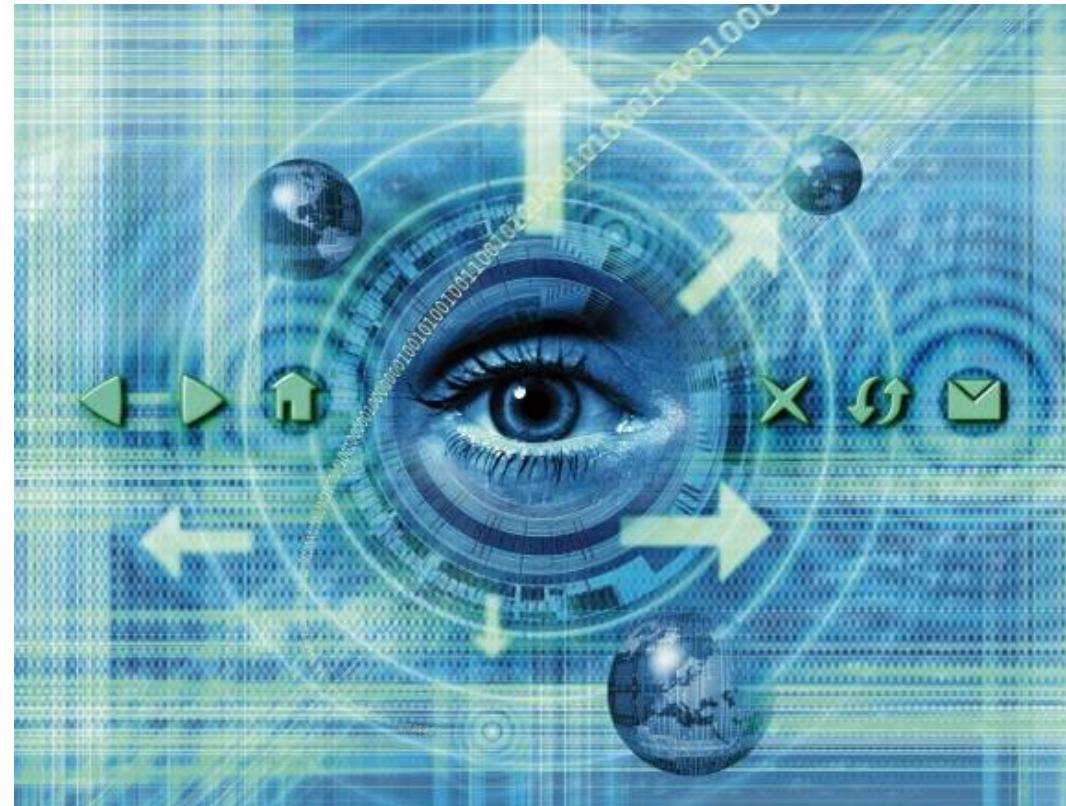


Improving Imagery Processing and Effectiveness of Internet Websites Through Progressive Levels of Interactivity and Imagery-Strength



Greg Kiss
Franz-Rudolf Esch

Agenda

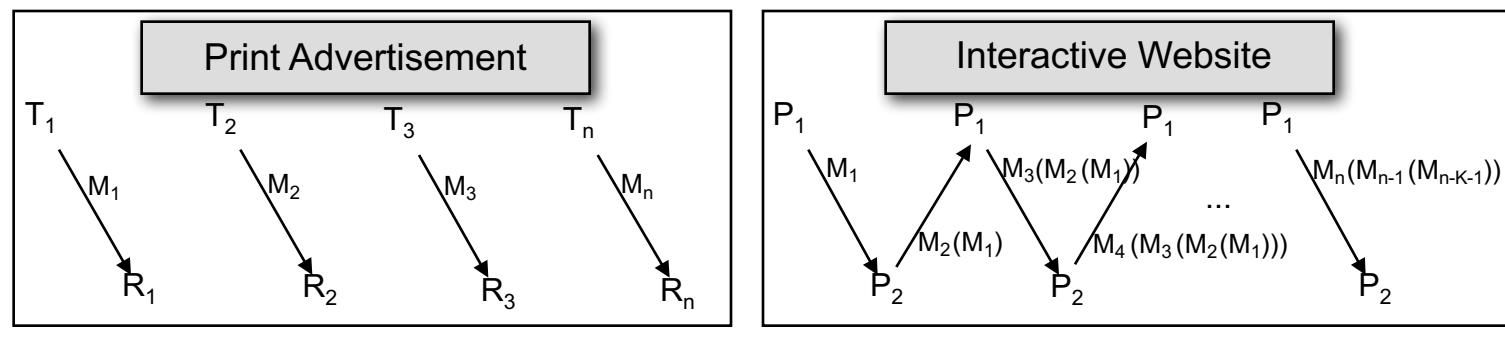
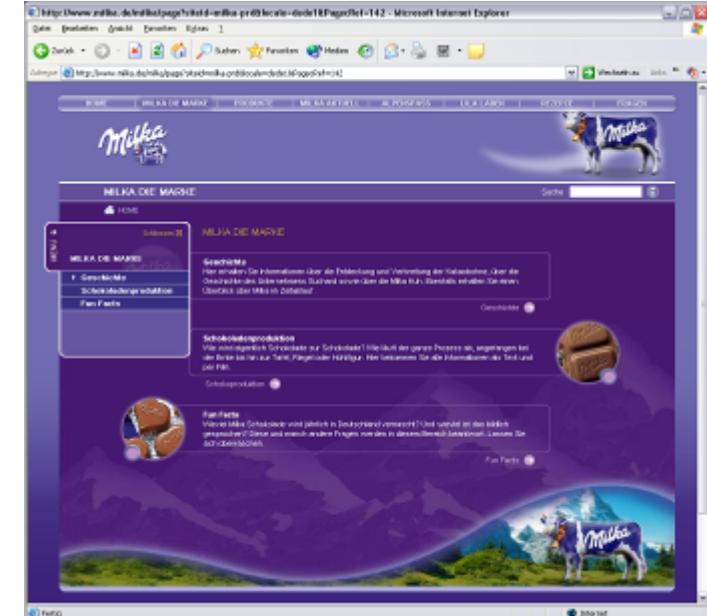
- 1. Theoretical and practical challenges:**
From passive to interactive brand communication

- 2. Theoretical framework:**
A model for explaining the effects of interactive websites

