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A Comparison between Engineering and Arts Faculty in Knowledge Sharing

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Abstract: ***The purpose of the present work is to portray the comparison of how knowledge is shared among engineering and arts faculty. The design and approach of the paper is basically conceptual. The concept of this paper is that it orchestrates perception of teachers in knowledge sharing orientation in Indian Engineering Systems and Arts Colleges. Research data was collected using questionnaire with items focusing on private and government engineering and arts institutions.***

Keywords: TPB, Knowledge Sharing, Knowledge Dissemination, Knowledge Management.

1. Introduction

We are in the knowledge era and organizations pertaining to knowledge, succeeded in the global information society. "To reap long term benefits, one has the need to continuously evaluate their data base for finding information with high validity and relevance value. Such information can subsequently be graded as knowledge". (Abdullah, et al 2008).

The foremost reason for the emergence of this period, is to unlock the barriers such as creating, disseminating, storing and presenting of knowledge among organizational members. Knowledge dissemination is considered as the weapon of knowledge management in producing competitive advantage. The paper focuses on knowledge oriented sharing in both technical and arts education.Many colleges are eager to provide the focused education that today's students crave and have moved in current decades closer to the career-focused assignment of wide-ranging universities and colleges. But some fear that this vogue(trend) may create a void that will have a negative effect on the higher education landscape.

2. Literature Review

Table 1: Findings

Year	Author	Findings
1996	Murmane and Cohen	KM integration is valid and time dependent. Feedback is rare here.
1996	Elmore	Articulates the critical Work processes and patterns in their organization
1999	Hendriks	Why Share Knowledge? The Influence of ICT on the Motivation for Knowledge Sharing" is seen
2001	Thorn	Data on how any given lesson or approach is working with different groups of students.
2001	Tomlinson	Differentiation of day to day instruction related to content, processes and assessments of the way students respond to that differentiation.
2001	McDermott R. and O'Dell C.,	"Overcoming Cultural Barriers to Sharing Knowledge",
2002	Spector	Storing and Managing information on instructional design and implementation to provide data that allows deeper analysis
2002	Berends et al	Feedback models are not common.
2002	Meenakshi, N.	"Knowledge Sharing in Schools",
2003	Mason	Individual education planning, curriculum evaluation and high stakes testing where state test data, curriculum objectives or educational goals are analysed in relation to student performance.
2003	Petrides and Nodine	Using of KM in mission building and strategic planning
2003	Sundari	"Teachers' Perceptions of Knowledge Sharing in Schools",
2005	Bain	KM is used in redesign of curriculum.
2005	Celio and Harvey	KM describes data on student achievement and student and faculty retention.]
2005	Hansen M.T., Mors M.L. and Lovas B	"Knowledge Sharing in Organizations: Multiple Networks, Multiple Phases
2005	Abdus Sattar Chaudhry,	"Knowledge sharing practices in Asian institutions: a multi-cultural perspective from Singapore",
2006	Gayathri doctor	"A Knowledge Management Tool for Academic Institutions: An Exploration of Learning Object Repositories (LOR)",
2007	Basu B. and Sengupta K	"Accessing Success Factors of Knowledge Management Initiatives of Academic Institutions – a Case of an Indian Business School", The Electronic Journal of Knowledge Management
2007	Keramati A. and Azadeh M. A.	"Exploring the Effects of Top Management's Commitment on Knowledge Management Success in Academic: A Case Study"
2007	Wah C. Y., Menkhoff T., Loh B. and Evers H. D.	"Social Capital and Knowledge Sharing in Knowledge-Based Organizations:
2008	Knowledge Sharing in Knowledge-Based Organizations:	Engineering education in a Global Context.
2009	Cheng M.Y, Ho J, S. Y. and Lau P. M.	"Knowledge Sharing in Academic Institutions: a Study of Multimedia University Malaysia"
2010	Kalaiselvi K. and Uma G.V.	"Integrated Knowledge Management Approach for Academic Improvement in Ubiquitous Computing",

