

Contents

Chapter	Page no.
1. Introduction	1
1.1 Trust and Reputation System	2
1.2 Reputation and trust definitions and information sources	3
1.3 Reputation Network Architectures	4
1.3.1 Centralised Reputation Systems	4
1.3.2 Distributed Reputation Systems	5
2. Back Ground of the Work	7
2.1 Existing approach for reputation computation	7
2.1.1 Simple Summation or Average of Ratings	7
2.1.2 Discrete Trust Models	7
2.1.3 Fuzzy Models	8
2.1.4 Flow Models	8
2.1.5 Bayesian Systems	8
2.1.6 Belief Models	9
2.2 Commercial and Live Reputation Systems	10
2.2.1 eBay's Feedback Forum	10
2.2.2 Expert Sites	10
2.2.3 Epinions	10
2.2.4 BizRate	11
2.2.5 Amazon	11
3. Related Work	13
3.1 Jie Zhang and Robin Cohen	13
3.2 Alfarez Abdul-Rahman and Stephen Hailes	14
3.2.1 Direct trust	15
3.2.2 Recommender Trust	15
3.2.3 Data Structures	15
3.2.3.1 Set Q	16
3.2.3.2 Set R	16
3.3.4 Evaluating Direct Trust	16
3.3.5 Evaluating Recommender Trust	17
3.3.6 Evaluating Semantic Distance	17
3.3.7 Evaluating a Recommendation	17
3.3.8 Updating Experiences	18

3.3.9	Combining Recommendations	18
3.3.10	Discussions	19
4	Proposed Model	20
4.1	Dirichlet Probability	21
A.	The Dirichlet Distribution	21
B.	A Priori Distribution for k Alternatives	22
4.2	Chernoff bound	23
4.3	The Model	24
4.3.1	Private reputation	25
4.3.2	Public Reputation	26
4.3.3	Calculation of Trustworthiness of recommender	27
4.3.4	Weight	27
4.3.5	To calculate expected trustworthiness of the seller	28
4.4	Proposed Algorithm	28
4.4.1	Algorithm	29
4.4.2	To calculate Private Reputation	29
4.4.3	To calculate Public reputation	30
5	Experimentation and Comparison	32
5.1	Experimental result	32
5.2	Comparison of performance	37
6.	Possible attack	38
7.	Conclusion and Future work	39
7.1	Conclusion	39
7.2	Future work	39
	References	40