

Recommendation and Reputation in eCommerce

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Abstract: It was introduced in the construction of theoretical models from social sciences computational simulation. Unlike other methods, with the help of simulation it is possible to formalize complex theories about processes, to form experiments and observe the appearance of some. Almost all of the scientific research in this sphere are representations of social phenomena at a certain level. In the economic area representation is much more formal and often expressed in statistic terms and mathematical equations. They manage to give consistency and generality much easier than verbal representation.

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JEL Classification: O10; O11

The rapid development of the Internet and increasing popularity have motivated many companies to enter the online market, leading to an expansion in the number of sites in electronic commerce. In order to make the website noticeable, e-commerce companies started to take into consideration ways to give users as information the most desirable elements of numerous products. As a result, consulting systems have been developed and applied in e-commerce.

The first recommendation systems use content filtering techniques. Filtration systems based on the content build a profile of the user's preferences by observing the behaviour of an individual user to predict what information will be selected or rejected. Each user will act independently. Preferences are associated with the content of the selected items. As a result, these systems can exploit only information that can be obtained from the documents. Chalmers has developed a system that offers recommendations based on URLs, a model that retains a user's recent activities. Like the model of collaborative filtering (path model) it interprets information through users who use them. It uses the user's history organized in time with reference to information products. Differently from the collaborative filtering approach, it uses the context or the current activity as an essential part of the approach. Billsus and Pazzani developed an agent called NewsDude presenting news (News) to individual users. Based on users' feedback, the system adjusts automatically to their preferences. The system has two separate models: one representing users with short-term interests and the other representing users with long-term interests. The short-term model learns only from the latest observations. If the short-term model cannot classify the situation (the story) in full then it proceeds to

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the long term model. The purpose of the long term model models general preferences of users for news (News) and calculates predictions for news that cannot be categorized by short-term model. Koychev and Schwab present a method for gradual degradation of preference and choose the fastest way to adapt to the current user's interests, which turns it into a powerful tool. The change in consumer's preferences (it doesn't matter if it's done gradually or suddenly) is distributed over time.

Therefore, observations from the past (as well as preferences) may not be relevant for the current period, so the knowledge gained may be useless (out of date). Recommendation system consists of ELFI (Electronic Finding Information) which is a system of filtering based on content that provides information about the search results and STAGGER system which is a lifelong learning system (incremental) that follows dynamically the changes in the concepts by applying gradual oblivion. Kukar suggests that the many databases available for statistics, machine learning and data mining violates the assumption that the data used is a sample randomly chosen from a stationary distribution because they were collected along the months or years. They, being used as the basis for generating recommendations, determine inaccurate suggestions, sometimes radical changes, which may occur over time. He has reviewed several working techniques using Machine Learning and Data Mining through which he simulated the change in human preferences and evaluated them with linear functions and kernel functions.

On the other hand, systems with collaborative filtering suggest items for a specific user based upon information about the rating of all users. Collaborative filtering is successful in the present technology that can be used in recommendation systems in many areas: web pages, documents, news, movies, books, CDs, DVDs, etc. Some of the most representative sites of e-commerce are eBay.com, Amazon.com, CDNOW.com. Users need confidence in the recommendations. Many factors should be taken into consideration in order to increase the accuracy of these suggestions. In his work "A smart advisory service for e-commerce applications based upon intelligent agents" (2013). Hermann Krallmann and al. proposed a formalism of bases of knowledge aiming the customer needs for B2B and B2C.

The authors have made a descriptive representation needed for the products and services addressed to the clients. They used semantic network and ontologies for representing the knowledge in the view of automation of consulting for clients.

Silvana Gv Acair, Christian Seravols Tarres and Marcelo Royo-Vela (2007) also made a MAS recommendation which allows with greater efficiency a selection of the most relevant sources of information to make purchasing recommendations to consumers. They developed a rating system that could provide evidence concerning the relevance of such information or other marketing actions. In order to avoid an endless search in a lot of data available they should be previously classified for an indexing that would make them easy to find. The authors improved the searching and the analysis of information necessary for making recommendations using filter (CBF) Content-Based Filtering and Hybrid Filtering for precise, reliable recommendations. The authors developed a methodology that identifies, selects and integrates the information automatically in order to detect potential buyers for a particular product or service. To achieve this goal, set of intrinsic characteristics of sources of information are used such as: the last update, the frequency of interaction with clients, the diversity of the target groups, complete information about the quantitative attributes. They build a structure for the



assessment of sources of information and on the basis of their characteristics, define a set of equations with whom obtain a numerical value and mention the need to introduce in future some legislative issues.