2011	Vandna Sharma	A perceptual study on KM orientation in Indian private engineering institutions.
2013	Md. Shiful Islam	Knowledge sharing practices among doctoral students in JAIST to enhance research skills
2015	Nurfarahin Jasmine See Abdullah, Ismi Arif Ismail*, Khairuddin Idrus, Steven Eric Krauss, Abdul Lateef Abdullah	Relationship Between Organizational Antecedent And Knowledge Sharing. Practices Among Academician At Malaysia Research Universities.
2016	Muna D. Alsuraihi, Khalil Yaghi, Ayman Bassam Nassuora	Knowledge Sharing Practices Among Saudi Academics: A Case Study Of King Abdulaziz University
2016	Delio Ignacio Castaneda	Determinants of knowledge-sharing intention and knowledge-sharing behavior in a public organization
2017	Shahin Dezdar, (Amirkabir University of Technology, Tehran, Iran)	Knowledge sharing is very important in non-profit organizations such as academic institutes and universities. This research is a laudable attempt in this vital area to collaborate, refine and advance knowledge production endeavours in universities. The purpose of this study is to formulate a theoretical framework to investigate the non-monetary factors that encourage knowledge-sharing behaviour among postgraduate student

The above table brings out that comparison of Knowledge sharing activity in engineering and arts institutions is an important gap to be considered.

3. Data Collection

Data Collection is done through survey, which is explained in detail in previous papers.
The validity of the questionnaire has already been tested in the previous analyses, thus obtained Cronbach Alpha values are acceptable.

2.1.Construct Validity

Construct validity was evaluated by examining the factor loadings within the constructs by confirmatory factor analysis (CFA) as well as the correlation between constructs .

Convergent validity was checked by the factor loading values. No items were dropped due to factor analysis.

The Convergent and Discrimnant validity was also checked previously. Let's have a glance of it.

Convergent validity can be established by AVE(Average Variance Extracted). It should be above .5. Convergent validity was checked with factor loading values. No items were dropped. Discriminant validity can be established by comparing the square root of AVE with its corresponding construct correlation values. The construct correlation values should be less than the Square root of AVE values.(Fornell and Larcker 1981).

4. Research Gap

Little previous research has been conducted on this topic within universities, especially comparison between engineering and arts colleges with a touch of differentiation between private and government.

Lets have a clear idea on the types of knowledge that are being shared. According to Nonaka (1995), there are two types of knowledge.

Explicit knowledge, which can be disseminated and easily transferred and codified as manual.On the contrary tacit or implicit knowledge is found in the head of the person. Let's consider the research methods.

5. Research Methodology

The model is fit analyzing each dimension:

Table 1: Model fit with fit indices

	Eng	Arts	Arts Govt	Eng Govt	Pri Arts	Pri Eng
CMIN/DF	1.902	3.44	3.4	1.736	2.54	2.486
RMR	0.137	0.154	0.143	0.97	0.231	0.089
GFI	0.838	0.731	0.581	NIL	0.649	0.874
AGFI	0.79	0.652	0.457	NIL	0.545	0.837
PGFI	0.647	0.564	0.448	NIL	0.501	0.675
NFI	0.621	0.666	0.408	0.385	0.627	0.767
RFI	0.561	0.613	0.314	0.203	0.568	0.73
CFI	0.766	0.733	0.476	0.518	0.728	0.844
PNFI	0.536	0.575	0.352	0.297	0.541	0.662

- Arts
- Engineering
- Private arts
- Private engineering
- Government engineering
- Government arts

