Retailers Innovate Differently - The Need for a Retail Research Laboratory

Malin Sundström[1*] and Anita Radon[2]
Swedish Institute for Innovative Retailing, University of Borås, Sweden
malin.sundstrom@hb.se[1], anita.radon@hb.se[2]
**Corresponding Author*

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Abstract

There is a strong need for innovation within the retailing sector (RS), but at the same time, retail sector innovation is not yet fully understood. This paper aims to investigate retail innovation and identify its specific characteristics as being both process- and product innovators, as well as presenting a case whereby the University could act as an innovative hub. Retailers are open innovators - they engage in both technological and non-technological innovation and they innovate incrementally, focusing on business model innovations. We elaborate upon the different contributions that a retail research laboratory could give to retailers as well as to the academic community. We also discuss the potential of such a laboratory in a practice approach focusing on the advantages to researchers, consumers and retailers, and the potential in linking research on business models with a practice-oriented approach.

Keywords: Retail, open-innovation lab, business model innovators, incremental innovation, practice-oriented approach

1. Introduction

Historically, retailers have played a role in society by making it possible for consumers to purchase goods and by providing services (Berry et al., 2010). However, in order to continue with prosperous growth, retailers need to face challenges and global competition within the retail sector and become more efficient, more flexible and better able to innovate. At the same time, there is also a need for retailers to understand how they actually contribute to innovation, and provide a means whereby they can be inspired to continue their work.

The ongoing structural retail changes we are seeing in terms of new channels and new actors in the market means that traditional retail business models are being challenged and new business concepts are being established. The need for innovation in ongoing multichannel behavior and multimedia retailing environments is obvious (Dholakia et al., 2010); however, how to accomplish this is unclear. In addition, the growth of e-commerce may affect many small retailers who are not able to maintain the same price levels or the assortment of goods that the big players can, which means they will disappear from the market. For some retailers, one of the priority challenges is how to react to the 'threat' posed by e-commerce instead of treating online sales as a possibility for innovation (Brown & Dant, 2014).

In order to become more connected with the multichannel consumer and to learn from their behavior, a number of private actors in Europe are forming innovation labs to develop technology that optimizes the retail experience. Some examples are Unibail-Rodamco within the commercial real estate sector, and digital

agents such as R/GA. However, there is a high probability that these retail labs will be designed without concern for the special characteristics of how the retail sector actually innovates, and will be based on the idiomatic belief that e-commerce is threatening the brick-and-mortar store, thus pushing innovations that focus on the environment and fixed store design. On the other hand, technological actors risk becoming stuck on high tech solutions which leave consumer value aside. Our distinct belief is that a combination of both e-commerce and fixed store development within the retail sector will boost innovation, and as such, needs to be developed in an open and neutral research environment: the Academy.

The above-mentioned changes towards a digitalized retail landscape and the need for innovation within the retail sector serve as the argument for the aim of this paper: to scope retail innovation and pinpoint a case regarding an open innovation laboratory in the academic environment. In this paper we describe the sector-specific characteristics for innovation and how these insights led to the design and start-up of an open innovation environment: a retail research laboratory. We further show how the research done in the retail research laboratory furthers our knowledge and theories on consumer decision-making processes and consumer value. Management implications in this paper are given on a retail level.

2. The Nature of Retail Sector Innovation

Consumer use of emerging technologies, such as mobile Internet and the phenomenon of the Internet of Things, has contributed to the enhancement of the digitized retail landscape. The transition to a digital society where individuals are constantly connected to the Internet is one of our greatest social changes, and in some cases also challenges, and as such it affects competition, business models, business growth, global development and innovation. Whether a firm succeeds or not depends on consumer value delivered and retail firms must strive to better align themselves to consumers' evolving needs. As a result, the ability to innovate successfully and create customer-centric differentiation is critical to the overall success of the retail sector. However, the retail sector is a poor innovator, at least compared with other sectors of the economy, such as pharmaceuticals, healthcare, energy and engineering. One reason why the retail sector is weak in innovation is that innovation is measured in a conventional way, based on product innovation, number of patents and share of turnover (Katila & Mang, 2003; Katila & Shane, 2005; Hervas-Oliver, Sempere-Ripoll & Boronat-Moll, 2014). The retail sector is significantly under-represented in terms of both patents and trademarks, which are traditional markers of innovation intensity (Sundström & Reynolds, 2014). And yet, retailing created added value of EUR 432 billion in 2009. It was the largest private employer within the EU27 in terms of the number of persons employed (18.6 million). These are all facts pointing to the sector's need to be dynamic as well as competitive.

