

Data Analytics Application TV Azteca

CS5056 Data Analytics

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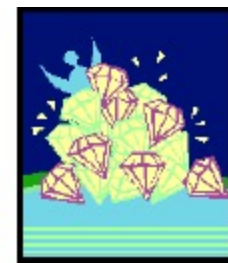




Type	Sociedad Anónima de Capital Variable
Traded as	BMV: AZTECACPO 
ISIN	MX01AZ060013 
Industry	Mass media
Predecessor	Imevisión (1983-1993)
Founded	August 2, 1993; 26 years ago
Founder	Ricardo Salinas Pliego
Headquarters	Mexico City, Mexico
Key people	Benjamín Salinas Sada (CEO)
Products	Television broadcasting, radio and multimedia
Revenue	 US\$ 3900million (2012)
Net income	 US\$ 1850 million (2012)
Number of employees	6,000
Parent	Grupo Salinas
Website	www.tvazteca.com 



- ➔ TV Azteca, S.A.B. de C.V. is a Mexican multimedia conglomerate owned by Grupo Salinas
- ➔ It is the second-largest mass media company in Mexico after Televisa. It primarily competes with Televisa and Imagen Televisión, as well as some local operators
- ➔ It owns two national television networks, Azteca Uno and Azteca 7, and operates two other nationally distributed services, adn40 and a+. All three of these networks have transmitters in most major and minor cities.
- ➔ TV Azteca also operates Azteca Trece Internacional, reaching 13 countries in Central and South America, and part of the Azteca América network in the United States. Its flagship program is the newscast Hechos.



https://en.wikipedia.org/wiki/TV_Azteca



Business Strategy

- TV Azteca revenue comes from selling customers advertising time interleaved in the Schedule of various TV channels owned by the Company
- The price of advertising minute depends on the ranking the broadcasting channel shows in a particular day
- Channel and program rankings changes every minute and every day each week depending upon the season of the year, weekends, if there are particular events (sports, concerts, unexpected events, etc.), and other contingencies



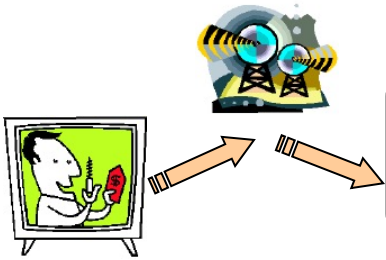
Business Problem

- Rankings are measured by a solution provider by means of the so called “people meter” an electronic device that monitors household behavior in turning on TV sets and changing channels.
- Currently (1997), TV Azteca uses an information system based on an Oracle database with **historical data** to manage customer advertising, but this solution is unsatisfactory
- They would like to operate a solution that allows them to predict audience, share, and rating per program, per channel for both TV Azteca and its competitors (Televisa, and others)

Business Problem Definition

- For each channel, predict the number of TV sets "On"
- For each channel, predict the share at different times of the day
- For each channel, predict the rating for each program of the day's guide





