Customer Data Mining from the 4GT Technology Joint Stock Company E-Commerce Website to Support Management Decisions

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***Abstract*—This undergraduate thesis addresses customer-data mining for the 4GT e-commerce website. The student studied the customer-data problem and analyzed an Apriori-based association-rule approach. The report sets out the proposed data-processing and website-analysis workflow. Customer transactions may reveal recurring item combinations, but a useful association rule depends on the input data and thresholds. The documented contribution is the case analysis and the selected software or analytical work described in the manuscript. The report does not provide a reproducible accuracy study or evidence that management decisions improved. Its practical value can be assessed further through the specific records and users involved in this task.**

***Index Terms*—data mining, association rules, e-commerce, decision support, Apriori algorithm, customer data**

I. Introduction

Customer transactions may reveal recurring item combinations, but a useful association rule depends on the input data and thresholds. The organization in this thesis faced a concrete need concerning customer-data mining for the 4GT e-commerce website. The student used that setting to define a manageable graduation project and to select the records and functions most relevant to the case. The work aims to organize the process and make its main steps easier to inspect. The present account follows the scope stated in the manuscript rather than assuming that the intended organizational benefits were measured [1]. Related earlier ICTU undergraduate theses provide context for this English summary [9], [11]. Published books on the methods and subject of this project provide context for this English summary [10].

II. Methods

The student studied the customer-data problem and analyzed an Apriori-based association-rule approach. The case study begins with the relevant workflow and identifies the information that the proposed function must receive, retain, or produce. The manuscript then describes the design or implementation choices for the selected tasks. Its diagrams, interface descriptions, or program sections provide the basis for this account. No additional test population, dataset, or deployment procedure is attributed to the work when it is absent from the thesis [1].

Supervisor: Phan Tuấn Anh.

III. Results

The report sets out the proposed data-processing and website-analysis workflow. These outputs show which parts of the stated task were analyzed or implemented for this case. The manuscript supports describing the selected functions and their relationship to the organization's workflow. It does not provide a reproducible accuracy study or evidence that management decisions improved. The result is therefore a student system or analysis with a defined scope, while broader operating effects remain for a later evaluation [1].

IV. Discussion

Customer transactions may reveal recurring item combinations, but a useful association rule depends on the input data and thresholds. The reported output addresses part of that problem by organizing the selected data and functions. The report does not provide a reproducible accuracy study or evidence that management decisions improved. A reproducible dataset and rule-quality criteria would be needed to assess decision support. Those checks would clarify whether the design works beyond the examples and conditions described in the graduation thesis. The project remains useful as a documented case of requirements analysis and a corresponding software or analytical response [1].

V. Conclusion

The student studied the customer-data problem and analyzed an Apriori-based association-rule approach, and the report sets out the proposed data-processing and website-analysis workflow. This establishes a case-specific output for customer-data mining for the 4GT e-commerce website. The manuscript does not provide a reproducible accuracy study or evidence that management decisions improved. A reproducible dataset and rule-quality criteria would be needed to assess decision support. Accordingly, claims of routine adoption or measured organizational improvement remain outside the result demonstrated here [1].

References

[1] Nguyễn Chí Thanh, "Customer Data Mining from the 4GT Technology Joint Stock Company E-Commerce Website to Support Management Decisions," internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2014.

[2] Trần Văn Hòe (2006), Giáo Trình Thương mại điện tử căn bản, NXB Đại Học Kinh Tế Quốc Dân
[3] Phạm Minh Tuấn (2005), Giáo Trình Phân tích thiết kế hệ thống thông tin quản lý, NXB Hà Nội
[4] Nguyễn Nhật Quang (2011), Giáo trình Khai phá dữ liệu, NXB Đại Học Bách Khoa Hà Nội
[5] Trần Công Nghiệp (2008), Bài giảng Thương mại điện tử, NXB Đại Học Kinh tế và quản trị kinh doanh
[6] Phạm Thế Quế (2009), Bài giảng Cơ sở dữ liệu phân tán, NXB Học viện công nghệ bưu chính viễn thông
[7] Đỗ Bá Lâm (2010), Bài giảng Thiết kế web, NXB Đại học Bách khoa Hà Nội
[8] Chu Thị Hường (2010), Bài giảng Hệ quản trị cơ sở dữ liệu, NXB Đại Học kỹ thuật Lê Quý Đôn
[9] ICTU Student 160, ”Data Mining,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2010.
[10] Jean-Marc Adamo, ”Data Mining for Association Rules and Sequential Patterns,” Springer New York, 2001. ISBN 9781461265115. DOI: 10.1007/978-1-4613-0085-4.
[11] ICTU Student 10, ”Data Mining: An Overview and Application of Association Rule Mining,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2007.