2.1 The Origin of Process Innovation

The nature of retail sector innovation comes down to the question of how the sector can be both dynamic and competitive, but at the same time be poor at innovation. This paradox arises in part because retailers innovate differently compared to traditional industry, and their innovative performance is mainly derived from process innovation strategies. Process innovation characterizes the service sector (Metka & Galouj, 2012), however, retailers are or have also become, hybrid innovators and the retailing sector shares a distinctive approach and mix of characteristics in relation to innovation (Oxford Institute of Retail Management, 2007). Retail businesses can be both product and process innovators as well as engaging successfully with both technological and non-technological innovation. Innovation

in retail can thus be described as being neither product nor process, but a combination of both. However, retail innovation tends to focus on adopting and re-organizing business operations using a cost reduction perspective or the improvement of flexibility in production (Herves-Oliver, Sempere-Ripoll & Boronat-Moll, 2014). Many larger retail firms are also open innovators, as they seek to co-ordinate both product and process innovation across the value chain, and at the same time, take market demands and the company's vision into account (Gassmann & Enkel, 2004). However, a major problem to open innovations within the sector is the general lack of long-time funding, and the ability to document innovation processes. Also, the nature of competitive retail markets means that retail firms often exhibit more incremental than radical innovation practices. We explain some of these distinctive characteristics below, based on the work from the Expert Group on Retail Sector Innovation (2014). As some large retail firms merge horizontally with suppliers, multinational retail chains and large-scale retail formats have developed with more significant market shares (Reynolds et al., 2007). This in turn leads to competition between channels rather than between enterprises, and implies that cooperation and partnerships among firms have to increase.

2.2 From Producer Push to Consumer Pull

Today, the consumer is an integral part of the marketing channel and superior firms have sought to develop more dedicated and efficient distribution systems and integrated supply chain capabilities in the search for operational efficiency and to better meet customers' needs. This means that retailers use external as well as internal ideas and both internal and external paths to market as they look to advance their technology or innovate with partners by sharing the risks and the rewards (Chesbrough, 2003).

The development and application of scanning systems and the associated technology has provided the necessary information for many retail supply chains to be reversed from a 'producer push' to a 'consumer pull' approach, placing some retailers (those that are closer to the consumer than others in the value chain) in a position where it is easier for them to discern opportunities through more effective insights into consumer behavior. Such retailers then have the capability of becoming 'innovation hubs', coordinating and broadening innovation across a range of supply chain members. Retailers can co-create value with supplier firms, or with consumers, downstream. Ultimately, some retailers have become vertically integrated, exhibiting a 'manufacturing' approach to product innovation. While significant, sector-wide investments in innovative technology systems (such as self-scanning, loyalty marketing systems, mobile web platforms or new payment methods) continue to transform the customer's experience and the efficiency of retail businesses, non-technological innovation in the store or online experience has perhaps had an even greater influence on consumer behavior in the long run. McGrath (2011), together with Teece (2010), argues that product innovation in general no longer offers sufficient competitive advantage, as in a global world it has been too easy to copy innovation, and harder to handle shorter product life cycles. This leads to a different way of rearranging value creation activities; hence, companies today consider business model innovation as an opportunity to build advantages (Osterwalder & Pigneur, 2005; Matzler et al., 2013). There is strong support for the fact that business model innovators have higher and more sustained returns than product innovators (Lindgardt et al., 2009, Matzler et al., 2013).

