Can simulation games influence citizen's attitude and behaviour vis-à-vis online public debate?

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Each day, more than 320,000 people visit www.vacheland.com to care for their virtual cow. They have to develop knowledge on diverse topics including cultivating crops, the effects of weather, protecting against attacks by wild pigs, and negotiating the purchase and the sale of a range of farming tools. More than 3,000 players also belong to an online community where they exchange advice, develop strategy and learn collectively. Although many immersive virtual environments exist, Vacheland ("cow country") is unique because it was created for a French agricultural region with pedagogical aims. The goal of the simulation was to explain the complexities of agriculture while creating a new image of farming. The Regional Council wanted to improve the image of the region, its products and the Council itself.

The website was launched in January 2004. One year later, we are conducting a study to understand why people participated in this game and what they learn from playing. From a marketing point of view, the customer has to make an effort to understand and process the information. To do this, he needs motivation (Petty and Cacioppo, 1984). We wonder whether simulations can increase participants' willingness to learn about a topic and then engage in online deliberation. From a marketing approach, we seek to understand whether this kind of relational tool has an impact on citizen's attitudes and behavior concerning farming. From a public management perspective, we want to identify the pedagogical potential of simulation games for public organizations to develop citizens' knowledge concerning public issues.

We will first describe the different types of Citizen Relationship Management and analyze how relational marketing can offer a new approach to Citizen Relationship Marketing. We will then describe the specific context and aims of www.vacheland.com and our methodological choices. Finally, we will present the results and discuss them in a more general framework of virtual reality.

The development of Citizen Relationship Management

Currently, we can note three trends:

- Increased involvement of the public in the decision-making process: Public decision makers try to involve citizens in the decision-making process without excessive costs and loss of efficiency, but do not know how to do it (Farmer, 1995; Saul,1992 ; Aydelotte and al, 2000 ; Callon, Barthe, Lascoumes, 2000 ; Reich 1998 ; Thomas, 1995).

- Development of Citizen Relationship Management: Public organizations seek to improve the services rendered to the citizen, by reducing the cost and time, and are looking for tools (Kotler, 1993 ; Carcenac, 2001 ; Berman, 1997 ; Warin, 1999 ; Lamarche, 2000 ; Cohen and Henry, 1997 ; Gadrey, Gallouz and Ghillebaert,1996).

- Emergence of e-management: The emergence of e-management shows that the integration of ICTs in organizations makes it possible to generate new practices and

services and to reduce the cost and the time of the services rendered (Kalika and al., 2002).

With ICTs, public managers might find ways to generate new practices of citizenship or to make the existing practices more effective, in order to increase the involvement of citizens in the decision-making process and to improve the services rendered by public organization. Telecommunication offers new possibilities for electronic citizenship through polls and e-voting (Constant, 2001). These tools seem particularly suitable for "citizen-consumers" who have gradually become accustomed to the quality of service offered by ICTs and more demanding and more critical of public organizations (Carcenac, 2001, Berman, 1997). Thus, we could then regard the citizens as "customers" of public services. Within a framework of relational marketing, tools are developed for Customer Relationship Management. We wonder whether these tools might be used for Citizen Relationship Management.

We have defined three modes of local citizenship management using ICTs: e-administration, e-government and e-governance. Each of the three modes we describe presents distinctive characteristics. Each one is linked to one or more appropriate tools. All three may intersect and overlap.

- E-administration: In this model, which we call "e-administration", the citizen is considered a « consumer of rights » claiming personalized and efficient public services. It corresponds to a government « for the people » with a strategy of citizen satisfaction improvement. For Tapscott (cited by Chadwick and May), ICTs allow a renewal of public organizations: Administrative renewal with faster and more efficient bureaucracies, digital access to government information, information collection initiatives (to establish databanks of social information), tax filing, payment processing, etc. Tools offered by ICTs are mainly e-procedures and databanks.

- E-government: This management mode, which we call "e-government" reflects a vision of a relatively passive citizen-agent who responds to his duties. Based on the need to quantify and compare solutions, this government of the people relies on regular consultations in order to improve a policy's acceptance. In this perspective, electronic voting is the most appropriate tool because it facilitates the communication of citizens' opinions to the government, while conserving a consultative characteristic. In the same way as Chadwick and May, we consider this approach as a « pull » system in which government seeks predefined information. This limits citizens' capacity to propose solutions and initiatives in a « technical democracy » (Barthe, Callon, Lascoumes, 2001).