IBOPE

Oracle
DB

Data
Preparation

Telereport



Data Mining
Table

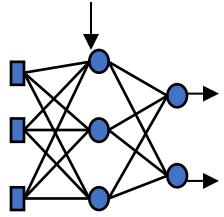


Ratings per cannal
per program

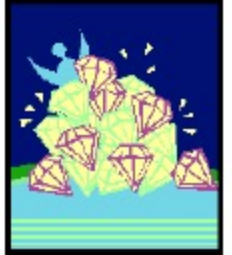
Evaluation

Channel
Guide

Build a
Backpropagation
Neural Network



KB



Deployment

Forecasting

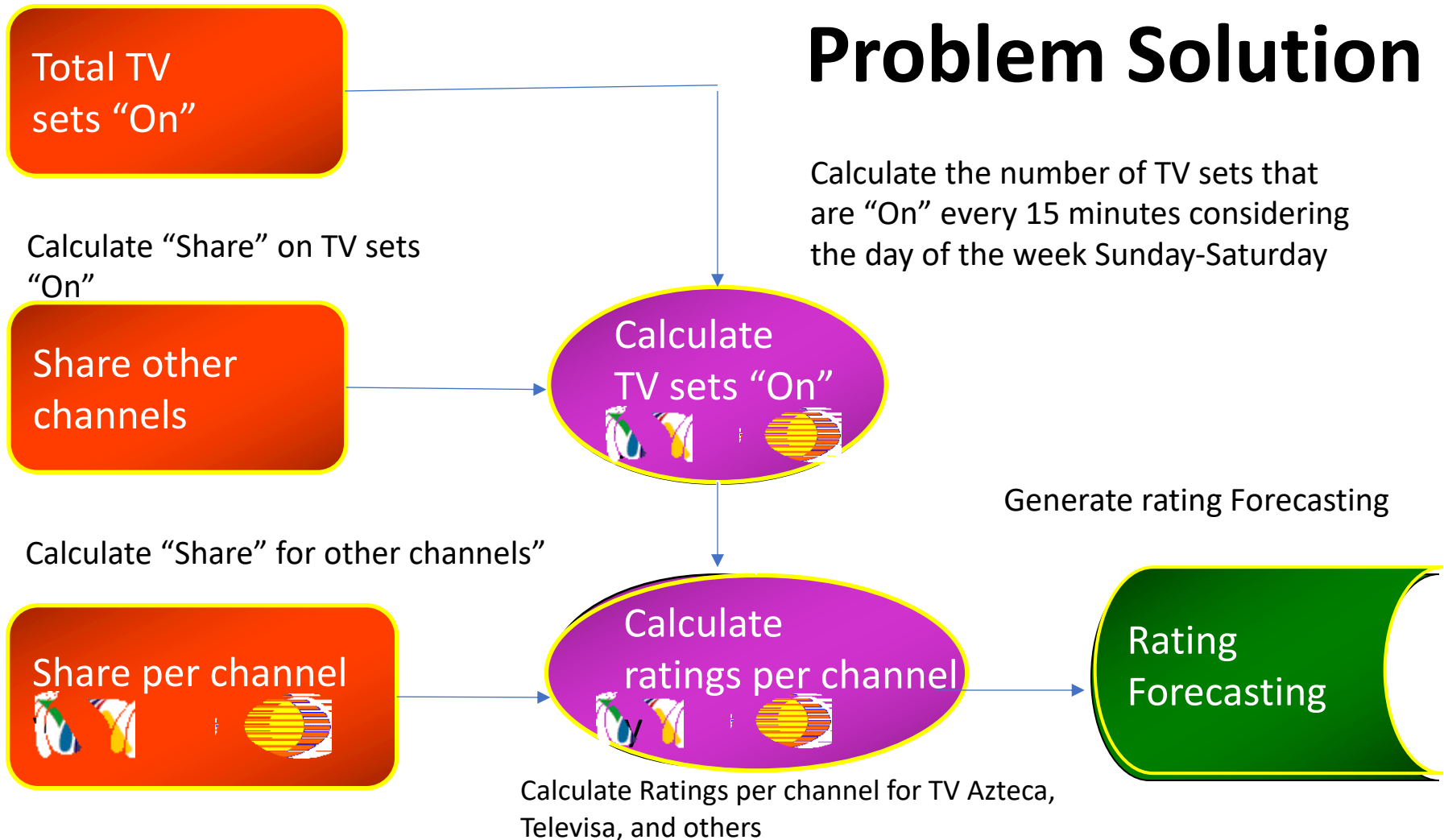




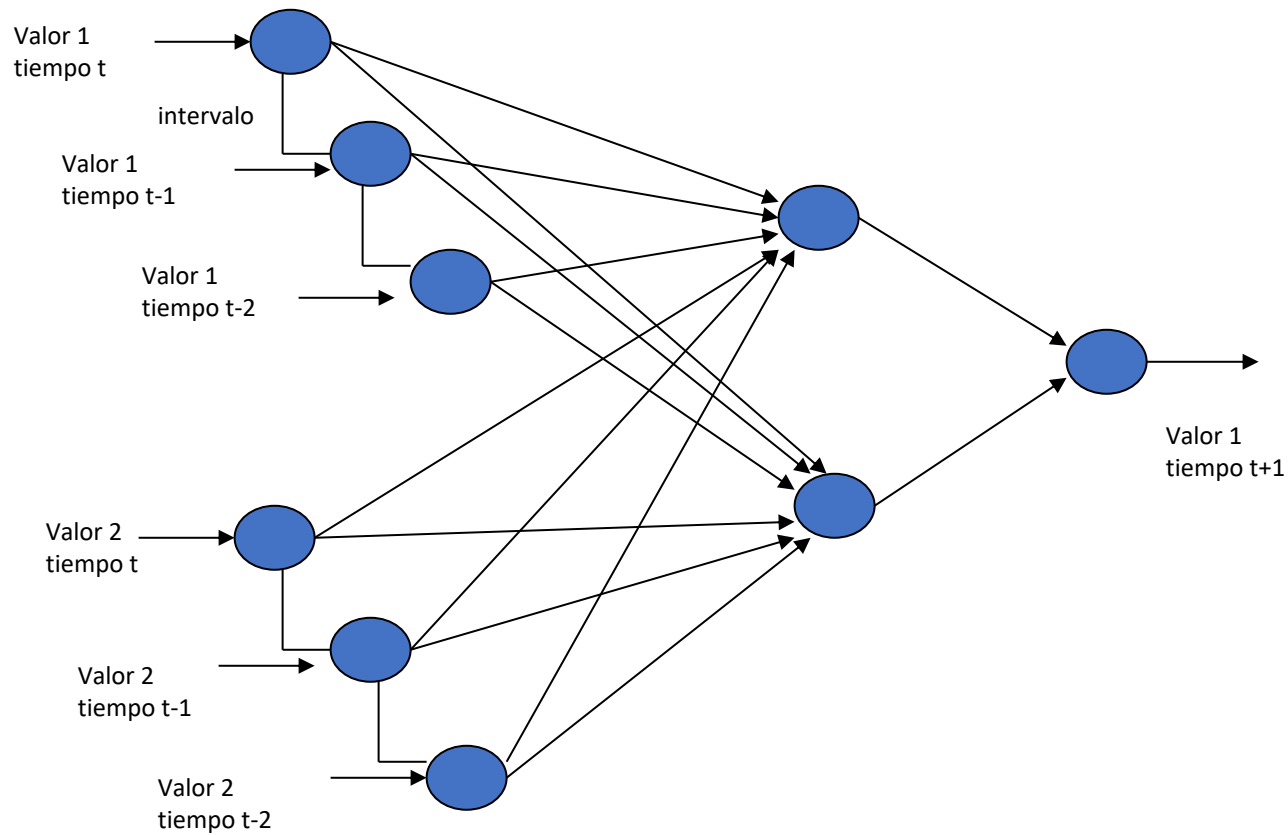
Calculate number of TV sets that can be "On" for TV Azteca, Televisa, and other channels

Problem Solution

Calculate the number of TV sets that are "On" every 15 minutes considering the day of the week Sunday-Saturday