New business models are a particularly effective way for retailers to differentiate their value proposition for their customers. Successful leading adopters of new formats can see their efforts generate sec-

tor-wide transformation. For instance, the growth of generic formats, such as hypermarkets, convenience stores and deep category specialists, all have their origins in the innovative practice of individual firms, and are good contemporary illustrations of the ways in which specific organizational innovations can become sectorial norms. Sometimes, apparently small innovations can deliver significant outcomes for retail firms. The development of shelf-ready packaging, the movement of a barcode or continuous strategies to reduce waste can have substantial effects over time. Retailing also trades in markets characterized by their 'low appropriability'. That is, many business practices and processes are more open to emulation by competitors, in part because of their very transparency. This can often cause innovating retailers to work differently, perhaps by starting small or working incrementally, before rapidly scaling up their activities. The risks of easy emulation may also discourage retailers from sharing innovative ideas with others at an early stage, particularly when many of the kinds of innovations in which firms engage are unable to be fully protected in terms of IP legislation or patent law because of their lack of formality. Starting small also minimizes risks and other costs. Unlike in manufacturing, however, retailers can experience a reverse innovation cycle, where financial and organizational costs attached to innovation are low at the beginning and high at the end, such as when a successful innovation must be rolled out across an extended network of stores. Our analysis shows that retailers are both product and process innovators. They are also open innovators, engaging in both technological and non-technological innovation, and they innovate incrementally and focus on business model innovations. This clearly shows that the retail sector innovates differently from other sectors, and it is, therefore, hardly surprising that statistical surveys and analyses simply aimed at quantifying levels of innovation from the point of view of patents or licensing are generally poorly equipped to effectively represent the sector's performance in this respect. Therefore, we further stress the need for a different type of approach to research with regard to innovation within the retail sector.

2.3 Creativity and the Process of Retail Innovation

An increasingly customer-centric approach will satisfy a market that is expecting value, convenience and seamless omni-channel service, transparency and honesty. The customer-centric nature of retail innovation demands that the process is not just about improving efficiency in the sector but is also concerned with achieving greater effectiveness in the customer's experience of the retail offer. The important task for innovative retail leadership is to find new ways to generate added value for customers and monetize any surplus value (Matzler et al., 2013). As a result, the 'science' of retail innovation has to be complemented by the 'art' practiced within the innovation process itself, not least by those who lead that process. Retail innovation is as much an exercise of creativity within the retail job as it is of scientific management. At its heart, retail innovation will only be successful if it can substantially increase customers' quality of life throughout the shopping experience (including pre- and post-purchase experiences), and find ways of getting paid for that service. While much innovation within the sector is focused on increasing efficiency, boosting productivity and the speeding up of administrative processes, the most effective kind of retail innovation occurs when there is a re-engineering of the shopping process. That is, firms need to understand the buying process, identify barriers and moments during that process when the individual might appreciate support, and develop services that create value. The creative process requires clear empathy for the lifestyles and expectations of a firm's customers.

Firms must also be able to draw upon a wide range of technologies and novel

disciplinary approaches, as well as being able to document their methods for future knowledge transfer. Some applied technology can fundamentally affect competition and is capable of disrupting business models, labor markets, consumer behavior, consumer privacy, and global development. However, in order to understand consumer decision-making and, from that insight, draw conclusions on additional applied technologies, there is a need to co-operate with scientific researchers. The sector has already witnessed the increasing role of the mobile Internet and how it creates opportunities for continuous shopping, and enhances competitive pressures between retail firms. But do we really know *why* consumers find the mobile Internet valuable? New technology systems have also played a major role with respect to inter-firm retail functions, and many "intelligent technologies" (e.g., RFID, NFC, 3D-printers, mobile payments, etc.) have emerged during the past few years supporting a number of retail functions. However, we know less about the value these systems might bring to the consumer decision-making process. In light of this, the need to work together with academic researchers is very clear.

The broader organizational environment within which retailers operate naturally includes networks, partnerships and supplier relationships that might serve as an 'innovation pool.' Therefore co-operation is important to joint forces, and, in the future, will probably be even more important and often a necessity. Retailers can learn new skills and competencies both from and with their partners, including suppliers, service providers, and consumers. Collaboration with suppliers and partners from different sectors can lead to the instigation of new innovations too, for example, in IT, telecommunication firms and market research companies (Reynolds & Hristov, 2009). However, retailers also need to be closer to academic researchers in order to be more systematic in their operations and to learn from trial and structured testing, something that could minimize the often, ad-hoc methods of in-house research within retail companies.

To summarize, the pivotal characteristics of managing retail innovations are: 1. Applying a customer centric approach focusing on the customer experience and the ability to develop support and services that create value. 2. An ability to draw upon technology, and an understanding of contemporary consumers and the retail context. 3. A familiarity with the network of actors engaged in retailing. 4. An incentive to participate in academic research.

