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Recommendation in the Age of Digital Communication: a Proposal for Business, Education, Social, Private Life Recommendation Scale (BESP-L) for Human Resources Communication

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ABSTRACT

Purpose - Communication is an important aspect of recommendation practices in all industries across the world. This study explores the communication components of recommendation culture in the digital age.

Aim - This study pursues the possibility of a digital recommendation system suitable for the business organizations.

Methodology - A sample of N=1002 is surveyed in order to analyze how people evaluate certain practices of recommendation in Turkey. Sampling and surveying procedures are conducted on a blockchain-based system. Additionally, decision tree analysis is applied to the data.

Findings - It is found that duration of acquaintance with the recommender is the most essential element for the credibility of the letters of recommendation, while recommendation from social media sources is found to be the least credible. The importance of the recommendation from a person acquainted in the business life domain is perceived to be the highest. The study also revealed that credibility of references that are printed with original signature is not much higher than the online references that are digitally signed. Furthermore, the credibility of references over distance connection tools are even higher than the references through oral communication. These findings suggest that a digital recommendation culture is emerging in parallel with the rapid development of digital communication tools in organizations.

Limitations of the study - The study is a cross-sectional study, and based on data from only one country.

Practical implications - The paper suggests a recommendation system based on Business, Education, Social, Private Life Recommendation Scale (BESP-L) which is developed from a decision tree analysis.

Originality/Value - It is a proposal in the pursuit of an advanced HR systems in the digital age.

KEY WORDS

recommendation, reference, online recommendation; online recruitment systems, digital communication

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1 INTRODUCTION

Recommendation is a key factor in many social actions such as purchasing goods services, subscribing to an idea, choosing a physician, visiting a touristic spot etc. Recommendation, especially in the form of letters of reference/recommendation, is also central to recruitment decisions. Solid and robust recommendation information is vital for all human resources departments' selection procedures. Yet, recommendation information is produced through a complex system of social communication, where culture plays a critical role. Therefore, the cultural communication dynamics are very important in understanding how a solid and robust recommendation information can be systematically produced. It is necessary to examine the cultural communication aspects of recommendation information carefully. Only then, it is possible to prevent recommendation mis and/or disinformation and develop a solid and robust recommendation information system.

Information is the initial stage of all communicative actions. The seminal work of Shannon and Weaver (1948) is the first detailed study on the effectiveness of information exchange and the factors involved therein. The production of information is based on data from human and non-human interactions. However, all these interactions take place in social environments where cultural values are produced and shared.

In short, all communication is cultural (LeBaron, 2003). This implies that communication exists in a cultural context. A successful communication process is creating meanings that are commonly shared by the participants. On the other hand, creating meaning is intensely a cultural phenomenon. In addition, culture varies by time and space, making the cultural communication factors of recommendation information even more complex. Cultural communication is defined by Philipsen (1987) as the process by which a code is realized and negotiated in a communal conversation. These communal conversations have culturally distinctive means and meanings of communicative conduct (Philipsen, 2003). Thus, the study of communication as culture (Carey, 2009) is especially fruitful in understanding the culture of recommendation in different social settings. This approach is particularly important in recent digital communication practices. The present age of digital communication has produced a special digital techno-culture that differs from conventional culture. On the other hand, digital communication and media creates new cultural forms while it concurrently interacts with the conventional communication and media systems. Therefore, it is necessary to examine the digital culture within the holistic context of the unified system. This obviously requires a vigorous techno-cultural perspective for our subject study. The study of techno-culture is "an inquiry into the relationship between culture and technology and the expression of that relationship in patterns of social life, economic structures, politics, art, literature and popular culture" (Shaw, 2008, p. 4). Consequently, we must also deal with the digital cultural factors regarding contemporary recommendation systems.