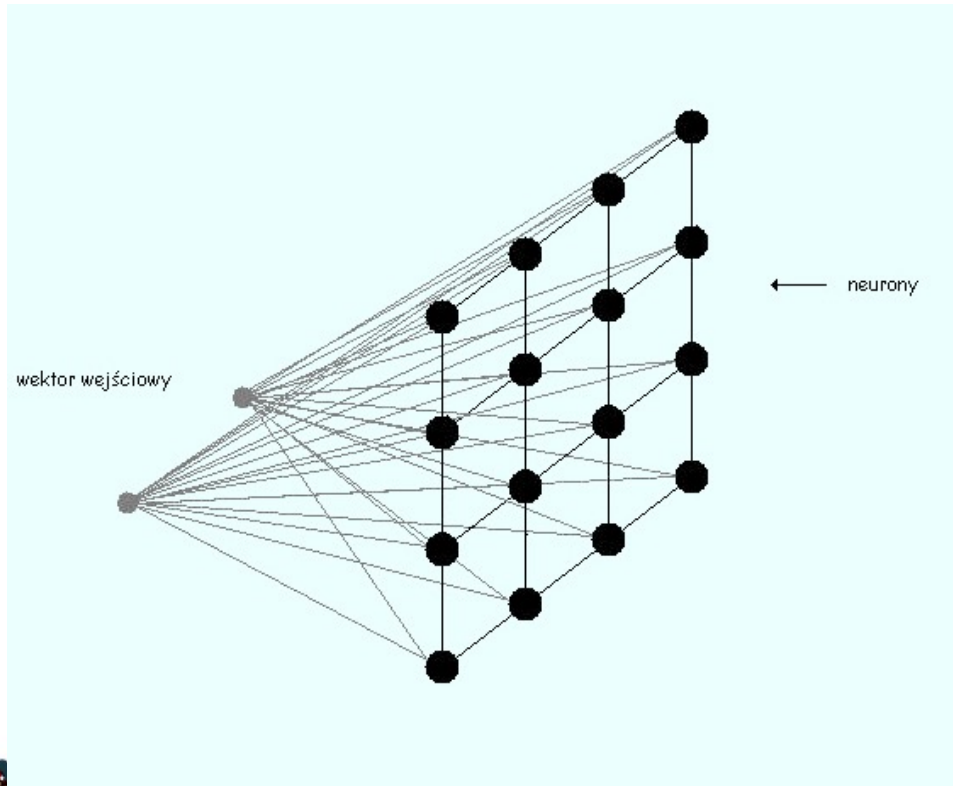
Neural Network



 Time Series