3. A Retail Research Laboratory

So far, our description of retail innovation investigates a sector that acts and works differently from others with regard to innovation. As retail firms act as both incremental and open innovators, they need to be better at documenting knowledge in a scientific manner, while at the same time being dependent on creativity in their processes. The challenge to create and sustain a research environment for the sector is huge, and needs to be based on the pivotal mechanism mentioned above. Such an assignment was given to the Swedish Institute for Innovative Retailing (SIIR) by the board of the University of Borås in 2013. Inspired by our earlier work at the University of Borås on value innovation and Living Labs (Ericsson & Sundström, 2012; Cronholm et al., 2013; Goldkuhl & Cronholm, 2010), we wanted to build an environment that focused on consumer insight, thus integrating user-centered research with multi-disciplinary research on IT and business design (Martin, 2009). We also reflected upon the purpose of taking a stronger stance toward the role that an innovation laboratory could have in an academic setting by providing well documented research methods. With respect to the knowledge that the retail sector innovates differently from others, and the strong need for engagement by retail management, employees, and creativity, we drafted an environment based on the vision

of "contributing to innovative and sustainable retail". This vision was formulated and put together by members of a strategy group in order to represent researchers, senior managers and entrepreneurs within the retail sector.

3.1 Building an Arena

We proceeded by planning an environment involving important actors within the network of retailing, adding researchers, solution providers and consumers. The arena was placed inside the University and designed as a fixed store. We also based the laboratory on applied retailing research on consumer behavior and the decision-making process, which engaged multi-disciplinary researchers from marketing and IT. However, before starting, we undertook a major study on the kinds of problems and challenges retailers were facing. Following this analysis, the environment could be planned in more detail.

The original goals of the retail laboratory were to use and develop modern technologies that could help retailers in a transforming landscape of digitization. Applying a customer-centric approach helped us with our ambition to develop IT-pilots designed for a context where e-commerce and fixed store settings might melt down to an omni-channel environment, bringing value to both consumers and retailers. Students and academic employees were used as respondents in early tests of the IT-pilots and service development in order to pre-test perceived value. The main competencies of the researchers engaged in the project were marketing, informatics and IT. Ideas for new customer value-driven services came from both retailers, consumers, solution providers and researchers, and were evaluated, screened and developed with system developers employed at the SIIR research program.

In the built-up environment, we currently offer the development of decision support prototyping, testing, demonstrating, eye-tracking, validation and market replication, which have direct relevance for innovation in the retail sector. Each test performed in the laboratory is designed with a documented method. In the following table, we present a selection of the experiments and tests that have been carried out in the retail laboratory the past six months, including what questions where researched, which methods were used and what kind of outcome each study gave. These ten cases are selected to show the variety of methods used in the laboratory and also the different types of questions that are researched.

Table 1: Description of Experiments Carried Out in the RL

	Questions researched	Method	Outcome
1.	Do consumers use QR codes in-store, intend to use QR codes in-store, or have knowledge of QR codes?	Observations and questionnaires carried out in the retail laboratory (RL) and in fixed stores	Two popular scientific reports. One scientific conference paper. One scientific manuscript. Numerous presentations at conferences aimed at retailers.
2.	Could there be different segments of consumers thinking alike when it comes to buying home interiors (textiles), and what characterizes these segments?	Questionnaires and focus groups carried out in the RL	One popular scientific report. From that report, one retail chain chose to re-build one of their stores in order to become a complete omni-channel store, offering their customers the opportunity to shop from digital screens in store. Input to retail firms on