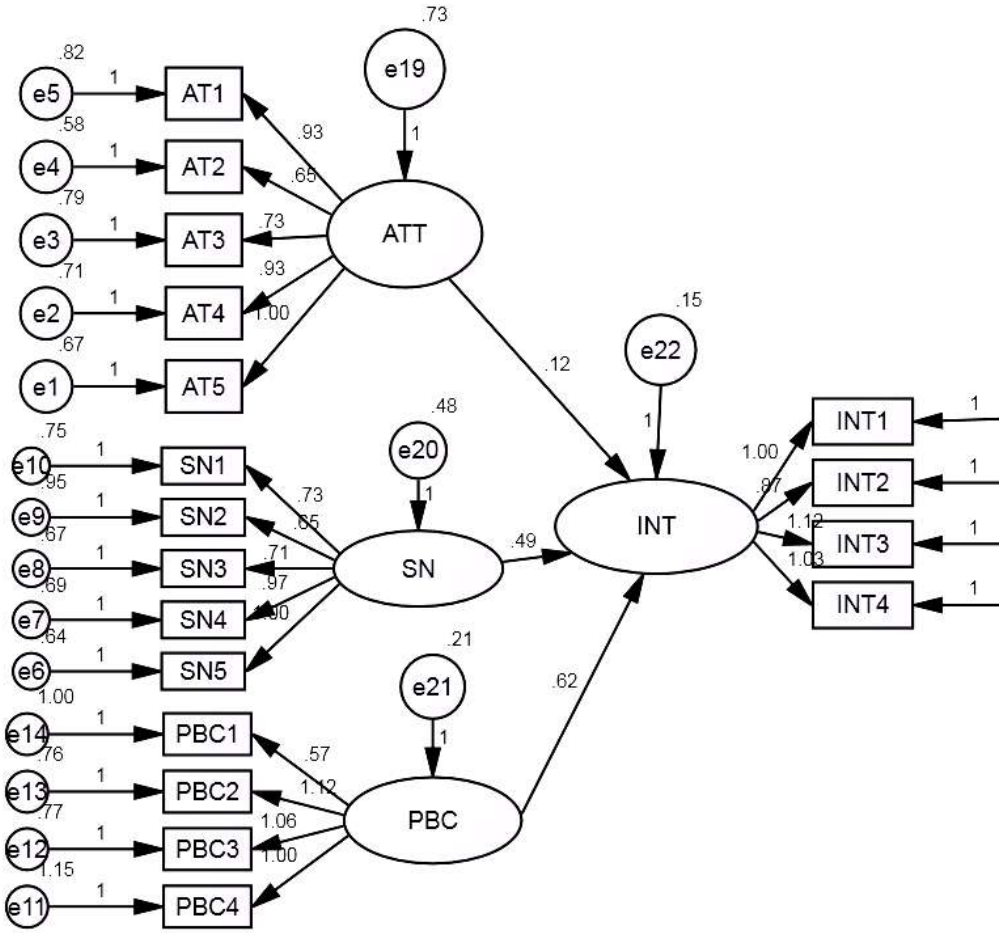

Figure 1: Engineering

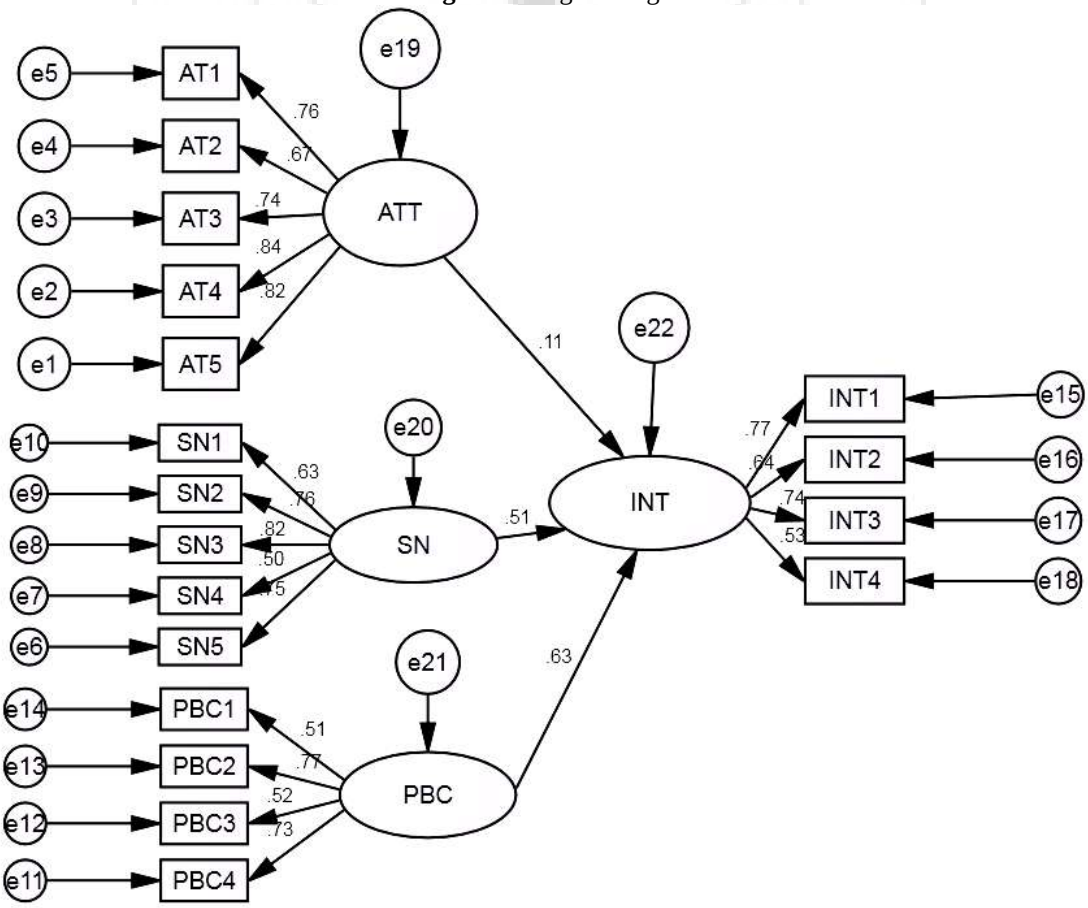