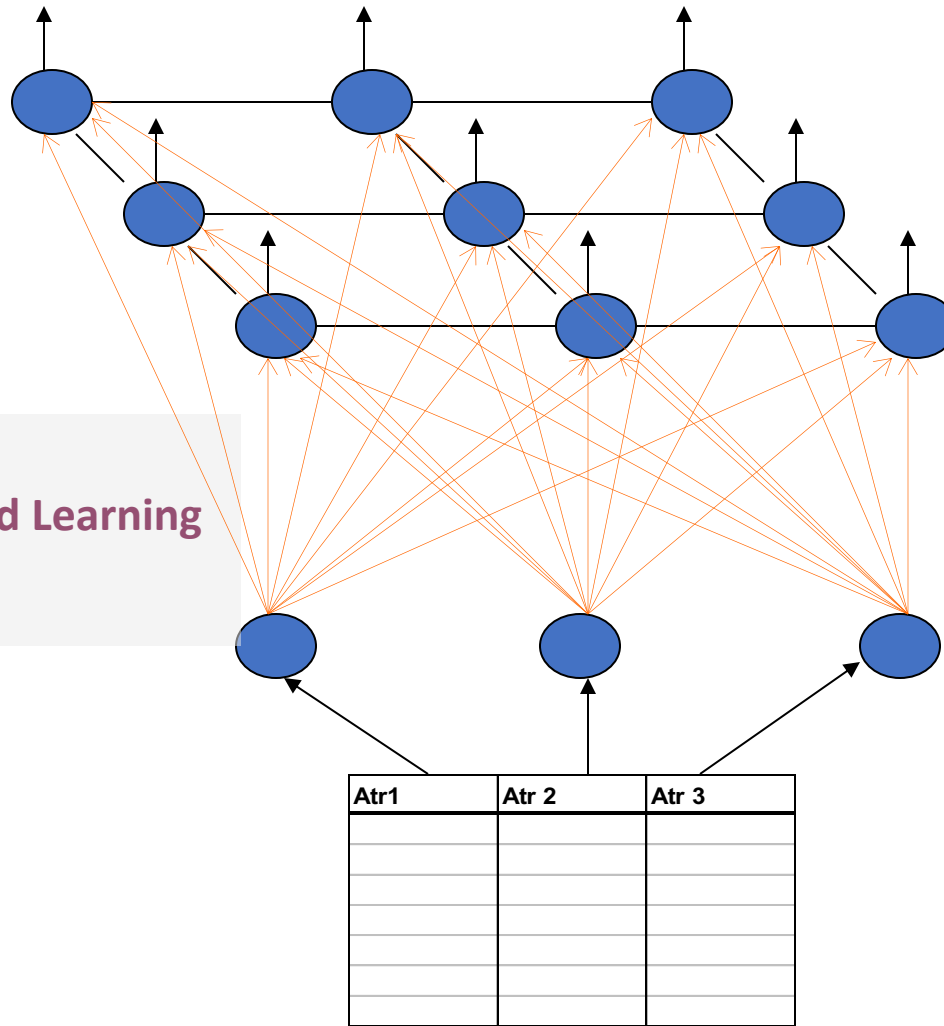
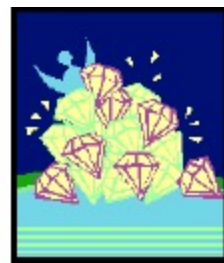
Kohonen Self-Organizing Maps