2 THEORETICAL BACKGROUND

The use of communicative languages, in the form of human articulate speech by the human beings is estimated to evolve 1.6 million and 400,000 years ago with homo erectus (Fischer, 1999). Communicative writing in the form of graphic symbols appeared six thousand years ago in the Middle East (Fischer, 2001). Since then, as attested by the Sumerian proverb "A scribe whose hand matches the mouth, he is indeed a scribe" (Green, 1981), the written language is acknowledged as an assured form of communication. This is possibly why the most common and well-known forms of recommendation in the business world are the written letters of recommendation and reference. The business management literature in general and human resources literature in particular have covered the letters of recommendation/reference extensively. Letters of recommendation are examined

from different perspectives in order to reveal their constituting characteristics. Obviously, letters of recommendations have social, psychological and even political implications. For example, based on the examination of two cases from US universities, Doughty (2018) discussed the political meanings of recommendation and suggested that the obligations of professionalism may not be applicable to university professors who refuse to write letters of recommendations because of their political views. Colarelli, Hechanova-Alampay and Canali (2002) discuss the letters of recommendation from an evolutionary psychological perspective and propose that the strength of the cooperative relationship between recommenders and applicants influenced the favorability of the letters. Based on the examination of 532 letters of recommendation written for 169 applicants, they found that male recommenders wrote more favorable letters for female than male applicants.

Scholars also studied the practical importance and impact of the letters of recommendations in business. Information asymmetry is one of the most important recruiting problems where letters of recommendation can usefully apply. For example, in order to remedy the information asymmetries about workers' skills in labor markets, Ioannides and Loury (2004) suggested that hiring firms can reduce the asymmetries for low-skill and entry-level jobs through reference letters from previous employers. Larkin and Marco (2001) draw our attention to the ethical dimension of the letters of recommendation in terms of evaluation, selection, and promotion of candidates in academia. They propose that proper letters should be authentic, honest, explicit, balanced, confidential, of appropriate detail and length technically clear. Recently, Jn Pierre, Weber, and Abramowicz's (2021) study examined how 62 sampled experts evaluated letters of recommendation in accredited anesthesiology residency programs in the US. Letters of recommendation are reported as more important in granting an interview than in making the rank list, and narrative letters are more preferred than the standard ones.

The objectivity of letters of recommendation is another important issue in the scholarly literature. In their two staged research Grote, Robiner and Haut (2001) revealed an interesting finding. 175 psychologists who had recently written letters of recommendation claimed that they would disclose information about negative characteristics; and in contrast, 116 psychologists who had recently read letters of recommendation indicated that negative characteristics are infrequently described in letters of recommendation. The functions of letters of recommendation may differ by fields of social life. For example, based on their 30-item survey with 575 professionals, Nicklin and Roch (2009) found that academic professionals use letters of recommendation more and placing more weight on their contents than applied professionals. They also reported that more weight is placed on letters written by someone the reader knows or from a prestigious institution or organization.

Gender differences are also important for the letters of recommendation, and the scholarship has paid due attention to this issue. In their research on 78 letters of recommendation for a position in a US university Bell, Cole, and Floge (1992) revealed that women tend to discuss the qualifications of female candidates more frequently and in more detail than those of male candidates, and that women are much more likely than men to describe collegiality than intellect. Based on the discourse analyses of 312 letters of recommendation written for US medical students, Trix and Psenka (2003) found that letters written for women candidates have more doubt raising elements, and that women are labeled as "teacher/student" more frequently while men are labeled as "researcher/professional". However, recent studies report no gender bias in letters of recommendation for residency applications in medical academia (for example: French et al., 2019; Lipa et al., 2021).

Our review of this ample literature reveals that many factors have impact on the recommendation culture which may differ from sector to sector. However, most of these studies lacked large sample sizes to represent different sectors of business world. Thus, it is important to study the major determinants effecting the value of recommendation in a large sample size. In this respect, we hope that our large sample size research will add to the literature on recommendation. When the human

life is considered as a whole, we can distinguish four important phases that impact our references and feedbacks. These phases are education, work (business), social and private life. The purpose of our research is to investigate the effects of these life phases in producing positive references and feedbacks. This research could be considered as an initial step for developing Business, Education, Social, Private Life Recommendation Scale (BESP-L). Therefore, we concentrate on these four phases in terms of their effects on the recommendation culture. Our first research question is designed to address this investigation:

Research Question 1: What are the major factors impacting the value of recommendation?