Questions researched	Method	Outcome
		how to develop new services.
3. What are the behavior and attitudes toward web store check-in and check-out?	Eye-tracking and questionnaires carried out in the RL	One popular scientific report. One report aimed directly at a specific retailer, which, in turn, led to revisions of their check-out functions.
4. Is it possible to stimulate consumers' perception of the value of an advert with the help of specific words?	Eye-tracking and questionnaires carried out in the RL	One scientific conference paper. Another financed research project on data mining within the retail setting. A software programme to suit the grocery industry that can handle big data and work with promotions within the store.
5. Spending habits online and in physical stores related to home interiors and textiles.	Focus groups, questionnaires, and eye-tracking carried out in the RL	One master thesis.
6. Does a store experience involve physical arousal when engaging in new technology?	Experiments with pulse watches RFID tests, questionnaires, carried out in the RL and the virtual fitting room	One bachelor thesis.
7. Facilitating a demonstration that offers the consumer a general solution of how to return products bought online, with the help of a mobile application.	Programming and testing	A start-up company.
8. How do customers perceive service and to what degree are they more or less satisfied depending on the encounter with people or machines?	Observations and questionnaires	One bachelor thesis, awarded twice: Best thesis in Sweden regarding retailing research. Practical output for numerous retailers working with service development and service education.
9. Does the level of personal service or interactive computer service in a pop-up store affect customer satisfaction?	Observations and questionnaires RFID tests	Two bachelor theses. Input to retail firms regarding how to work with service added value.
10. Do consumers concerned with environmental issues value environmental information about shirts? Does this information affect their choices and could the information be monetized in terms of a commercial service?	Observations and questionnaires Eye-tracking carried out in the RL	Support for an index presenting a product's environmental effects. Support for a new business model on information and transparency regarding product information.

3.2 Practical Cases and Outcomes

To further illustrate the cases listed in the table, we will take two cases and describe them closer. The first is case number nine. This case aimed to investigate whether the level of personal service or interactive computer service in a pop-up store affected customer satisfaction. The results indicate that it requires a high level of personal service to achieve higher customer satisfaction, and the combination of high levels of personal service together with interactive computer support in the decision-making process deliver the highest customer satisfaction.

The second example is case number ten that stemmed from wanting to know whether consumers concerned with environmental issues valued environmental information about the shirts, whether this information affected their choices, and if the information could also be monetized in terms of a commercial service. Preliminary results show that environmentally-concerned consumers used the information service delivered via RFID techniques and described the service as valuable in the decision-making process. They were also more inclined to pay for the product information service.

3.3 Designing the Research Cases

The experiment process applied to all cases follows the logic of a problem that is given from a company perspective or from a research standpoint. The experiment is then designed to match the setting of the laboratory and its resources, i.e., will this be an eye-tracking test, a magic mirror setting, etc. If the design demands programming or different software this is specified and ordered before executing the experiment. If the experiment will be performed in a special retail setting, visual merchandizers are contracted to help with building the right atmosphere. The next step is the selection and invitation of respondents to participate as experimental consumers. Then, the test is conducted in the laboratory and documented according to specifications from the researchers. The actual data collection in the laboratory is performed, sometimes by master students, giving respondents instructions and documenting their behavior and/or interviewing them after the experiment. The material is then analyzed by the researchers responsible for the case and conclusions are drawn. In the cases where a company is directly involved, a report and presentation is also given to them. Regarding consumer insight on a general level, researchers can choose to analyze many different experiments and aggregate them into a macro-level, thus providing opportunities for producing different kinds of research reports. The retailers are encouraged to use the insights from the experiments and apply the results to their own operations.

4. Contributions from an Innovation Laboratory for the Retail Sector

After evaluating the experiments and tests performed in the retail laboratory and obtaining feedback from the participating retailers, the analysis makes it abundantly clear that one of the greatest contributions of the laboratory is insight. The laboratory can provide valuable insights regarding the need for more structural processes on how to use consumer preferences to boost innovation. Our partners also talk about the importance of starting innovations in a small way and then, after a while, increasing the pace. This is particularly the case when testing RFID-technology to inform consumers about products. Advanced information is perceived by consumers as giving high value. However, the technology also risks pushing consumers away. Self-checkout operations could be a valuable service in the future, but they need to be complemented with strong personal services.

Other valuable insights gained from the retail laboratory include the knowledge that consumers find it hard work being a consumer, and that the job of choosing might not be seen as a pleasurable activity. This knowledge has inspired retailers to

develop commercial service concepts focusing on the shopping experience as a process and identifying points in the process where the consumer really needs help. A direct example comes from case number two (Table 1) and service development, helping consumers decide on what curtains to choose, giving them information on how to hang the curtains, how to measure the window, how to re-arrange curtain settings and so on. Some of the attendant retailers also joined together on other projects, taking advantage of each other's skills and developing commercial innovations, such as new store formats. For example, one e-commerce actor decided to introduce physical concept stores, designed as mobile boxes, thus entering the traditional physical retailing market but in a new and different way.