2-D map of neurons

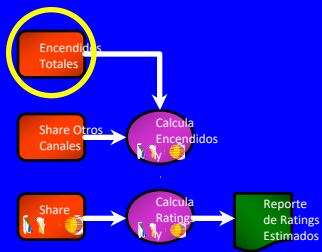


Neural Networks



➔ Non-Supervised Learning





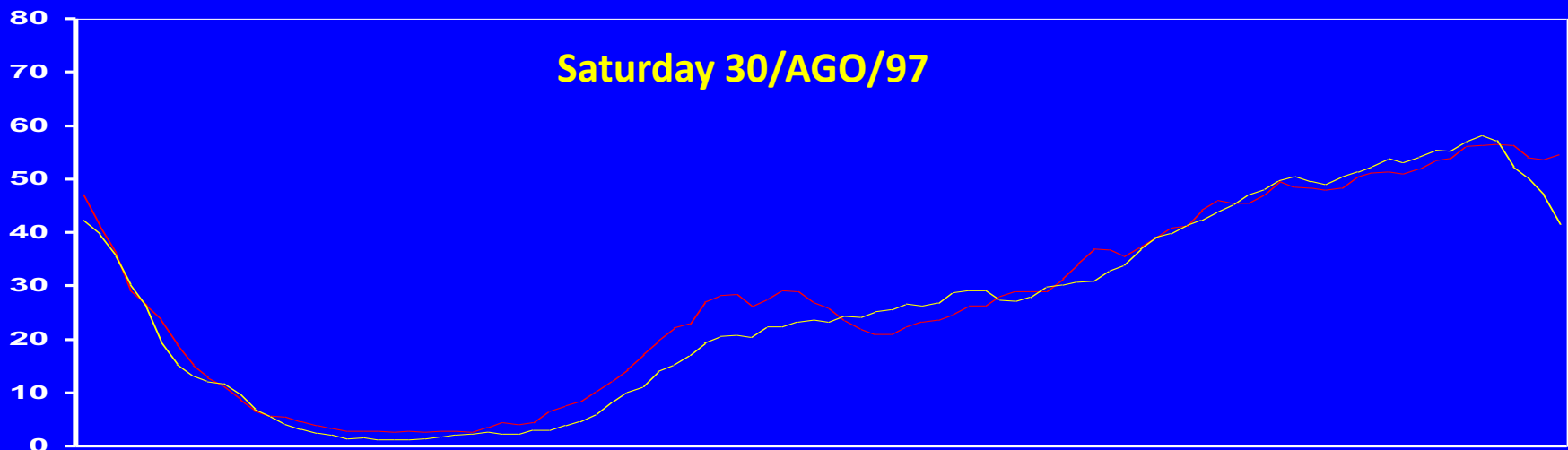
Test Results

TV Sets "On" Monday 25/AGO/97 Y Saturday 30/AGO/97

Monday 25/AGO/97

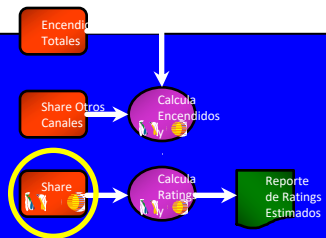