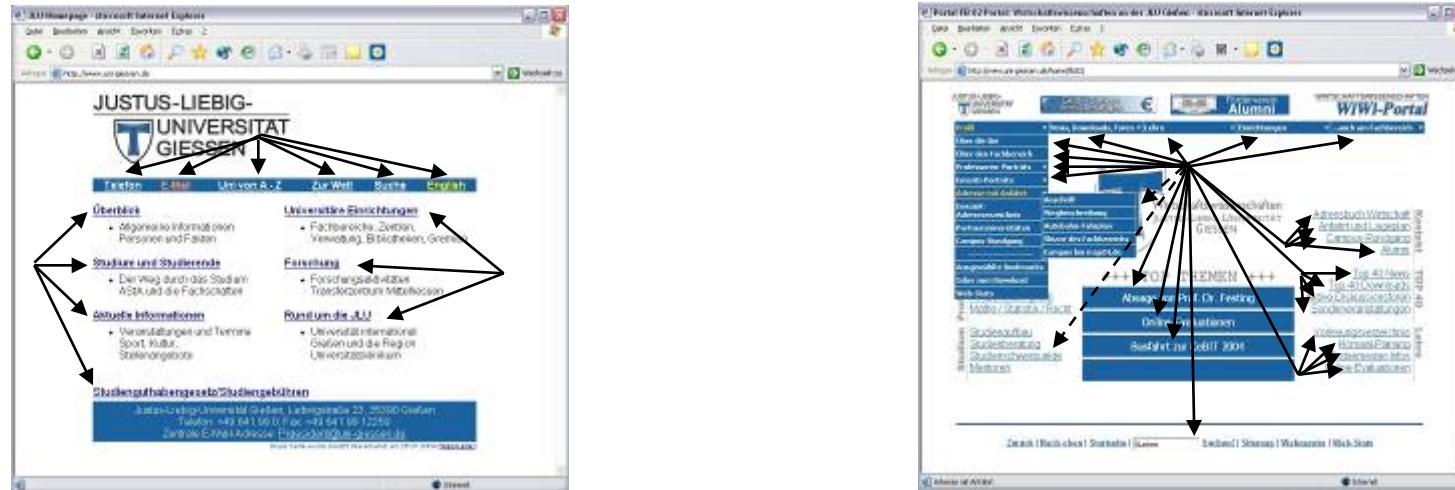
- 3. Empirical foundation:**
The positive effects of interactivity on imagery processing and effectiveness of websites

- 4. Implications for theory and practice:**
Further challenges for interactive brand communication on the internet

From Passive to Interactive Brand Communication



What is the Impact of Interactivity on Imagery Processing and the Effectiveness of Internet Websites?



Which communication effects (especially on imagery processing, attitudes and purchase intentions) can result from the interaction of the visitors with particularly interactive websites on the internet?

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Research on the Dimensions of Interactivity

Authors	Year	Dimensions of Interactivity	
Williams, F. / Rice, R. E. / Rogers, E. M.	1988	1. Communication Control 2. Exchange of Roles 3. Mutual Discourse	
Heeter, C.	1989	1. Complexity of Choices 3. Responsiveness 5. Ability to Add Information	2. Level of Effort 4. Monitoring Capability 6. Facilitation of Interpersonal Comm.
Steuer, J.	1992	1. Speed of Interaction 3. Real-World Mapping	2. Range of Interaction
Ha, L. / James, E. L.	1998	1. Playfulness 3. Connectedness 5. Reciprocal Communication	2. Choice 4. Information Collection
Downes, E. J. / McMillan, S. J.	2000	1. Active Communication 3. Time Flexibility 5. Sense of Virtual Place	2. Level of Control 4. Responsiveness 6. Perceived Purpose of Communication
Liu, Y. / Shrum, L. J.	2002	1. Active Control 3. Synchronicity	2. Two-Way Communication
McMillan S. J. / Hwang, J.-S.	2002	1. Two-Way Communication 3. Speed of Interaction	2. User Control

Key Dimensions of Website Interactivity

1. Dimension: Range of interaction possibilities/features

(Source: Steuer, 1992, p. 8; Downes/McMillan, 2000, p. 173; Coyle/Thorson, 2001, p. 69; Liu/Shrum, 2002, p. 54; McMillan/Hwang, 2002, p. 30).

2. Dimension: Responsiveness of communication messages

(Source: Rafaeli, 1988, p. 111; Deighton, 1996, p. 151; Dholakia et al., 2000, p. 7; Kiss/Esch, 2003, p. 6).

3. Dimension: Speed of interaction

(Source: Steuer, 1992, p. 86; Dellaert/Kahn, 1999, p. 41; Dholakia et al., 2000, p. 7; Lombard/Snyder-Duch, 2001; Liu/Shrum, 2002, p. 55; Kiss/Esch, 2003, p. 6).

Definition and Impact of Mental Imagery

Mental imagery is defined as the **representation of any sensory experience in working memory**. It depends on the **stimulation of one or more of the five senses**.

(Source: MacInnis and Price, 1987; Childers and Houston, 1982).

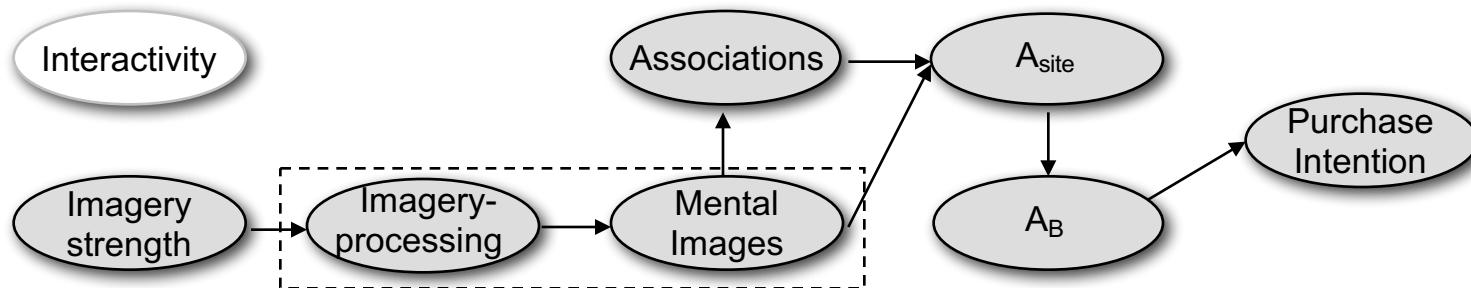
Several studies have shown that **mental imagery affects cognitive and affective responses** to advertising including the recall of advertising messages, the attitudes toward the ad and toward the brand as well as the purchase intentions.

(Babin and Burns 1997; Bone and Ellen 1990; Kisielius and Sternthal 1984; McGill and Anand 1989; Mitchell 1986).

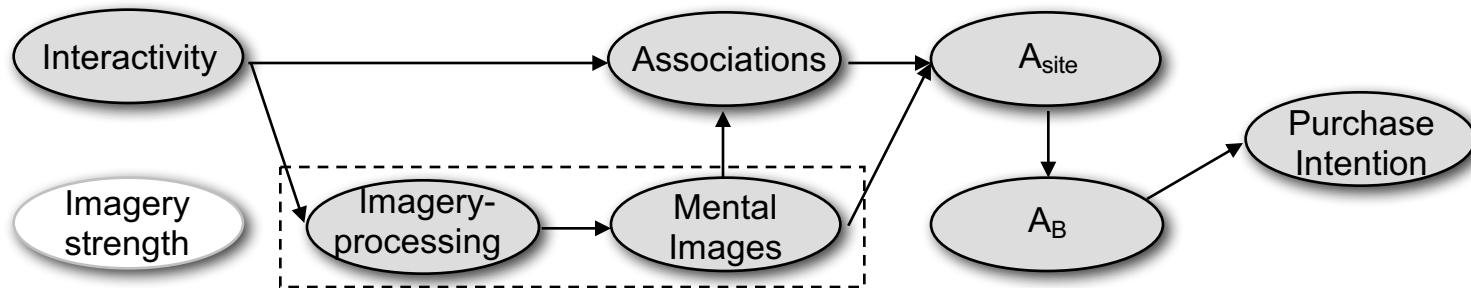
Modality	Examples from everyday life	Marketing examples
Visual	Eiffel Tower	Marlboro-Cowboy
Acoustic	Telephone bell	Bacardi music
Olfactory	Leather	Domestos
Haptic	Sponge	Underberg
Flavorful	Lobster	After Eight