On the other hand, technology is another determining factor for the recommendation culture. There are plenty of studies on the impacts of technology on the recommendation culture and practice. In his review of research into applicant and recruiter reactions to new technology in employee selection Anderson (2003) groups the scholarship under three main themes: Applicant preferences and reactions (for example: Maher and Silverman, 2002; Straus, Miles and Levesque, 2001; Silvester and Anderson, 2003), equivalence of traditional forms of sourcing applications against new technology sources (for example: (Breaugh and Starke, 2000; Dineen, Ash and Noe, 2002), and adverse impacts of new technologies (for example: Sharf, 2000; Bartram, 2001). Recent digital techno-culture obviously have certain impacts on the culture of recommendation. We observe that today most organizations are digitalized in their structures and practices (Štaffenová & Kucharčíková, 2021). Additionally, an examination of the recent literature by Kusý & Varečková (2021) shows that even digital sophisticated technologies such as artificial intelligence (AI) are currently being implemented as tools for HRM in business organizations. Thus, it is imperative that further research is needed for the present status of the digital forms of recommendation. Our second research question is about these digitalization impacts on the value of the letters of recommendation:

Research Question 2: How digital technologies add value to the recommendation culture?

3 METHODOLOGY

We applied a web-based questionnaire to a sample of 1002 participants. The socio-demographic characteristics of the sample are shown in Table 1. The questionnaire is partly inspired from Nicklin and Roch's (2009) work, and consisted of 32 items in total. The first 5 items are about socio-demographic characteristics of the participants. Items 6 to 29 are about several factors regarding the recommendation culture, and the last 3 items are about the digital recommendation. All recommendation items are designed as a Likert-like scale, 1 designating "totally unimportant" and 5 "totally important". The web-based questionnaire is applied to the sample in April 2021, following the satisfactory results from a pilot study.

Both sampling and surveying procedures of our research are conducted on a blockchain-based system. Blockchain is the technology powering an open, distributed public ledger recording all the transactions in a secure and verifiable way. Apart from well-known and widespread crypto currency applications, blockchain is also used for many different sectors such as auditing and accounting systems (Liu, Wu and Xu, 2019); copyrighted music sampling verifications (Massagli, 2018); and more recently, safe vaccine supply and supervision (Yong et al., 2020); smart tourism destinations (Tyan, Yagüe and Guevara-Plaza, 2020) and, food traceability and security (Yi et al., 2021). Blockchain technology can also be used to improve research quality in terms of traceability, openness, collaboration and ethics (Benchoufi and Ravaud, 2017; Porsdam Mann et al., 2020). Likewise, as a decentralized database system, blockchain can be useful for advancing security and privacy of data collection. For example, Wong, Bhattacharya and Butte (2019), has developed a prototype concerning the application of blockchain for improving clinical trial data management that could bolster trust in the clinical research process. Our data is collected on a blockchain controlled web-based surveying tool. It

provided an improved control over the security, privacy and the authenticity of the collected data from the sampled participants. This data gathering tool guarantees a robust solution to the two most critical problems of online surveys: the anonymity of the user ID, and the user being a real person. The tool can be accessed from mobile phones as well. The sampled users earn digital tokens offered by the block-chain system. The sampling technique can be labelled as convenience sampling, controlled for certain characteristics of the sample.

Table 1. Socio-demographic distribution of survey participants (N=1002)

Gender	n	Education level	n	Employment	n	Age	n
Male	798	Elementary	77	Professionals	172	Young (<30)	512
Female	204	High school	314	Managers	93	Middle-Aged (31-49)	429
		Bachelors	505	Office and sales services	158	Senior (50+)	39
		MA/MS	91	Unemployed	393	Mean Age	31.39
		PhD	15	Others	55		

Source: own illustration

4 RESULTS

Cronbach's Alpha coefficient for all 27 recommendation items is calculated as 0.935, which indicates a high level of scale reliability. The mean and standard deviation values of the responses to all items are given in Table 2 (higher mean values indicate more positive perceptions). All calculations are made by excluding the missing values. The mean of the mean values of all items is 3.879. This indicates that participants' overall evaluation of recommendation is positive in general. As can be seen from the Table 2 the highest mean value (m=4.231; SD=0,87) is about the recommendation from persons from the professional life. On the other hand, the lowest mean value (m=3.087; SD=1,25) is about the recommendations from the persons known from the social media.