Figure 2: Arts

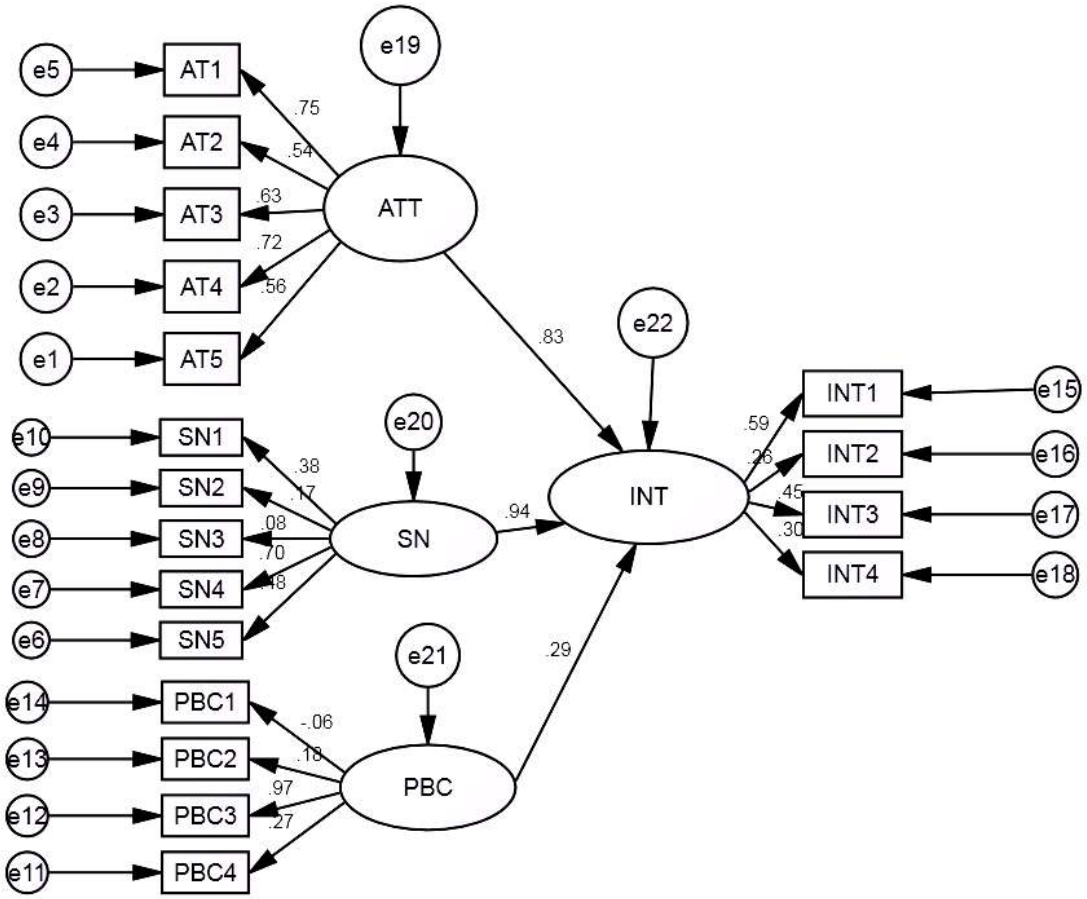