Saturday 30/AGO/97



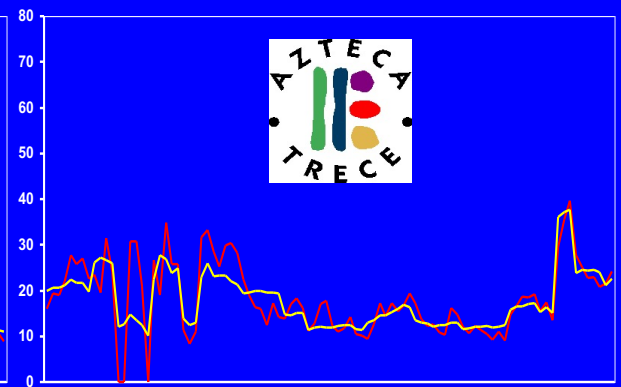
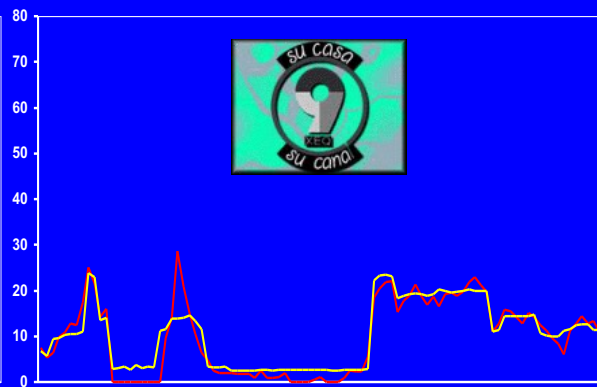
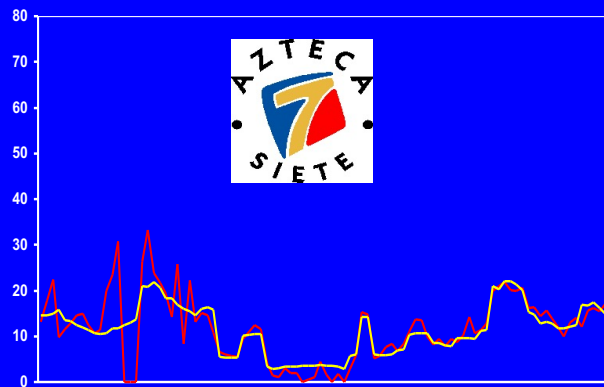
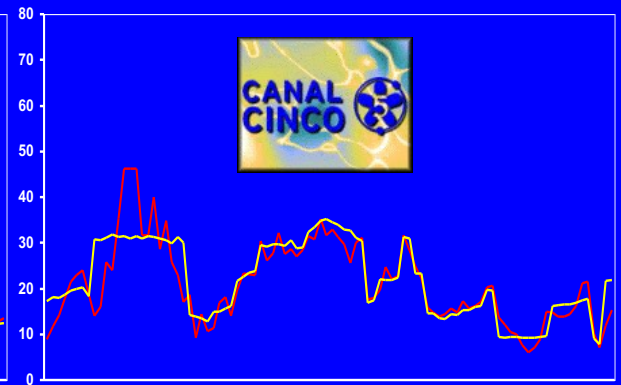
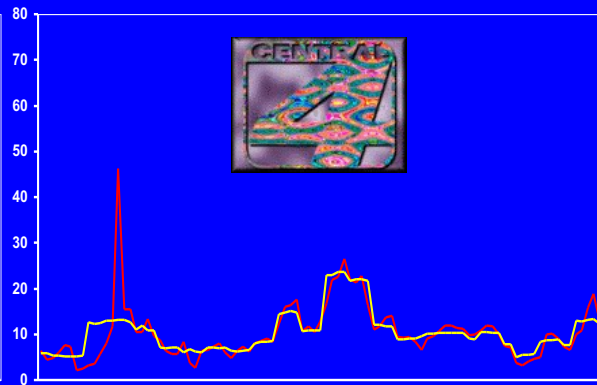
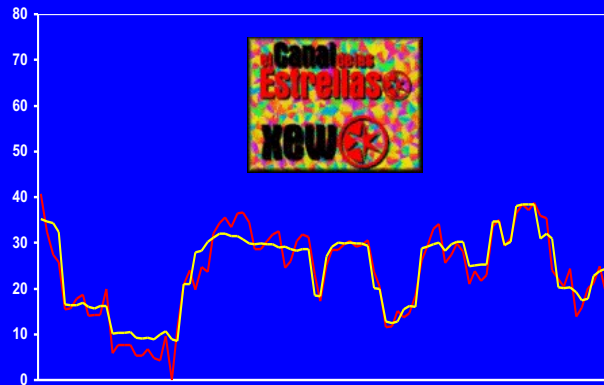
— Estimate