- E-governance: In this mode that we call "e-governance", the citizen is considered an active agent of local democracy. « Participation (…) integrates a more active dimension. The citizens take part in a decision-making process. The aim is to enable inhabitants to express their opinions, then to collect these opinions (…) and to integrate them into the final decision» (Pailliart, 2003). The distinction between government and governance is important: « Governance stresses the way in which decisions are made, while government stresses the way in which these decisions are carried out » (Marche, Mc Niven, 2003). The « pull » system changes to a « push » system where information emerges from the ground. In the model of e-governance, interactions between citizens and government are necessary. "The participatory model contains a recognition that knowledge is discursive, contingent and changeable, that it emerges through interaction" (Chadwick et May, 2003). The citizen is no longer perceived as a "layman" (unfamiliar) of public policy by the local officials. The citizen is now considered a source of ideas and initiatives that provide a

mutual enrichment. The e-governance model can launch a reflection on the local government's knowledge management capacity.

Table 1: Three types Citizen Relationship Management using ICTs

	E-administration	E-government	E-governance
French Republican principle	Government for the people	Government of the people	Government by the people
Citizenship's component	Rights	Duties	Participation
Role given to the citizen	Consumer	"Passive" agent	Actor "Active" agent
Underlying logic	Delivering services, improving satisfaction of citizens, presenting local government policy	Improving the chance of a policy's success	Encouraging deliberation, participation and development of local democracy
Role of local elected	Regulating, improving administration performance	Understand the opinion of the citizens using consultation. Improving acceptance of a policy by citizens.	Protecting free expression, regulating infrastructures
Corresponding ICTs tools	Online administrative services, E-Procedures …	Electronic consultation, using e-voting methods and tools	Collaborative tools. Online Construction of collective propositions

We will now explain what relational marketing can bring to Citizen Relationship Management.

What can relational marketing bring to Citizen Relationship Management?

For more than a decade, relational marketing constitutes a major shift in marketing theory and practice : it involves establishing, developing, and maintaining successful relational exchanges with customers, and was first implemented in business to business situations, along the framework developed by Morgan and Hunt (1994), underlining the importance of mutual commitment and trust. The goal of relationship marketing is to build and maintain a committed, loyal relationship between a customer and an organization. Specifically in business to consumer situations, it may prove to be a powerful lever to enhance consumer brand loyalty. Brand loyalty is not to be restricted to simply repeat buying. As brand attitude becomes central to the repurchase decision in relational exchange, brand loyalty becomes increasingly similar to the conceptualization of commitment. Brand loyalty can be enhanced and developed in relational marketing by brand communities (McAlexander, et al., 2002).

The internet allows businesses to communicate directly to customers in ways never possible before. The popularity of communities on the Internet has captured the attention of marketing professionals. More and more firms are recognizing the advantages of web-enhanced brand communities as a lever for relationship-marketing communication (McWilliams, 2000). So-called "community brands" provide communication media for hundreds of thousands of individuals who share common interests. As consumer-goods companies create online communities on the World Wide Web for their brands, they are building new relationships

with their customers and enabling consumers to communicate with each other. Many famous brands host online communities through bulletin boards, forums, and chat rooms. Brand communities not only provide companies with an additional communication channel, they also provide a space for different kind of messages to be exchanged, beyond traditional persuasive content (Andersen, 2005).

Simulation games could also prove to be useful customer relationship management tools, especially regarding attitude change, as they allow longer and more complex content to be elaborated. According to the elaboration likelihood model by Petty and Cacioppo (1984), attitude change through persuasive message is significantly influenced by consumer motivation and ability to process the information. Persuasion is considered a process, where attitudinal change may be achieved through repeated persuasive stimulation. Peripheral cues such as emotions can enhance consumer motivation to process the information, and lead to a temporary attitudinal change. This attitude has little behavioural predictive power. Yet it may provide enough motivation to lead to a central information treatment, leading in turn, in conditions of sufficient capacity to process the information, to an attitudinal change based on cognition. This more central and integrated attitude has better behavioural predictive power. The credibility of the message source plays a major role in the central information processing. Relational communication tools such as simulators, or brand web sites, may provide motivation and capacity to elaborate. For Ritzer (1999), simulate phenomena is a way to re-enchant consumption.