Table 2. The mean values of recommendation from different domains

The value of recommendation by a person from:	Mean	Standard Deviation
Educational Life	4.106	.9198
Professional Life	4.231	.8723
Social Life	3.980	.9842
Private Life	4,068	.9932
Primary and high school education	3.628	1.1229
University education	3,879	1.0273
Professional courses, seminars etc.	3.944	1.0236
Previous work places	4.012	.9984
Present work place	4.062	.9936
Customers	3.998	.9450
NGOs	3.727	1.0159
Journalists, politicians	3.858	1.0587

Followers from social media	3.087	1.2593
Followers from professional social media platforms	3.342	1.1654
Spouses	4.126	1.0756
Girl/boy friends	4.028	1.0583
Relatives	3.977	1.0786
Neighbors	3.570	1.1525

Source: own illustration

We also investigated the effects of the duration of the acquaintance. The value of a recommendation from any person who is known for a certain duration (four levels of duration levels were investigated: less than 1 years, 1-5 years, 5-10 years, and more than 10 years) was asked. The mean values increased by the duration of the acquaintance as 3.342 (SD=1.17) for less than a year; 3.810 (SD=0.99) for 1-5 years; 4.108 (SD=0.96) for 5-10 years and 4.364 (SD=0.87) for more than 10 years. This indicates that the longer the duration of acquaintance, the higher the perceived value of the recommendation is. The calculated correlation between the duration of acquaintance levels and the perceived mean value of the recommendation is very high ($r=0.990$, $p<0.05$). In addressing to our Research Question 1, we can state that in addition to the duration of the acquaintance with the recommender, the source of the recommender is also important. Recommenders from the professional life, (including the previous and present work places) receive higher mean values of positive perception. From the private life domain, spouses and partners seem to receive quite high perception rates. Although educational life domain in general has relatively high value, primary and high school education and university education domains in particular have lower values. In short, we can claim that recommenders from business life with longer acquaintance duration have the highest positive perception values.

In addressing the Research Question 2, participants were asked to rate the value of importance from some digital forms of recommendation. As can be seen from the Table 3, oral recommendations have lower mean values of importance than print recommendations in general. Traditional oral (3.737; SD=1.00) and digital network oral recommendation (3.859; SD=0.99) receive lower values than print/written/ink signed (4.042; SD=0.95) and digital network written and signed (m=3.859; SD=0.99) recommendations. These figures indicate that the written and signed recommendations are more valuable than the oral recommendations. On the other hand, it is apparent that the perceived value for the digitally written/signed recommendations is almost the same as the perceived value of the print/written/ink signed recommendations. Besides, the perceived value for the oral recommendations in digital networks (m=3.859; SD=0.99) is slightly higher than that of the traditional oral recommendations (m=3.737; SD=1.00). Therefore, we may assert that the digital forms of recommendation are not evaluated less than the traditional forms of recommendation. This is particularly important in the age of rapid digitalization of the business. While the digital culture continues to penetrate into the organizations, it seems that its values have already been consolidated.

