-tabs and histograms	Yes, using table viewer view the results of tabulations. Tables can be saved as HTML, RTF, TAB delimited formats	Yes	Various tables can be generated based on primary data including frequency, cross-tab, general, custom, multiple response etc.	Yes
Graphs	Yes, editing features available for customization. Includes pyramid charts as well as standard bar, column, line and pie charts	Yes, editing features available for customization. Includes pyramid charts as well as standard bar, column, line and pie charts	No	Yes	Various graphs can be generated based on primary data including Bar, Line, Pie, Area, Scatter etc.	Yes
Maps	Yes, basic map editing features allow users to change labelling, colours, legend and display multiple themes. Contains features including drill-down, time series maps, raster maps, etc.	Yes, basic map editing features allow users to change labelling, colours, legend and display multiple themes. Contains features including drill-down, time series maps, raster maps, etc.	Yes, Using map viewer generate a thematic map of selected variable. Allows editing colors, titles and legends. Save the map as .GIF format	Yes	No, presenting data on Geo-spatial maps is not available.	No, presenting data on Geo-spatial maps is not available. Only provides a bridge for ESRI
Custom report builder	Yes with user-defined content. Formatted tables can be saved as report layouts	both User defined and Advance Reports options are available	Tabulation is used to tabulate selected variables with values and weights. Tabulations can be formatted for viewing and printing	Using block programming or assisstants formatted tabulations can be created	Using interactive table preview builder to create customized reports	Yes, programming using SAS Enterprise guide
Allows creation of interactive web-enabled animated presentation using database	Yes, including searching gallery, profiles and data visualizers. di Book, di Video and di Visualizer all allow for animated data display and visualization	Yes, including searching gallery, profiles and data visualizers. di Book, di Video and di Visualizer all allow for animated data display and visualization	No, needs programming or application development	No, needs programming or application development	No, needs programming or application development	No, needs programming or application development

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Interactive representation of data on CD-ROM	Yes. Tables can easily be saved to a Gallery	Yes. Tables can easily be saved to a Gallery	No	No	No, needs programming or application development	No
Interactive representation of data on the web	Yes (cross-browser-compatibility). Tables can easily be saved to an online Gallery, database can be uploaded online	Yes (cross-browser-compatibility). Tables can easily be saved to an online Gallery, database can be uploaded online	No	Using WebServer based on Redatam statistical engine is used to request information on intranet, extranet or the Internet	No, needs programming or application development	No
DATA IMPORT CAPABILITY						
SPSS	Yes, from SPO, CSV, XLS. Via specialized data exchange utility	Yes, from SPO, CSV, XLS. Via specialized data exchange utility	No	Files should be converted into .DBF or ASCII to use for database creation	-	yes, .sav file
SAS	Yes, using standardized data format. Via specialized data exchange utility	Yes, using standardized data format. Via specialized data exchange utility	No	Files should be converted into .DBF or ASCII to use for database creation	Yes	-
CsPro	Yes, from HTML. Via specialized data exchange utility	Yes, from HTML. Via specialized data exchange utility	-	Files should be converted into .DBF or ASCII to use for database creation	.CSV files only	No
Microsoft Excel	Yes, using standardized data format. New utility allows for seamless import of CSV data into CensusInfo	Yes, using standardized data format.	No	Files should be converted into .DBF or ASCII to use for database creation	Yes	Yes
Redatam	Yes	Yes	No	-	.CSV files only	No
DATA EXPORT CAPABILITY						
SPSS	Yes, using standardized data format	Yes, using standardized data format	Yes	No	-	Yes, to .sav file
SAS	Yes, using standardized data format	Yes, using standardized data format	Yes	No	Yes	-
PDF	Yes	Yes	No	No	Yes	Yes
Microsoft Excel	Yes, using standardized data format	Yes, using standardized data format	Yes, .CSV files	No	Yes	Yes
PUBLISHING UTILITIES						
Standard Profiles		Yes, using di profiles				No
Multi-Media	di Books, di Video, side bar, PPT output	di Books, di Video, side bar, PPT output				No
Print	posters, brochures	posters, brochures				No
KNOWLEDGE AND SUPPORT						
Help desk availability	Yes 24x7 in English, French and Spanish	Yes 24x7 in English, French and Spanish	Q&A center is available on US Census Bureau web site	Not available	Yes, only for registered users (clients with licenses)	Yes, online knowledgebase available
Expertise required to develop database	Basic desktop computer literacy (non-IT specialist) with e-learning courses available and extensive technical documentation	Basic desktop computer literacy (non-IT specialist) with e-learning courses available and extensive technical documentation	Database management, programming expertise are required	Database management, programming expertise are required	Database management and statistical expertise required	Database management and statistical expertise required
Expertise required to implement on-line version	Basic web administration knowledge required with web implementation technical guidelines	Basic web administration knowledge required with web implementation technical guidelines	Not available	WebServer module expertise required	Web programming expertise required	Web Application Server module expertise required
Training required for database creation (time)	1-5 days depending on level; standardize training courses with agenda, curriculum, exercises available	1-5 days depending on level; standardize training courses with agenda, curriculum, exercises available	Database management, data processing and reporting training on CSPro	Redatam Create, Process and Plan training is required	Training required for data modeling, variable dictionary, statistical data analysis and data management	Training required for data modeling, variable dictionary, statistical data analysis and data management
Training required for web implementation (time)	1-5 days depending on level; standardize training courses with agenda, curriculum, exercises available	1-5 days depending on level; standardize training courses with agenda, curriculum, exercises available	Not available	WebServer module training required	Web master and web programming training required	Web Application Server module training required
SOFTWARE MAINTENANCE						
Regular software maintenance facility	Yes with online updates. Live Update feature available	Yes with online updates. Live Update feature available	Latest updates are available online	Latest updates are available online	License based	License based
Year of latest Update	2010	2009	2010 (CSPro 4.0.004)	2007 (Redatam+SP V5Rev01)	2010 (IBM SPSS Statistics Base 19)	2009 (SAS 9.2)
OPERATING SYSTEMS SUPPORTED						
Microsoft Windows	XP/Vista/Win7	XP/Vista/Win7	XP/Vista	9x/NT/2000	Yes	Yes
Apple Macintosh	Supported on Macs with Win environment	Supported on Macs with Win environment	No	No	Yes	Terminated
Linux	Web application only	Web application only	No	Yes	Yes	Yes
Utilizes open source technology**	Yes, web version of OpenCensusInfo. Based on OpenDevInfo released in 2010	Yes	No	No	Use of external programming language Python® to develop new procedures and applications, including those written in R.	No

* DevInfo refers to the standard software, as well as the adaptations of the software prepared and implemented by National Statistical Offices and other organizations and agencies.

**Open-source software (OSS) is computer software that is available in source code form for which the source code and certain other rights normally reserved for copyright holders are provided under a software license that permits users to study, change, and adapt the code.