When trying to promote participation in public debate and online deliberation, public organisations or local governments are facing similar persuasion challenges. Participation requires both motivation and perceived capacity. But public organizations have rather limited communication budgets compared to corporate brands, and their messages may be lost in the gigantic flow of advertisement and information. Public organisations may use simulation games to increase public attention to their messages on various topics, (health prevention, public risk management, environmental issues…). Relational marketing tools, web communities or simulators may thus prove to be alternative yet efficient communication channels for public organization trying to raise public awareness on online deliberation. We will now describe the www.vacheland.com case in details.

Entering the Vacheland world

www.vacheland.com is an example of a simulation game developed by a public organization and intended as a communication tool. The game was originally developed by the Poitou-Charentes regional council, a rural and agricultural French region. It was a part of a large communication program, aimed at increasing the attractiveness of the region among tourists, potential settlers and companies. Agriculture is a key asset to the economic development for this region. Poitou Charentes's image suffered immensely from the effects of the mad cow disease crisis. Productivism in agriculture was pointed out as a major cause of poor food quality and increased perceived food risk among consumers. Vacheland was thus also intended as a way to communicate on good farming practices and the environmental aspects of agriculture. The underlying theme in Vacheland.com is farming and cattle breeding. Breeding a virtual cow may be an opportunity to learn more on matters such as agriculture, food quality, animal welfare in the cattle breeding industry, agricultural policy, food safety, the environmental impact of agriculture, farmers' life conditions and so on. It may consequently be an opportunity to raise public awareness and interest in these topics in a rather non-conventional and emotion-based way.

www.vacheland.com is a free cow farming simulation game which extends well beyond a plain Tamagotchi, since it covers many aspects of the cow breeding industry. Each breeder owns a cow and a farm consisting of a barn and of one field. As an e-farmer, you have to

name your cow and take care of her: feed her, clean her, clean the stable, buy wheat or corn and store it in a barn, sow and harvest crops etc. The fields can be flooded or infested by parasites: The farmer has to choose a proper solution, balancing efficiency and environmental side-effects, according to the level of game you play. All e-farmers begin at level 1 of the game. They own one cow which they must feed, clean, treat when it is ill and milk if it is a dairy cow. In order to reach level 2 (out of 5), the e-farmer has to fatten the cow until it weighs 350 kilos and has produced 1000 litters of milk for dairy cows : for beef cattle the cow has to reach 450 kilos and the farmer has to yield 1000 "pictoches" (the currency on www.vacheland.com). E-farmers have to connect on a daily basis, 5 to 10 minutes per day, just enough to feed the cows. Some e-farmers can spend around 1 hour per day to manage the farm, send a few e-mails to other farmers, buy or sell on the market etc. If necessary, a cow-sitting service can be provided by other e-farmers. The specificity and difficulty of the game increase proportionally to the game level. E-farmers can chat and exchange information on the Vacheland community forum. The website has been very successful. 320,000 e-farmers visit www.vacheland.com every day, in France, Belgium, Switzerland and Quebec. The new version of the website will be launched in May and the players' community is impatient for it.

We seek to understand whether this kind of relational tool has an impact on the players' attitudes and behavior concerning farming, consumer behaviour, the territory of Poitou-Charentes and the Regional Council institution.

Netnography and forum analysis: an exploratory study

These are the underlying research:
- Has playing Vacheland changed anything about players' attitude towards farming (agriculture, cows, cattle breeding industry, farmers and farming or rural environment), Poitou-Charentes territory (attractiveness of the territory, awareness of the economical situation of the territory, image and feeling of belonging) and the Regional Council Institution (Image, trust).
- What was the effect on their perceived knowledge and understanding of these topics and on their willingness to learn more?
- Did it influence their purchasing behaviour?

To answer these questions, we conducted an exploratory study through netnography and forum analysis. First, we used a netnography approach. For Kozinets (2002), at least five different types of online communities can be distinguished that may be useful to the conduct of market-oriented netnography: newsgroups, usegroups, or usenet groups, independent Web pages, multiuser dungeons and chat rooms. There are two important types of data researchers can collect. The first type is the data researchers copy directly from the communications of online community members. The second type is the data researchers record from their observations of the community and its members, interactions, and interpretations. To analyze the behaviour of Vacheland players, we first adopted an e-cow and started develop our e-farm. We studied the game and the interactions between players. We then analyzed the community forum to learn more about the e-farmers, their language, their culture and motivation. Netnography's main advantage is the nearly automatic transcription of downloaded documents. The main difficulty is remaining conscious of the fact that we are analyzing the content of an online community's communicative acts rather than the complete set of observed acts of consumers in a particular community. Misrepresentation and cognitive dissonance represent a strong risk. Consequently, the generalization of the results to other communities, online or offline, are difficult or should rely on corroborative evidence.