A Model of the Effects of Interactive Websites

Progressive Levels of Imagery-Strength:



Progressive Levels of Interactivity:



A_B = Attitude toward the Brand, A_{site} = Attitude toward the Website

- Mental Imagery Research / Multi-Code-Theories (e.g. Paivio, 1971, Kroeber-Riel, 1996, Engelkamp, 1991, 1997; Mayer, 2001)
- Schema Theory/Semantic Networks (Bartlett, 1932; Rumelhart, 1975; Bobrow/Norman, 1975; Quillian, 1968)
- Human-Computer-Interaction Theory (Marchionini, 1995; Goertz, 1995).
- Elaboration Likelihood Model (Petty and Cacioppo, 1983, 1986)
- Dual Mediation Model (Lutz/MacKenzie/Belch, 1983; Lutz, 1985; MacKenzie/Lutz, 1989)

Derivation of Hypotheses Based on the Model

H1: Imagery-strong websites are more likely to induce

- a: **imagery processing**
- b: **mental imagery**
- c: **positive advertising consequences** (A_{site} , A_{brand} , PI)

than imagery- weak websites.

H2: Highly interactive websites more strongly induce

- a: **brand cognition**
- b: **imagery processing**
- c: **mental imagery**
- d: **positive advertising consequences** (A_{site} , A_{brand} , PI)

than lesser interactive sites.

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Method of the Experiment

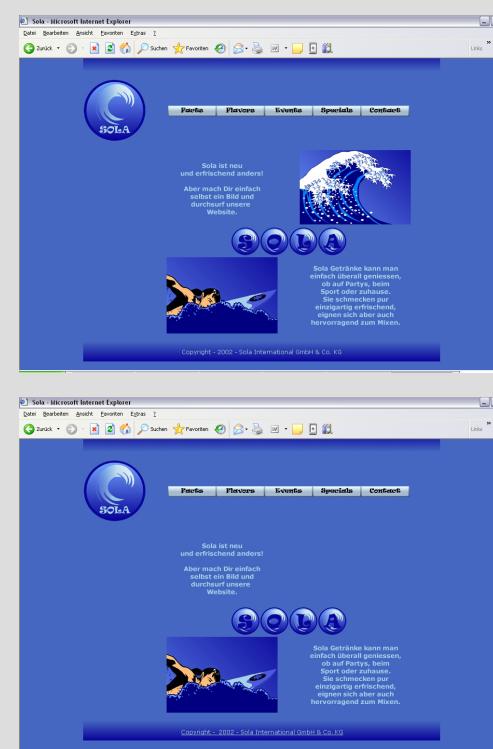
	Study	Res. Interest	Method
Experiment	Manipulation Check $n = 40$ persons	Examination of the perception of the manipulation of the independent variables interactivity and imagery strength	Computer supported survey by means of verbal rating scales; Evaluation by average comparisons
	Main experiment $n = 160$ persons	Analysis of the effect of the degree of interactivity and imagery strengths of Internet websites on brand cognition, imagery processes, attitudes and purchase intentions	Computer supported survey by means of open questions and verbal rating-scales; Evaluation of frequencies, comparisons of averages as well as ANOVA and MANOVA

Operationalization of the Independent Variable Interactivity

Interactivity

low

high



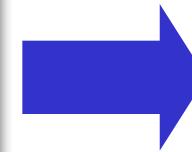
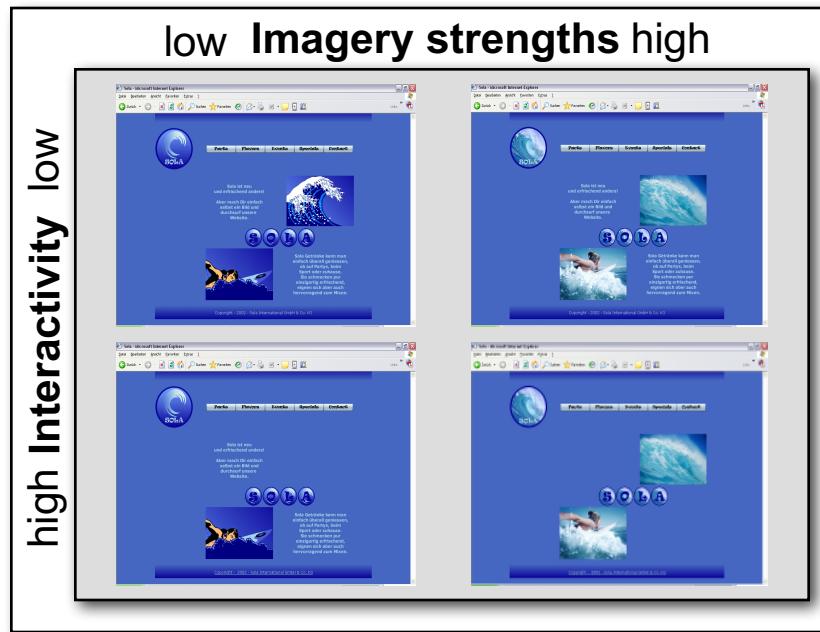
- A few (10) vs. many (36) clicks and interaction possibilities.
- Slow (2 sec.) vs. fast (0 sec.) response speed on user's interactions/clicks.
- (2) Inappropriate vs. (0) inappropriate responses/reactions on user clicks (linking).

Operationalization of the Independent Variable Imagery Strengths



- More abstract / unrealistic vs. more concrete / realistic pictures
 - No differences in the number of pictures
 - No differences in the content of the pictures