Table 3. The mean values of different recommendation forms

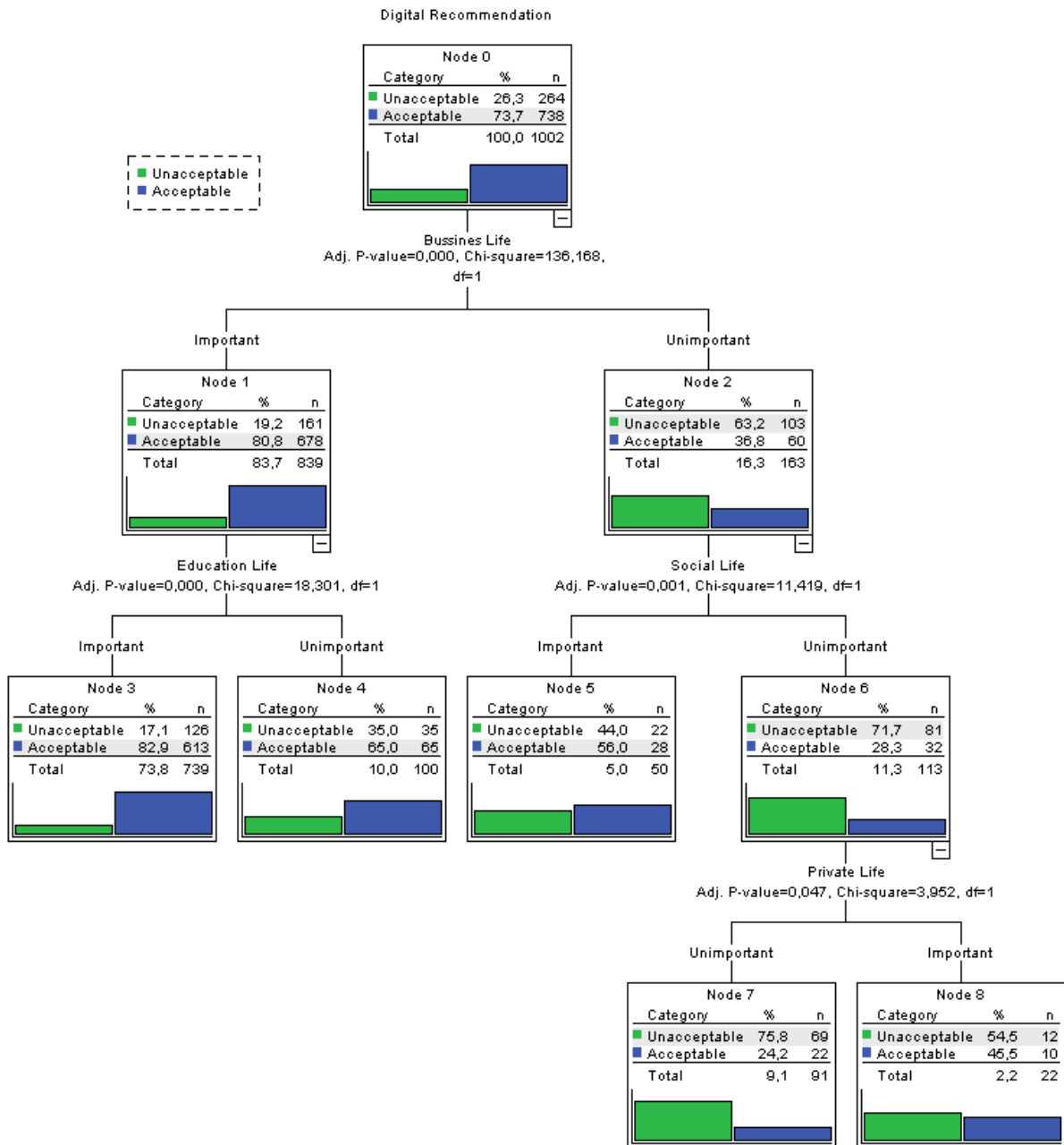
Form of recommendation	Mean	Standard Deviation
Oral	3.737	1.0017
Print/written/ink signed	4.042	.9504
Digitally written/signed	3.972	.9562
Oral reference in digital networks (Zoom, MS Teams etc.)	3.859	.9921

Source: own illustration

Finally, we analyzed our data in order to produce a decision tree for the digital recommendation preferences. The decision tree is a kind of data classification that can be used for business, scientific, and many other decision-making processes. A decision tree hierarchically partitions the input until it reaches a subspace associated with a class label (Lee, Liu & Jin, 2014). We rearranged the data to be used for the decision tree analysis. Points “1”, “2”, and “3” are regrouped as “1” to denote “unimportant”, and points “4” and “5” are regrouped as “2” to denote “important” in importance perception statements in our questionnaire data. For the decision tree analysis, CHAID algorithm is preferred. Graph 1 shows the decision tree with “digital recommendation” as dependent variable. The tree yielded 95.7% correct prediction for the acceptable digital recommendation option.

