Tracking Destination Image through Time: The Case of Aruba

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Research idea

• “Destination must be favorably differentiated from its competition, or positively positioned, in the minds of the consumers” (Echtner & Ritchie, 2003:37)

• Desirable differentiation is often achieved by a DMO creating and managing the perceptions, or images, that potential travelers hold about the destination (Ahmed, 1991; Beerli, 2007; Calantone et al., 1989; Gartner, 1993)
Research idea

• First group of theories:
  – consumer behavior is rational (Sargent & Wallace, 1976)
    • All information is available
    • Consumers are capable of analytic comparisons
    • Consumers aim to maximize utility
• Second group of theories:
  – people act on their images and perceptions rather than on facts (Boulding, 1956)
    • Image quantified
    • Dynamic (time series)
Media

• Media heavily influence
  – public awareness
  – perceptions, and behavior
  – buying decisions

  (Macnamara, 2003; Newbold, 2002; Ravault, 1986)

• Mass media
  – create public opinion, attitudes and perceptions
  – reflect existing attitudes, perceptions and culture

  (Hall, 1980; Newbold, 2002; Shoemaker & Reese, 1996)

• Destination images in media and destination decision making: since 1970s
  (Bandyopadhyay & Morais, 2005; Chon, 1992; Crompton, 1979a; Gartner, 1993; Lawson & Baud-Bovy, 1977; Mayo, 1975; Mercille, 2005)
Changes in destination image

• Political events, e.g., Tiananmen Square (Gartner & Chen, 1992)
• International relations, e.g., image of China in U.S. (Yan, 1998)
• Natural disasters, e.g., hurricane Katrina (Chacko & Hawkins, 2008)
• Epidemics, e.g., SARS (Madden, 2003)
• Sports events, e.g., 2002 World Cup in Korea (Kim & Morrison, 2004)
• Economic costs, Word of mouth, Familiarity (Baloglu, 1999)
Changes in image

• Image is subject to time, news coverage, changing perception (Soncez, 1998)

• a quantifiable measure of these changes is a difficult task, since the construct of image, destination image included, incorporates a lot of factors (Hunt, 1972; Echtner & Ritchie, 1993; Baloglu, 1997)
Purpose of the study: DDII

Propose a methodology for constructing a **Dynamic Destination Image Index (DDII)**

- Able to capture changes in image perception through time (*dynamic, quantifiable, integral measure*)
- Based on content analysis of media materials (*objective, verifiable*)
- Suitable for use in models of tourism demand (*relevant to practice*)
Index

• “two or more measures... combined into a single indicator” (Neuendorf, 2002:137)

• “a variable whose significance... does not depend on the physical entities... from which it is derived” (Rapoport, 1969:21)

• “a variable whose significance rests on its correlation with other phenomena” (Krippendorff, 2004:58)
  – Frequency based
  – Favorability based
Indices: notable examples

- Achievement motive index (McClelland, 1958)
- Speech-disturbance index (Mahl, 1959)
- Public attention index (Budd, 1964)
- National consciousness index (Merritt, 1966)
- Citizen dissatisfaction index (Krendel, 1970)
- Readability yardstick (Flesch, 1948; 1951; 1974)
- Television violence index (Gerbner, 1979)
- Modified Flesch’s yardstick (Danielson et al., 1992)
- Social change index (Danielson & Lasorsa, 1997)
- Campaign conduct index (Jamieson, 1998)
Social change index

• Frequency of word *communism/communists* per 10,000 words (Danielson & Lasorsa, 1997)

[Graph showing frequency of word *communism/communists* per 10,000 words with peaks in the McCarthyism era.]
DDII-Aruba

- Textual population
- Sample selection
- Content categories
- Units of content
- Coding content
- Favorability assessment
- DDII-Aruba
- Validation
Textual population

- Define the population of relevant texts that adequately reflect the destination image

- Newspapers (Lasswell et al., 1952; Riffe et al., 1998)
  - Influential
  - Appear regularly and frequently; Have uniform format
  - Circulation, area of distribution, social/political orientation, and readership are known
  - Conveniently accessible from electronic databases

- Articles about Aruba in US newspapers for a period of May 2004 – April 2006

- Top 10 US newspapers
Sample selection

• Sampling procedure may involve as many as three steps (Holsti, 1969:130):
  – selecting *sources* of communication,
  – *sampling* documents, and
  – sampling *within documents*

Sample selection

Lexis-Nexis:
- The Washington Post (42)
- The New York Times (39)
- The Houston Chronicle (38)
- USA Today (35)
- The Boston Globe (29)
- Daily News (New York) (25)
- The Philadelphia Inquirer (17)
- The Denver Post (2)
- Star Tribune (Minneapolis) (2)

Total: 229
“During 14 years at ABB, Coplen had worked at the home office in Houston and on foreign assignments in Aruba, Venezuela and the Philippines, said his son. When Coplen was working in Aruba, his wife, Nancy, joined him on the island. "He liked Aruba," his son said. "My dad liked to go to the casinos." (“Workers leaving after Saudi attack; Slain Houston resident 'never hated anybody'.” The Houston Chronicle, May 03, 2004)
Content categories