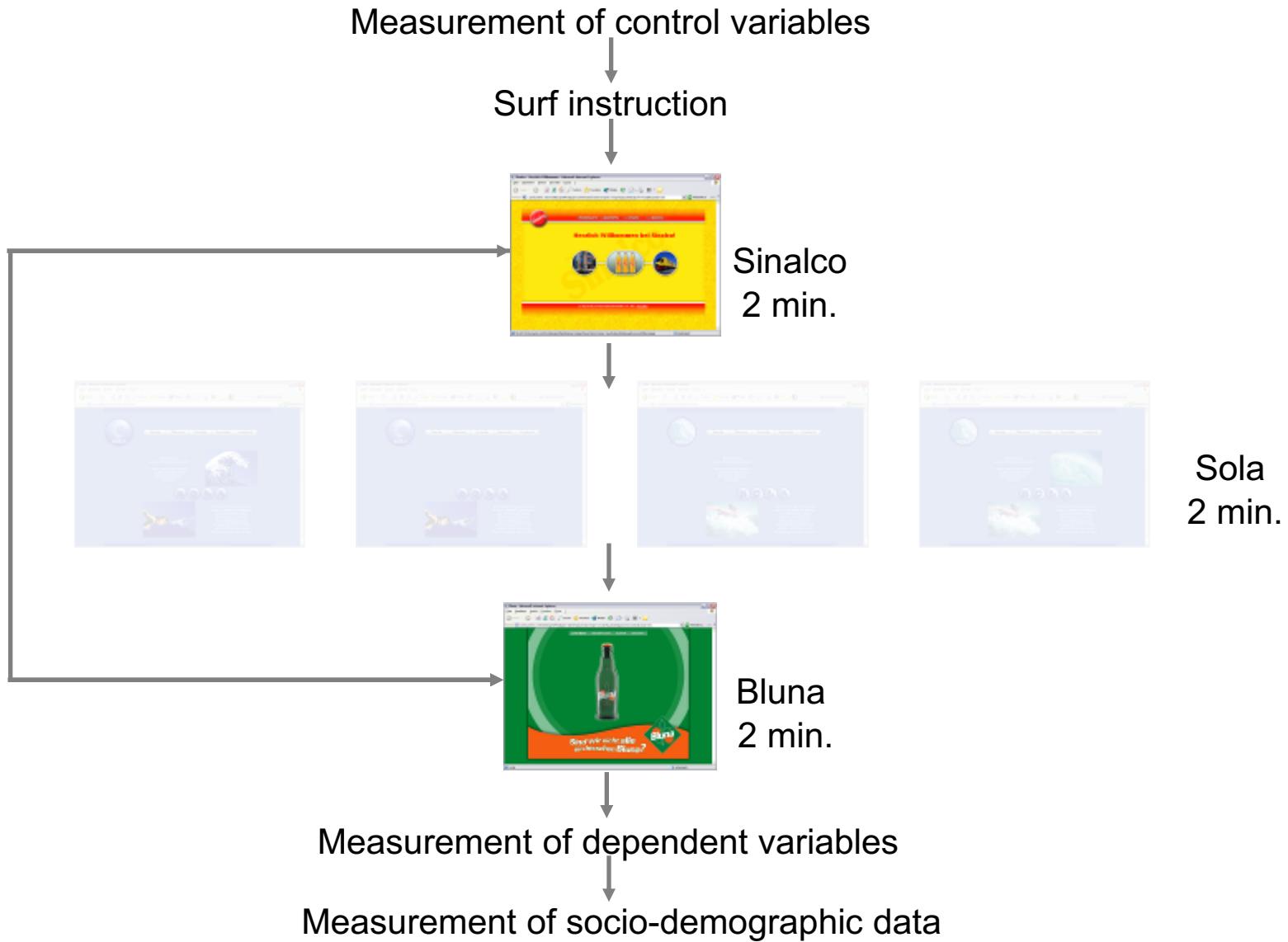
Experimental Design



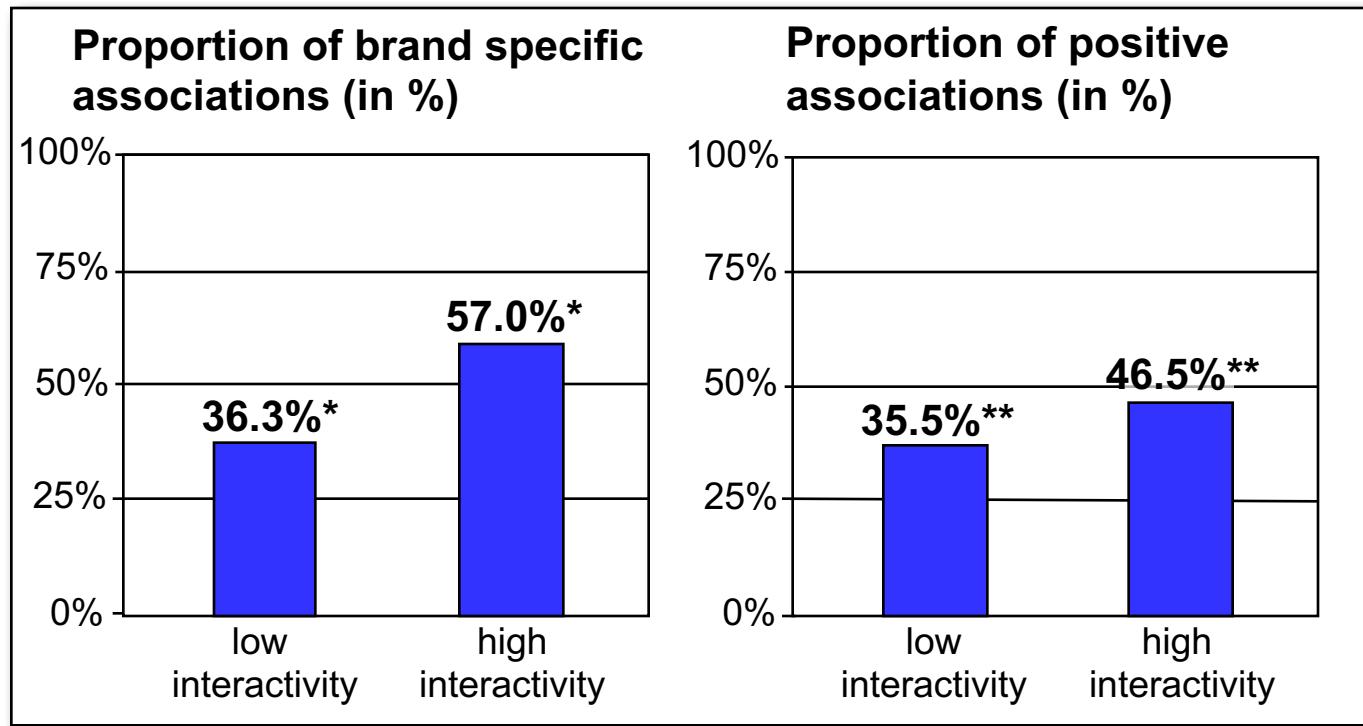
Dependent Variables:

- Brand Cognition
- Imagery Processing
- Mental Imagery
- Attitudes (A_{site} , A_{brand})
- Purchase Intention