As can be seen from the Figure 1, the acceptability of digital recommendations is strongly related to the importance given to the value of recommendations from persons acquainted in business life. Recommendation from educational and social life have second level effect, while private life accounts for the third level. Therefore, the perceived importance of recommendations from business life domain is more related to the acceptance of digital recommendations. Educational and social life domains are partially related, and private life domain lesser. The correlation measures between the acceptance of digital recommendation and business ($r=0.409$, $p<0.01$), educational ($r=0.363$, $p<0.01$), social ($r=0.279$, $p<0.01$), and private ($r=0.242$, $p<0.01$) life domain also indicate this hierarchy which needs to be taken into account when developing a prospective BESE-L scale.

Figure 1. Decision tree with digital recommendation as the dependent variable



5 DISCUSSION

Letters of recommendation are among the most common tools of recruitment processes in businesses. However, research on the measurement of predictive validity of letters of recommendation is rather limited (Chamorro-Premuzic & Furnham, 2010; McCarthy & Goffin, 2001). A meta-analysis by Kuncel, Kochevar and Ones (2014) revealed that predictive validity of letters of recommendation, in their current form, is not higher than other predictors. In the literature, there are some suggestions in order to increase the predictive validity of letters of recommendation. For instance, McCarthy and Goffin (2001) suggest an improved standardized form of letter of recommendation with Relative Percentile Method (RPM) rating format. Chamorro-Premuzic and Furnham (2010) summarize that 'forced-choice' items, percentile scoring, referee anonymity and using key-words may increase

the predictive validity of letters of recommendation. However, these suggestions are for the improving the conventional forms of the letters of recommendation, and in the digital age, businesses will require new paradigms and approaches within a new digital techno-cultural environment. Our paper is a modest effort towards to a tool that is also appropriate in digital techno-cultural environment.

As the results indicate, the value of digital letters of recommendation is not much lower than the conventionally print/written and ink signed letters of recommendation. Digital documents are becoming increasingly abundant in businesses that are employing new digital systems more efficiently. However, it can be said that in the countries such as Turkey, businesses are still in the period of transition from conventional to digital. Therefore, hesitations against the digital letters of recommendation will probably lessen by time, and future generations will be familiar with more digital forms of letters of recommendation. Obviously, developing the proposed BESP-L scale in this paper require further research that improves its validity and reliability in prospective digital techno-culture environment of businesses.

6 CONCLUDING REMARKS

This paper aimed to investigate the main determinants of the recommendation culture that are also effective in new digital techno-cultural business environments. Data is collected from 1002 participants who were asked to evaluate the importance of the recommendation from the persons acquainted in business, educational, social and private life domains. The findings could be considered as an initial step for developing a prospective BESP-L Recommendation Scale. Our sampling and surveying procedures are conducted on a blockchain-based system. The duration of acquaintance with the recommender is found to be the most important element for the credibility of the letters of recommendation. The importance of the recommendation from a person acquainted in the business life domain is perceived to be the highest. The recommendations from the persons in educational, social and private life domains were also perceived as valuable. The credibility of references that are printed with original signature is not perceived much higher than the online references that are digitally signed. Therefore, it is possible to assert that properly signed letters of recommendation, either digital or printed, are definitely valuable. On the other hand, the decision tree analysis revealed that the acceptance of digital recommendation is mainly related to the perceived importance of the recommendation from persons in business, educational social, and private life domains respectively. Consequently, it is quite reasonable to suggest that the digitalization of recommendation systems is inevitable for the near future. However, as suggested by Cameron & Quin, (2006), organizational cultural values changes over time, and for some organizations more time may still be needed for a vigorous digital recommendation culture.

There are at least two basic limitations to this study. Evidently, the findings reflect the recommendation culture of only one country, Turkey. It would be beneficial to have a comparative research design to comprise the global perspective. Additionally, instead of a cross-sectional study, a longitudinal research design could be more helpful for exploring the historical changes in recommendation culture. Furthermore, our study lacks the examination of the legal issues on digital recommendation culture. It is obvious that more businesses immerse in the newly emerging digital techno-culture, new legal issues will rouse concerning recommendation. Of course, these are reasonable suggestions for future research agenda. Nevertheless, we envisage that our study, with quite a large sample size, will also contribute to the literature on recommendation in digital age. We hope that our research findings may be beneficial to those who would like to develop a robust recommendation system for their businesses.

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