Postolache F. use in SADU model implementation, intelligent agents trained in order to isolate, eventually to promote, certain decisions.

J. Bagby and t. Mullen analyzed the Uniform Commercial Code (UCC) and established links between rules of this commercial code and the structure of a legislative ontology. The authors have designed a conversion of an expert system concerning the legislation of the United States, which governs the sale of goods under Article II of the Uniform Commercial Code (UCC) in a knowledge-based system using the Web Ontology Language (OWL). It is observed that the term of legislative advice appeared in the field electronic commerce.

The Group's director of e-commerce: The Electronic Commerce Steering Group (ECSG) promotes the development and use of electronic commerce by creating legal, regulatory environments, of political reglementation in the Asia-Pacific Economic Cooperation (APEC) that are predictable, transparent and consistent since 1998. They exploit information and communication technologies to stimulate economic growth and social development. EGSC had been lined up since 2007 to the Committee for Trade and Investment in order to ensure a stronger concentration on aspects of trade and investment. The 21st meeting of EGSG from Hiroshima, Japan between 28 February-3 March 2010 put into action plans for both commercial confidentiality, as well as for the use of electronic certificates Pathfinder. These issues were joined in a seminar "The Establishment and Use of accountability Agents in the APEC Cross-Border Privacy Rules System" and reports from Indonesia, the Philippines and Vietnam which propose the introduction of good practice-based e-commerce at computerized level.

These APEC projects aim to use electronic solutions for cross-border trade, so that it is certain to be a fact in 2020. The areas covered by these projects include: certificates of origin, electronic invoicing, business requirements for data harmonization in a single window, best practices in computerized trading, archiving documents and electronic finance.

It is notable an appearance of these best practices combat abusive practices. Researchers are interested in this issue and will develop advisory systems in electronic commerce from the prism of consumer's protection. But with the advent of the recommendations from the e-commerce appeared the malicious counsels from agents with malevolent intentions. To ensure the integrity of management consulting, researchers are concerned about this issue and have developed recommendations of fuzzy type. The algorithms are inspired from human cognitive model. As a result of simulation of a divergence between the trader and advisor agent, the set of fuzzy decisions proved much better than other consecrated models. In fact, consulting is a type of communication and a particularly important issue for many web sites . A recommendation enables users to increase the accuracy of their decision or to reduce the effort required to make a decision. In several sites consumers seek advice before they make a purchase, and therefore the recommendations are a powerful tool for them. All these situations are possible only if the partners can have confidence in one another. As a result, they may delegate responsibilities and decisions to an appropriate person, thus improving the quality of online commercial markets. Despite of these things, lack of confidence in online commerce might make users

to stay away from technology. Although the importance of trust and reputation is obvious, transferring them in computer science is a challenge. Researchers in the fields of computer science, security, semantics or of online commerce, are still working on the transfer of these concepts for using them in computer-mediated transactions. Often, it is hard to evaluate how reliable are some partners, in computer mediated transactions, because the familiar style of interaction is still far from being modeled with great ease. In fact, the physical transactions and the traditional forms of communication such as gestures and facial expressions allow people to evaluate a much wider range of clues related to the trust that they can give other than using computer-mediated communication available at the moment.

Conclusion

We cannot hope that since the new technology of the Internet has been open to the world and began to be used for commercial purposes, the fraudulent behavior disappeared. However, the architecture and the structure of governance of the Internet are inspired from the assumption of well-intentioned participants. Organizations currently involved in activities on the internet are not entirely well intentioned because they are increasingly motivated by financial profit and personal gain, which can lead to an unethical behavior. Internet technology today makes us be un-prepared to control and sanction the increased number of users and of those who provide services with misconduct behavior. As a result, the optimism associated at first with the Internet turned from time to time into cynicism and into diminishing confidence in the internet as a reliable platform for creation of electronic markets and communities. As a consequence of this development, confidence in open computer networks receives special attention in the academic community and the Internet industry.

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