Procedure of the Experiment



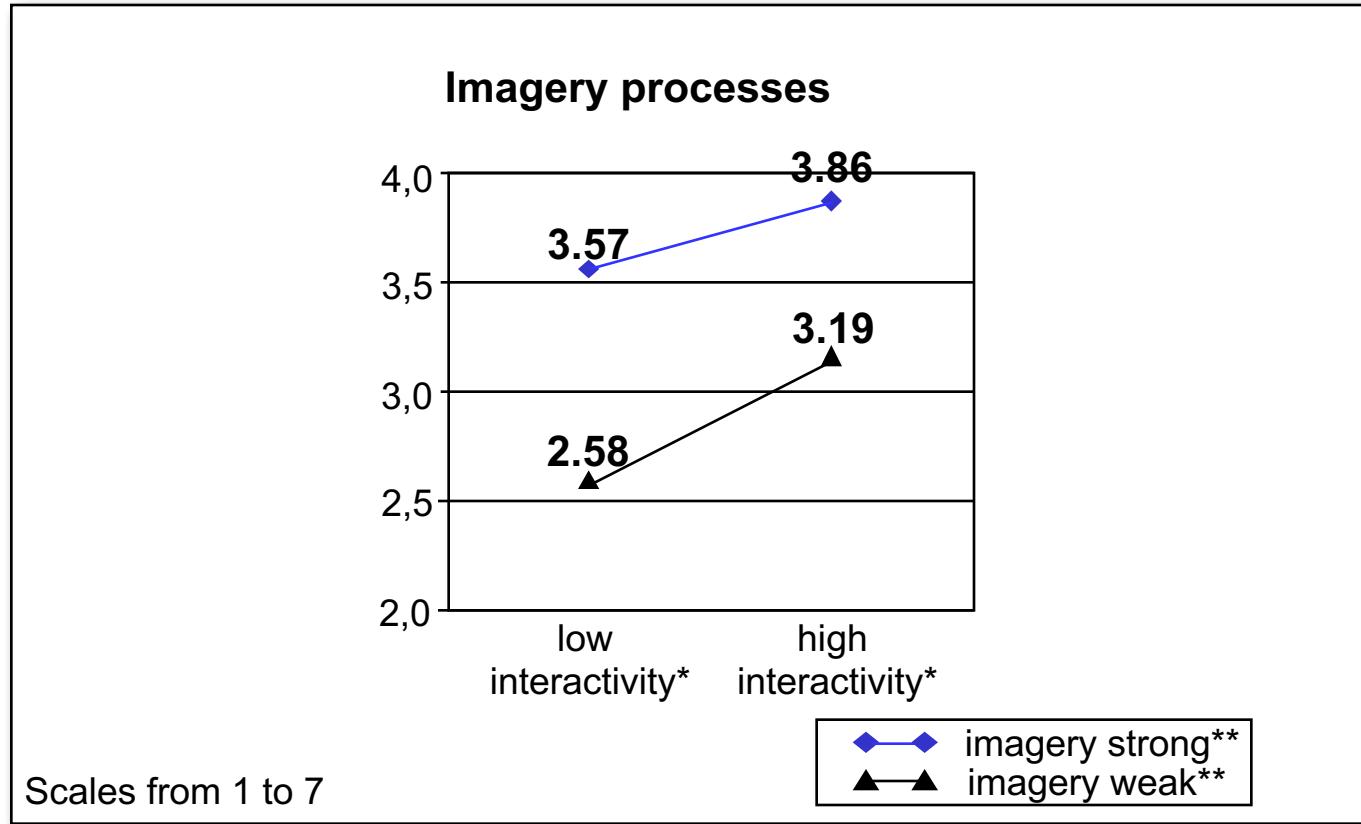
Effect of Interactivity on Brand Cognition



*($F_{1,158}=36.278$ p<0.001)

**($F_{1,158}=7.297$, p<0.01)

Effect of Interactivity and Imagery Strengths on the Origin of Mental Imagery (I)

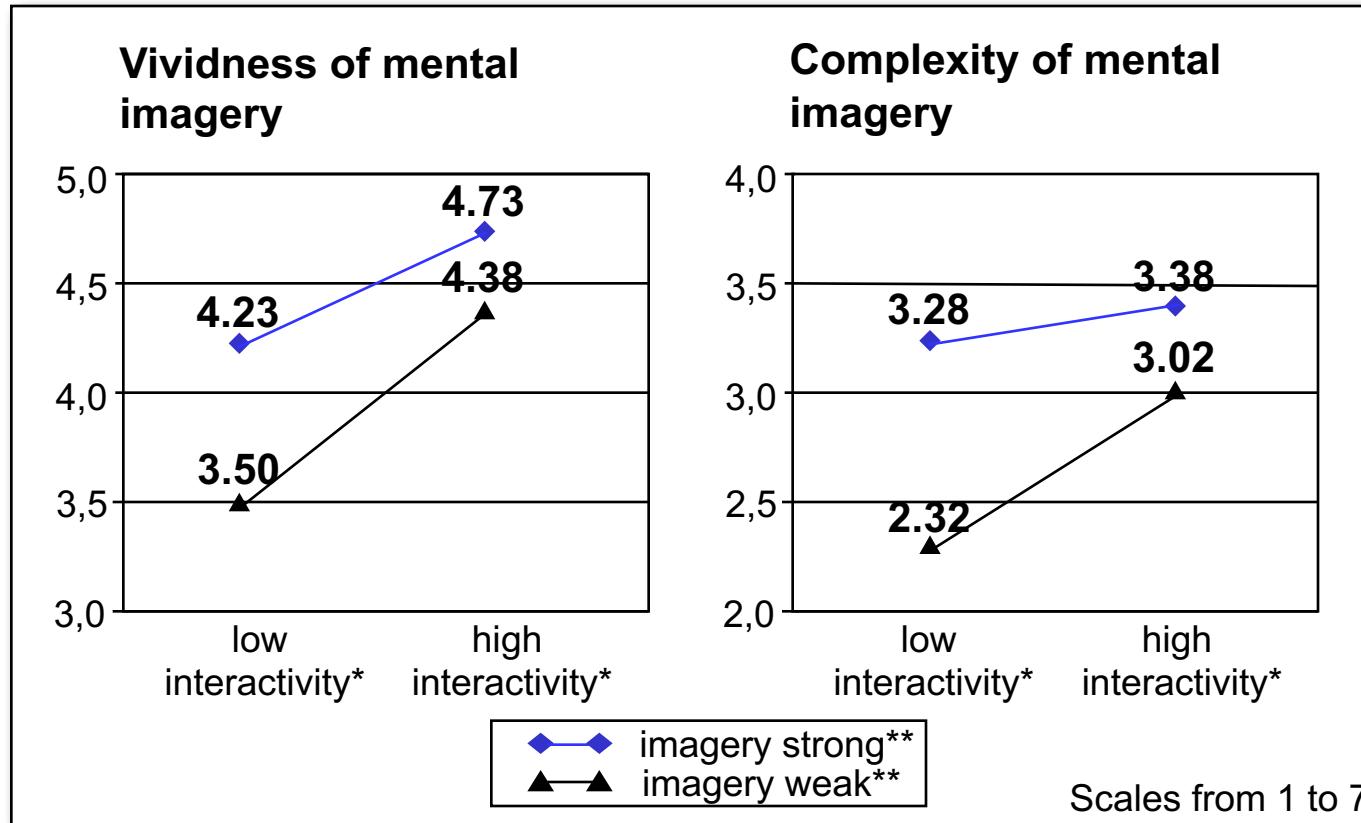


$*(F_{1,156}=4.757, p<0.05)$

$**(F_{1,156}=16.234, p<0.001)$

$^{*-}(F_{1,156}=0.620, p>0.05)$

Effect of Interactivity and Imagery Strengths on the Origin of Mental Imagery (II)



*($F_{1,156}=6.328, p\leq 0.01$)