Results from eye-tracking studies in some cases provided management with proof and supported earlier hypotheses. However, some analyzed results surprised all actors and resulted in new and innovative designs, for example, how to check-out from a web store, how to communicate prices and how to give product information. However, perhaps the most valuable insights reported from retailers engaged in different experiments in the retail laboratory were organizational insights, new ideas on how to change existing business models and how to strengthen business goals and operations. An example of this was a retailer that gained an insight into the fact that in order to expand online sales, there was a need to change the mindset of store managers, and at the same time, offer other triggers in terms of individual store bonuses. If a store manager would like to engage in driving offline, in-store customers to become online customers, there needs to be incentives for those activities, motivating the employees to drive sales and earn their bonuses.

5. Theoretical Implications

From a research perspective, and as previously underlined, an innovation is not necessarily a physical object and an innovation within the retail sector differs from those of other sectors. An innovation can be a new thought, a new service or a new way to proceed. The key word is "new" and concept innovation means renewal. We have found that retail innovation may be boosted in an open-innovation environment led by researchers, joined by many actors, and with the main perspective of studying the practices of consumers. A practice relates to the unconscious dimension of consumer decision-making and focuses on what people say and do (Rindell et al., 2011) and, in our case, what retail customers do when shopping or making decisions at the point-of-purchase. The theoretical foundation regarding practice theory stems from the work of philosophers such as Wittgenstein, social theorists like Bourdieu and Giddens, and theorists of science, and technology, such as Latour and Pickering (Schatzki et al., 2001). In this sense, the scientific work in the retail laboratory has contributed to the development of a practice approach to the study of retail innovation by combining different approaches based on the empirical knowledge generated in different experiments and projects performed in the retail laboratory. Ongoing scientific production from studies in the retail laboratory focuses on, and contributes to, the rapidly emerging literature on business models (e.g., Coombes & Nicholson, 2013; Mahadevan, 2000). The discussion on business models has expanded in conjunction with the growth of the Internet and e-commerce (e.g., Amit & Zott, 2001; Zott et al., 2011) and is closely related to digitization and retail innovation. Business models demonstrate their respective companies' specific logic when combining value creation and maximizing value appropriation (e.g., Mizik & Jacobson, 2003). Although the academic literature on business models is extensive, the concept is considerably underdeveloped theoretically (Zott, 2011). Within innovation and retail-oriented research, many conceptually-oriented contributions have been pub-

lished (e.g., Sorescu et al., 2011), and there is, therefore, a strong need to link research on business models with practice-oriented approaches using open-innovation laboratories as a setting for development and practical experiments.

Given this practice-oriented approach and the use of open-innovation laboratories, this paper contributes not only to the deepening of our theoretical knowledge on the concept of retailing but shows width and diversity in how to boost retail and innovation. By showing the effects of, and the need for, a retail research laboratory, naturally we do not yet have all the answers on how the retail sector can become more innovative in the future. This is not the grand solution but a step in the right direction, a starting point, if you will, where the knowledge and insights gained from the use of the retail research laboratory adds, primarily, to our knowledge of a consumer's decision-making processes and a retailer's business model innovation. It contributes to the knowledge on consumer decision-making processes and adds more dimensions regarding consumer's use of digital aids and perceived customer value in the use of these.

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About Authors

Malin Sundström is currently assistant professor in marketing at the University of Borås, Sweden. Her research interest focuses on consumer buying behaviour and retailing. She received her PhD degree in business administration from the School of Business, Economics and Law at Gothenburg University and has been working as a researcher for eight years. She is the academic director of Swedish Institute for Innovative Retailing. As an assistant professor she engages in applied research working closely together with businesses within the retail sector, both in Sweden and internationally. She is also a professional board member specializing in customer insight and retail digitization. She has also held a position in the Expert Group on Retail Sector Innovation for the European Commission.

Anita Radon is assistant professor in marketing at the University of Borås, Sweden. Her research interest focuses on consumer buying behavior, brands and communication and retailing. She received her PhD from The School of Business at Stockholm University and her thesis was one of the first in its kind, using Internet research methodology. She is involved in the Swedish Institute for Innovative Retailing and is the co-associate editor Europe for Journal of Research in Interactive Marketing.