— Real

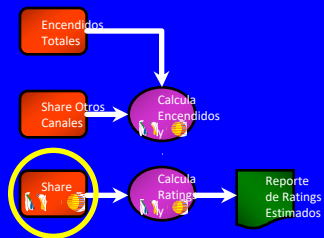


Test Results

SHARE Friday 29/AGO/97, All Channels

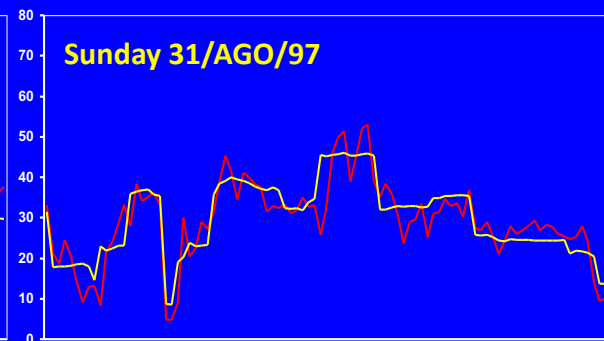
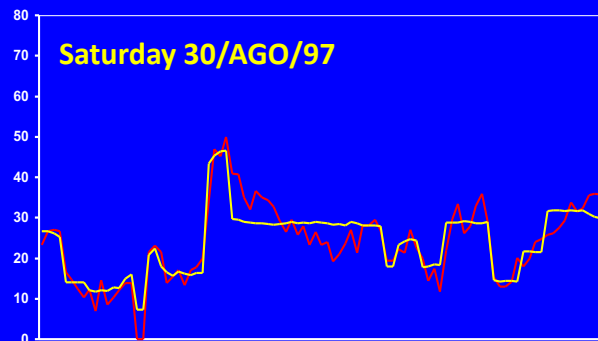
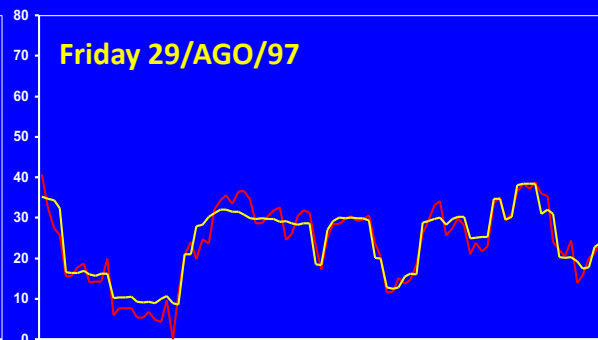
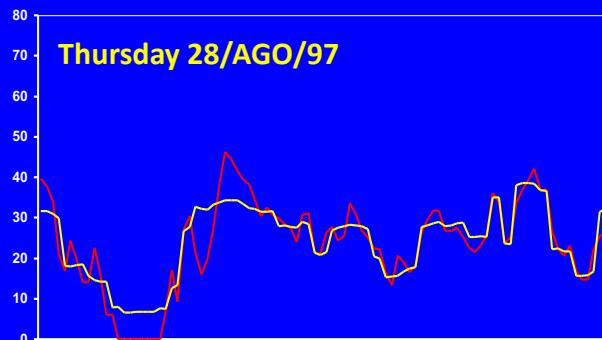
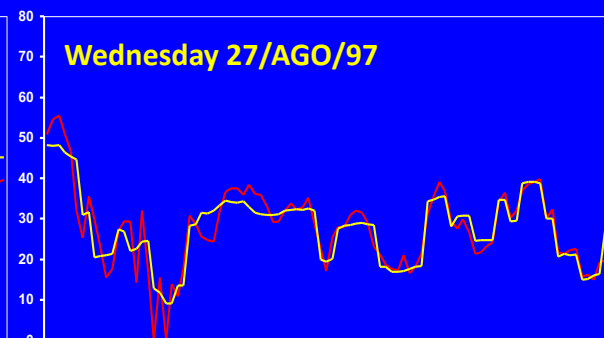
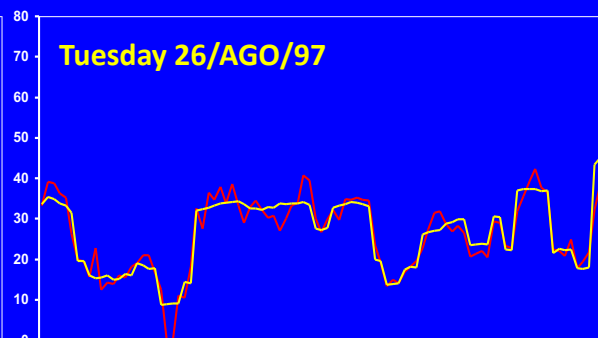
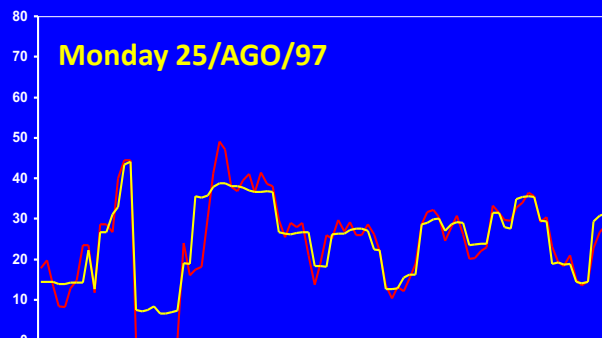


— Estimate — Real



Test Results

SHARE 25/AGO/97 to 31/AGO/97, CANAL 2



— Estimate

— Real

Conclusions

**Results were quite satisfactory
for TV Azteca**

**The Rating Prediction system
was deployed and put into
operation**

**This project opened the door to
other Applied Research AI
projects between TV Azteca and
Tec de Monterrey**