**($F_{1,156}=3.943, p<0.05$)

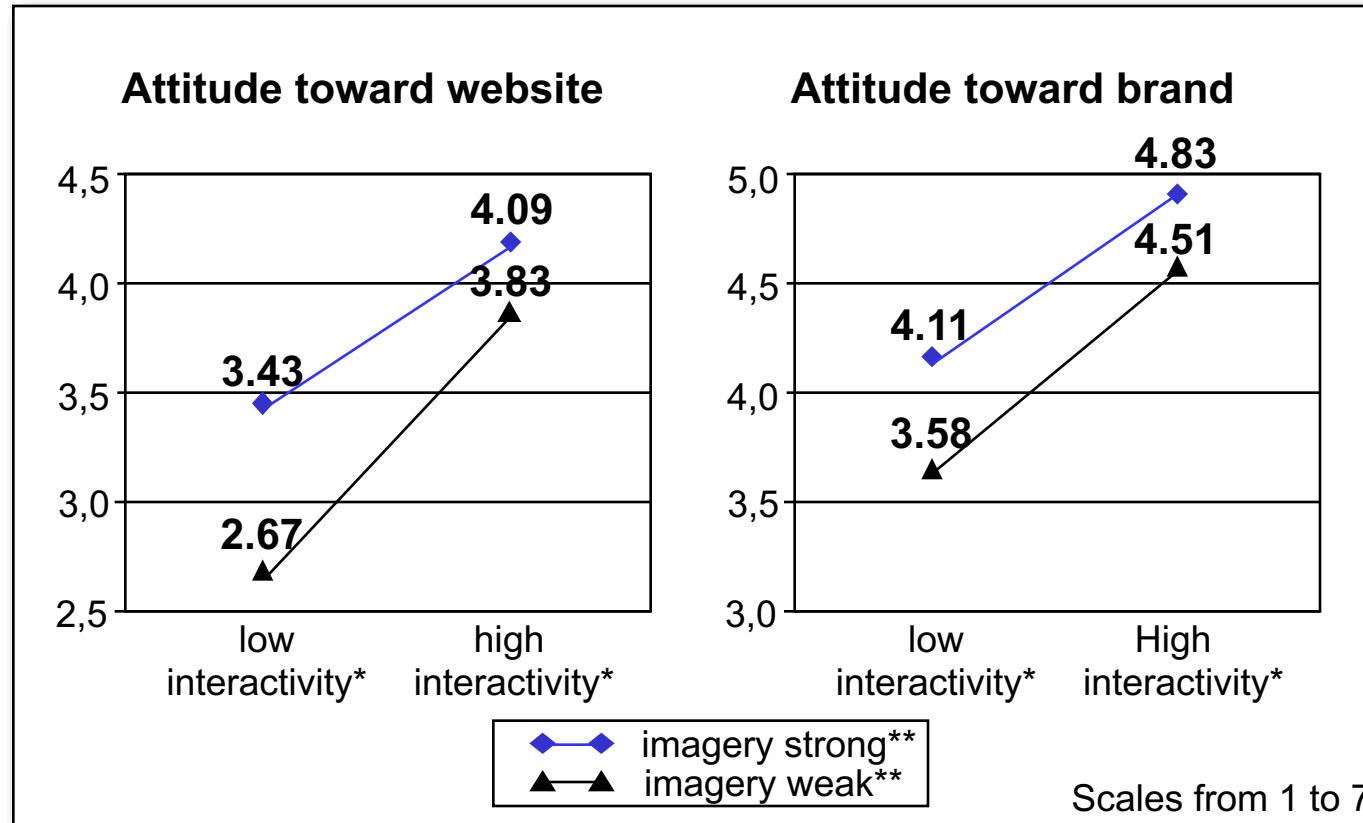
***($F_{1,156}=0.489, p>0.05$)

*($F_{1,156}=10.021, p<0.01$)

**($F_{1,156}=3.795, p\leq 0.05$)

***($F_{1,156}=2.535, p\leq 0.10$)

Effect of Interactivity and Imagery Strengths on the Attitudes toward the Website and toward the Brand