To try to limit this risk of misrepresentation and to go further in the analysis, we conducted exploratory interviews on the community's forum with the players belonging to the community. We launched a topic on the forum to identify the different reasons people were playing Vacheland and to understand if playing had an impact on their attitude and behaviour towards farming and farming products, Poitou-Charentes territory and Regional Council institution and to determine which kind of impact it had, if any.

Descriptive results: The different aspects of Hyper-reality

- **Vacheland as an hyperreal world**

For Rheingold (1993), hyper-realists see the use of ICTs as a route to the total replacement of the natural world and the social order with a technologically mediated hyper-reality. For Graillot (2003), hyper-reality experience is based on different points:
- A choice of one or several themes: In Vacheland, the theme is farming.
- Disproportion: In Vacheland, the cow becomes very fat or very skinny in a short time.
- Details are underlined and exaggerated.
- Risks are controlled and many of the inconveniences are limited: In Vacheland, if the e-farmer doesn't take care of your cow, it might die. The risk still exists. However, it is less painful: the e-farmer doesn't have to wake up at 5 am to milk the cow, except if he/she wants to reach another level of the game.
- The notion of time: In Vacheland, the e-farmer has to take time into consideration to develop his/her farm. Even if the time goes faster in Vacheland, for example, it takes one week for a field to grow.
- A mix of several dimensions that can be contradictory: a cow which plays playstation during its "spare time".

Vacheland then represents a "real" hyper-reality experience. With a more technological approach, Burdea (1993) considers the notion of virtual reality as the mix of three dimensions: Immersion, Interaction and Imagination.

Figure 1: The virtual reality triangle (from Burdea, 1993).
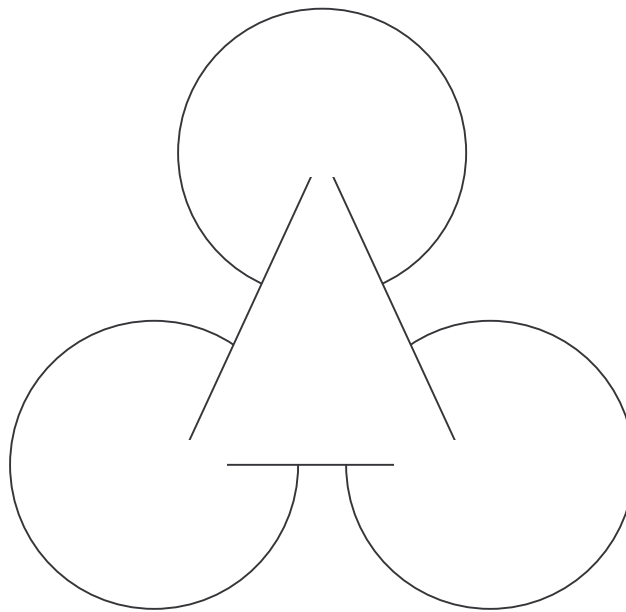
The theme of Vacheland relies on farming and on players' ideas about farming by offering a specific environment (landscape, sounds, time framework) Vacheland allows players to emerge themselves in the game. The players can interact with each other to set the price for the different products, buy and sell items and exchange advices and tips. Therefore Vacheland corresponds to the virtual reality triangle.

- **The quest of a recreated authenticity: simulation and simulacra**

Participating in Vacheland could be considered as an example of a significant modern ritual, a quest for authenticity (Cohen, 1979; Pretes, 1995; Corrigan, 1997). In industrial societies people might consider their life superficial and inauthentic. Product choice and simulations allows them to consume symbols of authenticity, leading to a recreated authenticity. The experience of hyper-reality is a quest of lost reality, of a more authentic life (Corrigan, 1997).For those people, reality and authenticity are located elsewhere, in another historical period, or another culture or lifestyle and healthier (MacCannel,1989).

Players seem to seek two different types of recreated authenticity. Baudrillard's framework on simulation and simulacra suggests that some players are looking for simulation, while others are looking for simulacra.