- Categories are topics about a destination
- Categories are specified based on the relevant theories (Weber, 1983) and the nature of textual material (Glaser & Strauss, 1969; Iker, 1974; Muskens, 1985)

Literature review: Destination image

Destination image attributes

- Natural resources
- History
- Culture
- Climate
- Landmarks
- Infrastructure
  - hotels, restaurants, airlines, facilities, transportation
- Political situation
- Safety & Crime
- People

Echtner & Ritchie, 1991; 1993
Gallarza et al., 2002
Pike, 2002
Content categories

1. **Disasters (DIS)** – hurricanes
2. **Major Events (EV)** – sporting events, poker world tours, music festivals
3. **Safety and Crime (S&C)** – tourists’ safety, disappearance of Natalee Holloway
4. **Infrastructure (INF)** – hotels, restaurants, quality of service
5. **Accessibility (ACC)** – new flights, cruise routes, visas
6. **Things to Do (TTD)** – activities on Aruba
7. **Money (MON)** – special deals
8. **Tourism Issues (TOUR)** – tourism initiatives, e.g., sustainable development
9. **Socio-Economic Development (ECON)** – standards of living, cleanness and hygiene, crowdedness of cities and/or beaches, food availability
11. **Cultural Heritage (CH)** – history, traditions and culture, local people
12. **Gossip (GOSS)** – celebrities on Aruba
More bad news for Aruba.
The island's most-visited wonder, a 25-foot-high natural bridge toppled in the pre-dawn hours of Sept. 2.

The Aruba Tourism Authority attributes the mysterious collapse to "the continually changing evolution of nature."

Loss of the coral bridge on the island's north coast follows a storm of bad publicity for Aruba over the still unexplained May 30 disappearance of Alabama tourist Natalee Holloway.

Joran van der Sloot, 18, the chief suspect in the case, was released from jail Saturday because prosecutors lacked evidence to bring charges. He left Aruba on Monday to...
More bad news for Aruba. The island's most-visited wonder, a 25-foot-high natural bridge toppled in the pre-dawn hours of Sept. 2.

Nature & Scenery

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Safety & Crime

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Nature & Scenery

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Favorability assessment

• DDII as a result of positive and negative press
• Favorability analysis is based on the theory of attitude which is sometimes defined as an evaluative response towards an entity, a predisposition to respond in a certain way (Cohen & Areni, 1991)
• Attitude is “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993:1)
• Attitude objects are valued, “liked” or “disliked” in degrees ranging from positive (+1) to neutral (0) to negative (-1) (Osgood, Suci, & Tannenbaum, 1957:189)
# Favorability assessment

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## Cat

### EV

The island of Aruba… is hosting a world poker tournament…

(Business add flair to event tables. The Houston Chronicle, Aug 26, 2004)

"Aruba is 10 times safer than Holland… " (Aruba: Caught in the winds of mystery. USA Today, Sept 30, 2005)

The incident involving Miss Holloway… has raised concerns among parents. (Aruba-Case Prompts Concerns. The New York Times, June 26, 2005)

Ponson was arrested… in Aruba after… he allegedly punched an Aruban judge in the face. (Angelos Help Ponson Get Visa. WP, March 11, 2005)

### S&C

People were without power, sewer systems and communications for days. (Message Center. WP, Sept 4, 2005)

INF

... Aruba is spending $34 million on airport improvements. (Aruba campaigns to buttress tourism. The Boston Globe, March 19, 2006)

... Aruba is spending $34 million on airport improvements. (Aruba campaigns to buttress tourism. The Boston Globe, March 19, 2006)
## Category Scores

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DDII: monthly scores

All category scores for a given period were summed up and divided by a number of categories, i.e., 12:

$$S_t = \frac{\sum_{j=1}^{12} C_t^j}{12}, \text{ where } C_t^j \text{ - is a news score in category } j \text{ in month } t.$$ 

Note: If another content analysis project requires a wider category set, the resulting DDII indices will be on the same scale.
DDII: memory feature

\[
S_t^2 = \left( S_t + k_1 S_{t-1} + k_2 S_{t-2} \right) / (1 + k_1 + k_2); \quad k_1 = 0.5, \quad k_2 = 0.25
\]

\[
S_t^4 = \left( S_t + k_1 S_{t-1} + k_2 S_{t-2} + k_3 S_{t-3} + k_4 S_{t-4} \right) / (1 + k_1 + k_2 + k_3 + k_4)
\]
DDII: logarithmic transformation

\[ \log_{10} DDII_t = \text{SIGN}(DDII_t) \times \text{LOG}(|DDII_t|, 10) \]

- Returns positive values for \( DDII_t > 0 \) and negative for \( DDII_t < 0 \).
- Returns 0 values when the combined monthly score \( S_t \leq 0.0001 \) (very few mentions of the destination during the period)
DDII-Aruba

DDII no memory
DDII2 two months back memory
DDII4 four months back memory
Validation

- $l_{aruba} = \alpha + \beta_1 l_{boncur} + \beta_2 l_{DDII} + \epsilon$
- Log-log model
  - Croes & Vanegas, 2004
## Validation

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Thank you!

Questions? Comments?