* $(F_{1,155}=20.111, p<0.001)$

** $(F_{1,155}=6.046, p\leq 0.01)$

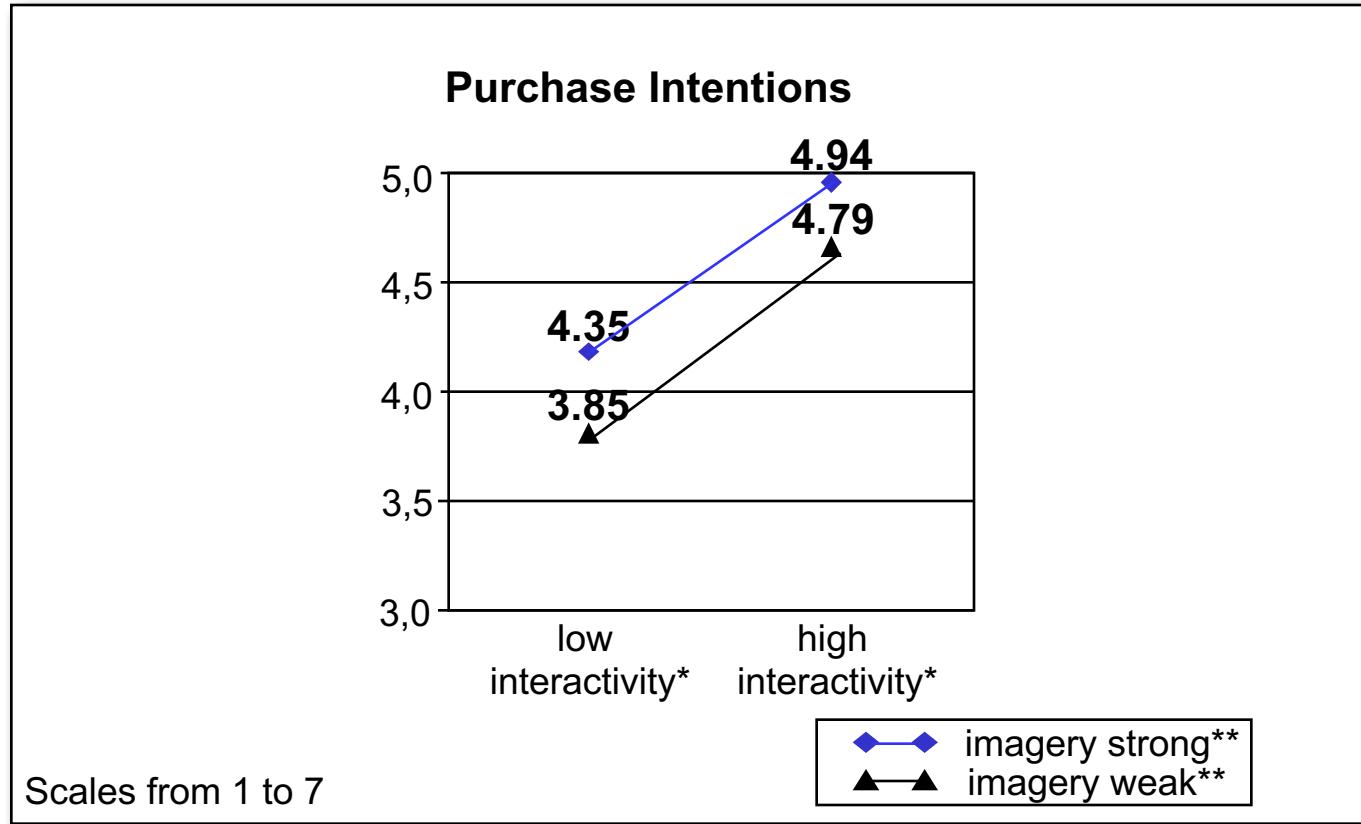
- $(F_{1,155}=3.240, p<0.10)$

* $(F_{1,155}=17.929, p<0.001)$

** $(F_{1,155}=4.189, p<0.05)$

- $(F_{1,155}=0.232, p>0.05)$

Effect of Interactivity and Imagery Strengths on Purchase Intention

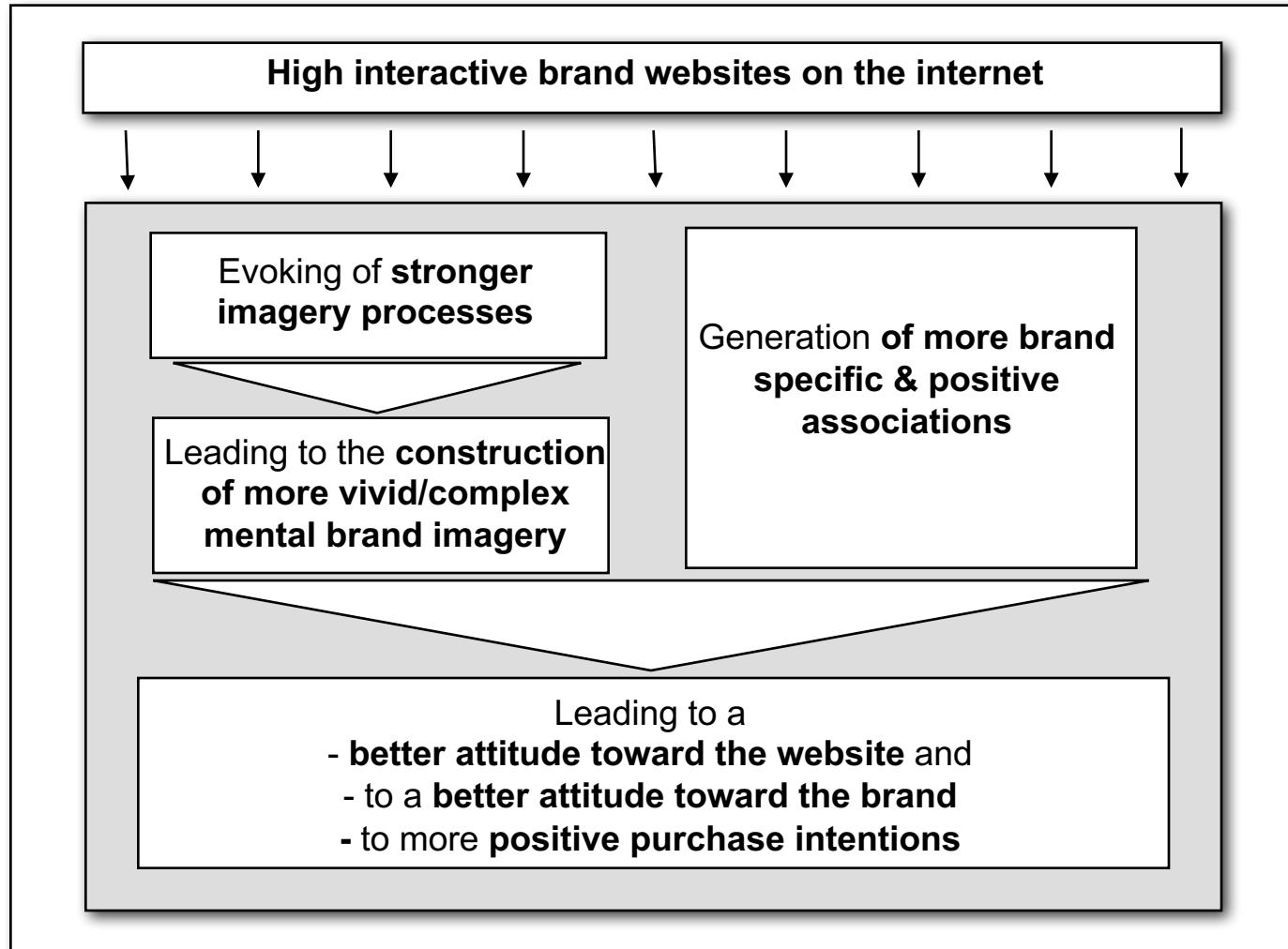


$*(F_{1,156}=13.835, p<0.001)$

$^{**}(F_{1,156}=2.513, p\leq 0.10)$

$^{*-**}(F_{1,156}=0.729, p>0.10)$

Summary of the Results

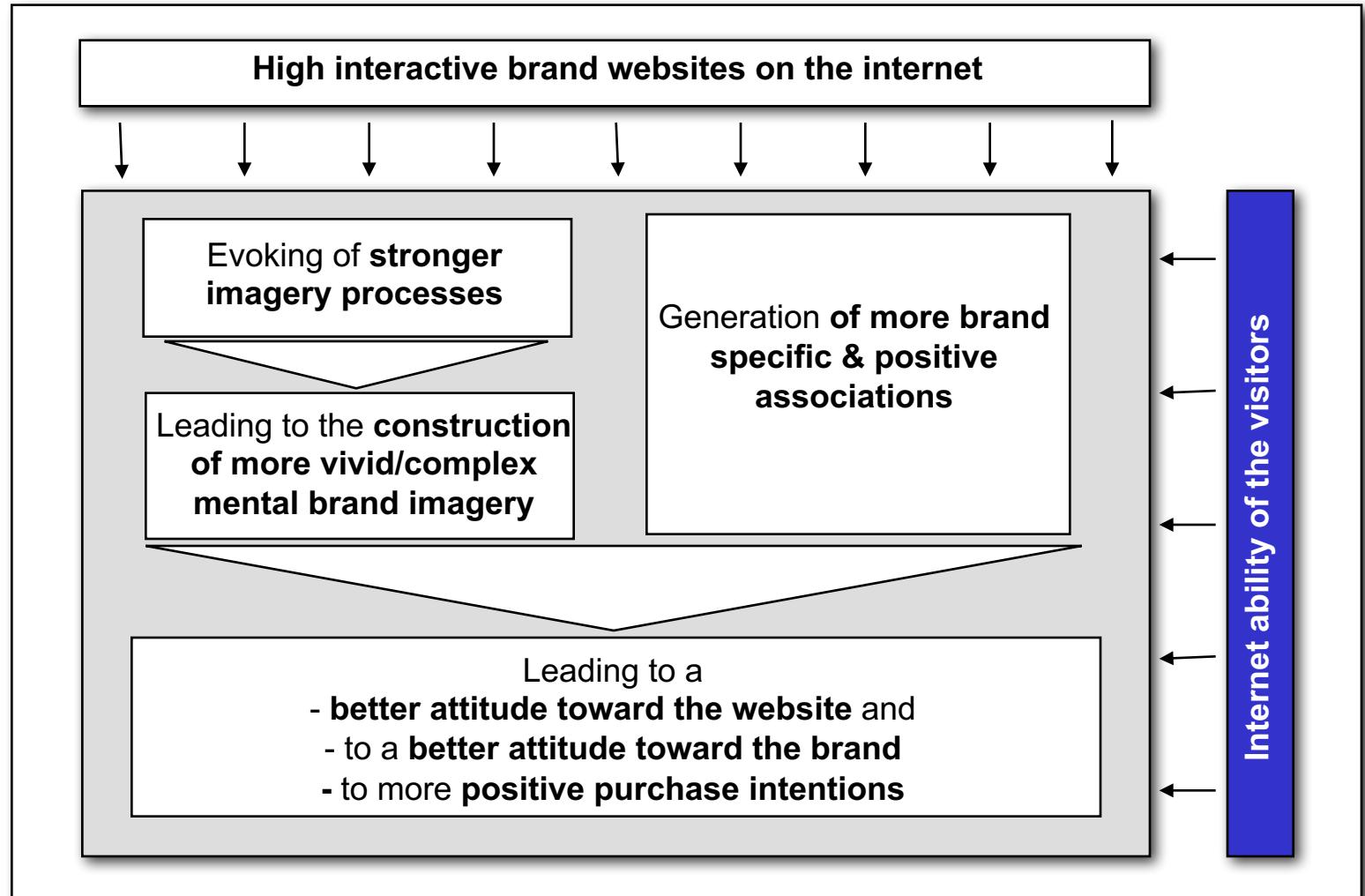


Source: Kiss, 2005

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Impact of Internet Ability of the Visitors?



Different Impact of Separate Dimensions of Interactivity?

High Cognitive Involvement

- Clear utilitarian purpose in mind
- E.g. search for product information

High Emotional Involvement