For some people Vacheland is related to something that once existed, or still exists, or is perceived as having existed once. It can therefore be interpreted as simulation, a symbolic representation of a reality. For the players, Vacheland is a way to relate to their past, to their childhood, and has a strong nostalgic dimension *: "I'm a "country girl", my mom used to send me to a farm in our village to get some milk. My grandmother used to make her own cheese. She had hens and grew her garden. I have always felt close to the rural world, I couldn't live without it, I never had a chance to drive a tractor or take care of a drove, but I dream of this kind of life!".*

For other players, the references underlying Vacheland are already fictional. Vacheland can then be interpreted as a form of hyper-reality and simulacrum. Some players come from an urban background, and have a remote and rather specific vision of agriculture: *"I come from the city. I know very little about the countryside and agriculture. It's mostly from movies (I loved "Babe"), TV (I sometimes followed the TV Show "Farm Celebrity"[1]) or books (I read "Animal Farm", or sometimes spending Sundays in the country".*

Is the virtual cow more real than the real cow? Is Babe more real than the average pig? Has Babe or Vacheland done more for animal welfare than information campaigns about real life breeding conditions for pigs or cows? Or has the emotion been carefully separated from any cognitive elaboration on cattle? The impact on real life will be discussed in the next section.

- **The impact on real life: A possible Disneylandisation of consumption**

The first aspect is the impact on the opinion and awareness towards farming. Vacheland is seen as a potentially powerful tool to raise people's awareness of the subject, but it has not significantly changed players' attitudes: *"Vacheland did not change my opinion on agriculture and the rural world, because it was already set. But as a virtual urban e-breeder, I think that the other e-breeders should meet real-life farmers to realize what it means for real". "One never gets to see pigs or cows when living in a city, so Vacheland is a way to enter this world a little bit, like for children who can learn what a tractor is…also for children who can't have a pet, it may teach them some responsibility, because they have to take care of their virtual animals".*

The second aspect is the impact on purchasing behaviour. Being e-farmers does not influence the players' daily purchasing behaviour as they buy dairy products or meat. Their virtual farming does not interfere with their real consumption, even when shopping at a market instead of a supermarket. They simply do not think about it: *"When I go to a market, I am in "real life" so I buy milk and yoghurt without thinking about my cow. Breeding games stay at home in my PC". "For me, my virtual breeding never mix with my real life. Thus, when choosing butter, milk or whatever, I absolutely do not think about my virtual cow. I may think of it when going to the countryside, if I see a cow or a Massey-Fergusson tractor, I'd smile and say "I 've the same at home!" but usually there's no crossover".*

Sometimes the influence is on cow symbols: cartoons, plush, glasses, T-shirts, collectible items …*"However, I am a big plush fan, and it's different! When I am in a store in the toy department, I have to restrain myself from running to the plush and check for cows or pigs. Plush cows are quite easy to find, for pigs it's more difficult. I also have cow slippers".* Delphine, 25, also an e-breeder of pig on Kochonland (funnypigs.com).

However limited the impact on consumer behaviour seems, some food brands may use these aspects to promote the high quality of their meat or dairy products, by taking into account the symbolic nature of the perception of food quality and food risk. For instance, "the happy pig" is a French local pork meat brand, whose positioning is on animal welfare and a short retailing circuit. The "Selected farms : loving the cows, increasing product quality" program is a production and communication program launched by a national dairy company in order to emphasize their commitment to animal welfare and good breeding conditions, linking it to higher quality products. Its communication features cartoons as well as very informative content. But are consumers ready to think about the real animal when eating meat? The connection between virtual breeding and consumer behaviour is strongly

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[1] Equivalent to « Simple life » in France.

symbolical, as it applies mostly to gadgets related to the animals. This can be related to a disneylandisation of consumption (Ritzer, 1999).

The third aspect is the impact on the image of the regional council which developed the Vacheland game. Even though some players felt that they were used against their will in a communication campaign, others insisted on the positive aspect of the game being free. The technical problems on the site were even sometimes seen as sign that the regional council was neither competent nor reliable: *"My opinion on this institution has really changed. I started with a very happy and positive image. Now it makes me sick! This institution has manipulated us all, as politicians manipulate everybody. If I were French and coming from this region, I'd be ashamed of my local officials !".*

Conclusion: Baudrillard and the virtual cow…

Returning to the framework of Citizen Relationship Management, the development of simulation games can be seen as a new tool to educate the citizen in the e-administration and e-government type. The awareness of the citizens could be a key factor in their willingness to participate to the public debate. However, educating citizens or consumers relies on people's enlightenment paradigm which is highly questionable. Institutions may try to transfer collective responsibility to individual responsibility.