- Experiential surfing situation
- E.g. look around & experience website

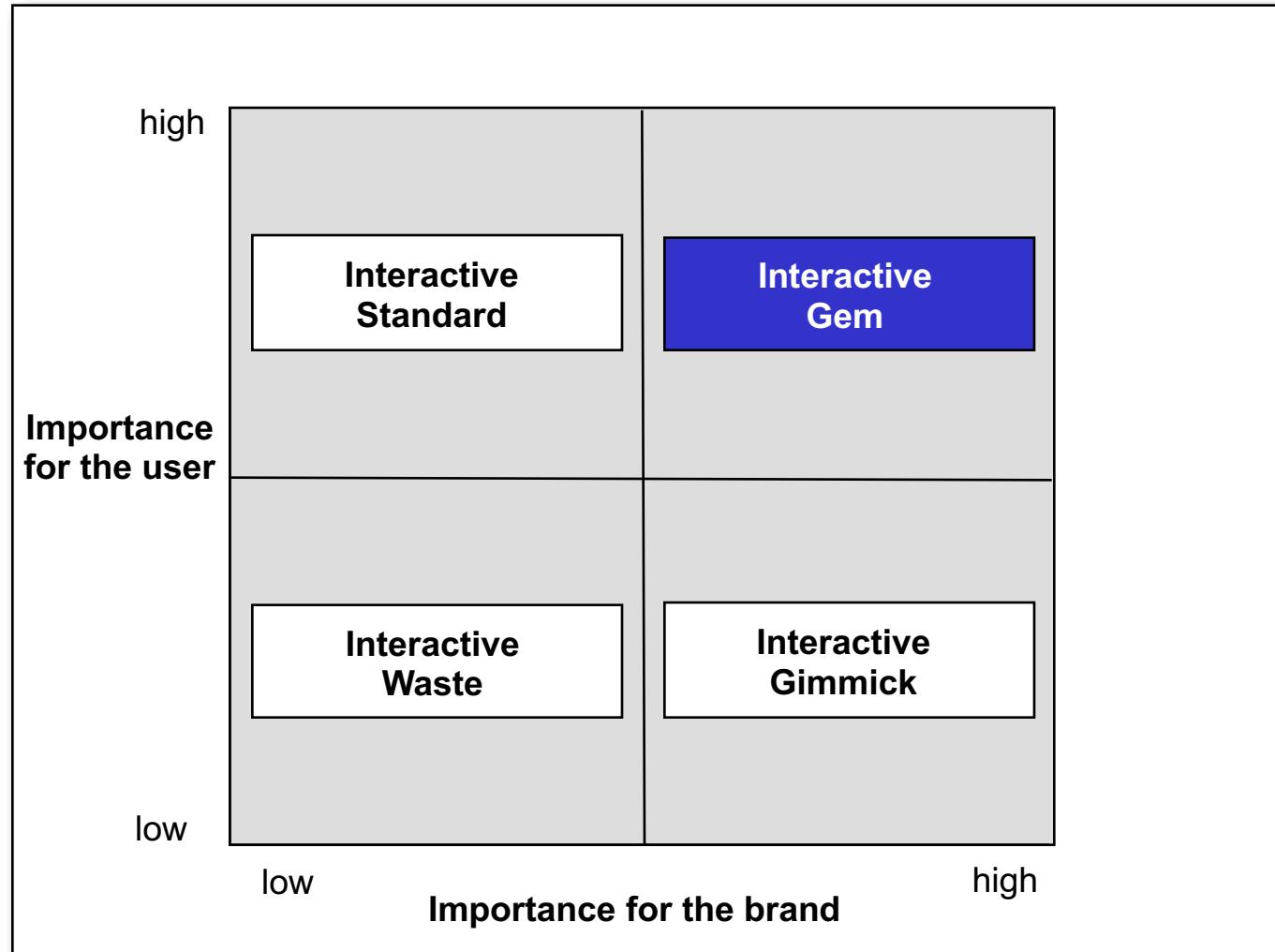
Relevant dimensions of interactivity?

- Speed of interaction
- Responsiveness/ Message Relatedness

Relevant dimensions of interactivity?

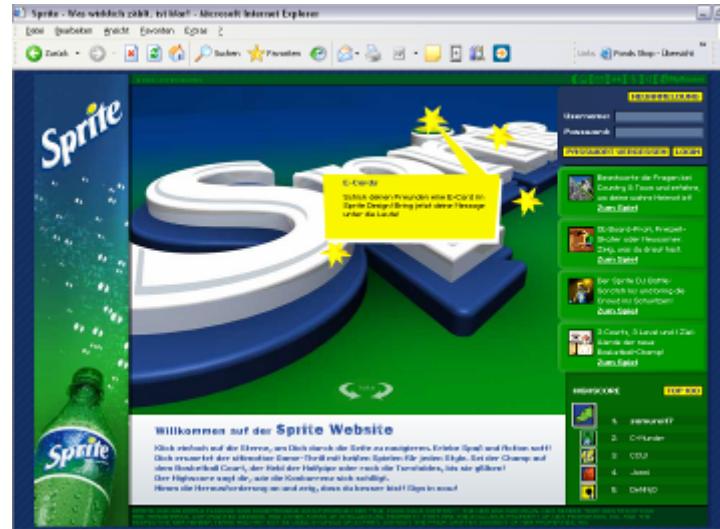
- Range of interaction with high number of interactive features

Relevance of Interactivity Features of a Website



Source: Kiss, 2005.

Interactive Gems on Existing Websites



Brand Logo as Navigation Element



Interactive Product Presentation

Elements which are highly relevant for the brand perception should be designed as interactive on a website as these most strongly communicate the brand message.

The interactive brand elements should be designed so that they can be **linked to user relevant functions** (primary navigation, login area, etc.)

Thank you!