Moreover, the first qualitative results show a rather limited direct influence on citizens' attitude towards farming and the institution. The results also show a trend of disneylandisation of the society. This "society of spectacle" described by Debord (1967) seems also suitable for farming in France. As a part of European Agricultural Common Policy, the French government tries to reduce the dairy overproduction and the negative environmental impacts of agriculture. Therefore, since 1999 it has offered specific subsidies to farmers who try to protect an agricultural landscape and, by this way, correspond better to the "ideal" representation of nature, landscape, etc. More than 25,000 farmers receive this subsidy each year. In reaction, some farmers complain that the countryside is seen as a leisure park for tourists or people from the city wanting to experience the hyper-reality of farming.

The next step of the study is measuring the different types of impacts through quantitative approach. A questionnaire will be put on the new website of Vacheland (due mid-May). This will allow us to collect data for statistical analysis such as typology and discriminant analysis.

References

Andersen, P.(2005), Relationship Marketing and Brand Involvement of Professionals Through Web-enhanced Brand Communities: The Case of Coloplast, *Industrial Marketing Management*, Jan2005, Vol. 34 Issue 1, p39, 13p

Aydelotte J., Miller J., Walters L.C., (2000), "Putting more Public in policy analysis", Public Administration Review, July/August 2000, vol 60, n°4, pp.349-359.

Baudrillard J. (1976), *L'échange symbolique et la mort*, NRF, Gallimard.

Baudrillard J. (1981), *Simulacres et simulation*, Galilée.

Baudrillard (1995), *Le crime parfait,* Grasset.

Baudrillard (1996), *Disneyworld company*, Libération, 4 mars.

Berman M. (1997), «Dealing with cynical citizens» , Public Administration Review, n°57,2 ,105-112.

Burdea G., Coiffet P. (1993), *La réalité virtuelle*, Edition Hermes.

Corrigan P. (1979), *The sociology of consumption,* Sage Publications.

Debord G. (1967), *La société du spectacle,*Buchet-Castell.

Eco U. (1986), *Travels in hyperreality*, A Harvest Book, Harcourt Brace and Company.

Graillot L. (2003), « Conception et consommation de l'hyperréalité touristique : un état de l'art », *Actes du colloque « L'individu Hypermoderne ».*

Kalika M. (2000), « Internet et les sciences de gestion », in *Internet et nos fondamentaux*, Chevalier J.-M., Ekeland I., Frison-Roche M .-A, Kalika M., PUF, Paris.

Kotler P. (1993), "Pour une réussite du marketing des services publics dans les années 90", *Politique et Management Public*, Vol 11, n°2, pp 3-32.

Kozinets R. (2002), The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities, *Journal of Marketing Research*, 1, 39.

McAlexander J., Schouten J., Koenig H.,(2002), Building Brand Community, *Journal of Marketing,* Jan2002, Vol. 66 Issue 1, p38, 17p,

McWilliam, G., (2000) Building Stronger Brands through Online Communities, *Sloan Management Review*, Spring2000, Vol. 41 Issue 3, p43, 12p.

Michel H. (2005), On the way to the Learning City? A typology of Citizen Relationship Management, *ECEG Conference*, Antwerp, June 16-17.

Morgan R. et Hunt S. (1994) The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, Vol. 58 Issue 3, p20, 19p.

Pretes M. (1995), Postmodern tourism, The Santa Claus industry, *Annals of Tourism Research*, 22, 1, 1-15.

Reich, R. (1988), *The Power of Public Ideas,* Cambridge, MA, Ballinger Publishing Company.

Rheingold H. (1993) *The Virtual Community: Homesteading on the Electronic Frontier*, Adisson Wesley.

Ritzer G. (1999), *Enchanting a disenchanted world: revolutionizing the means of consumption,* Pine Forge Press.

Segal H.P. (1985), *Technological utopianism in American culture*, Chicago, The University of Chicago Press.

Thomas J.C. (1995), *Public participation in Public Decisions, San Francisco*, CA, Jossey-Bass.