Figure 3: Engineerng Government

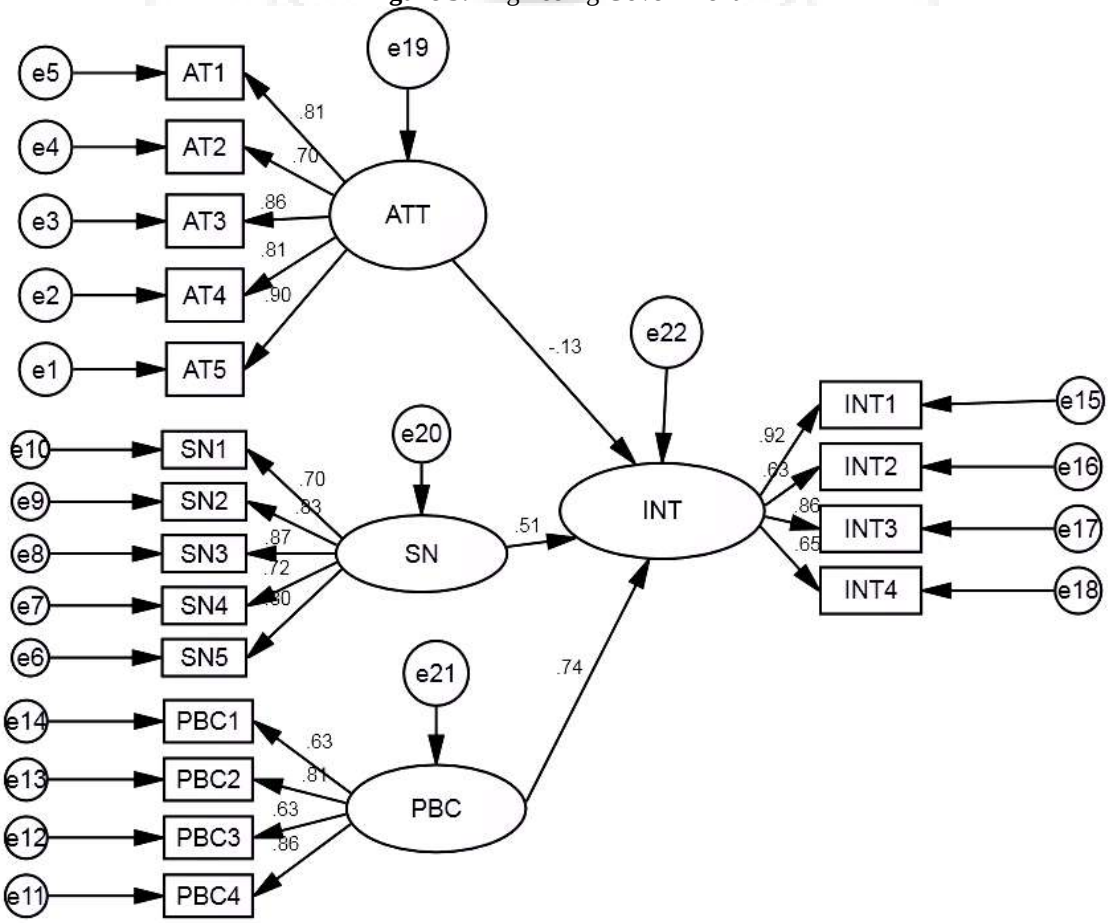

Figure 4: Arts Government

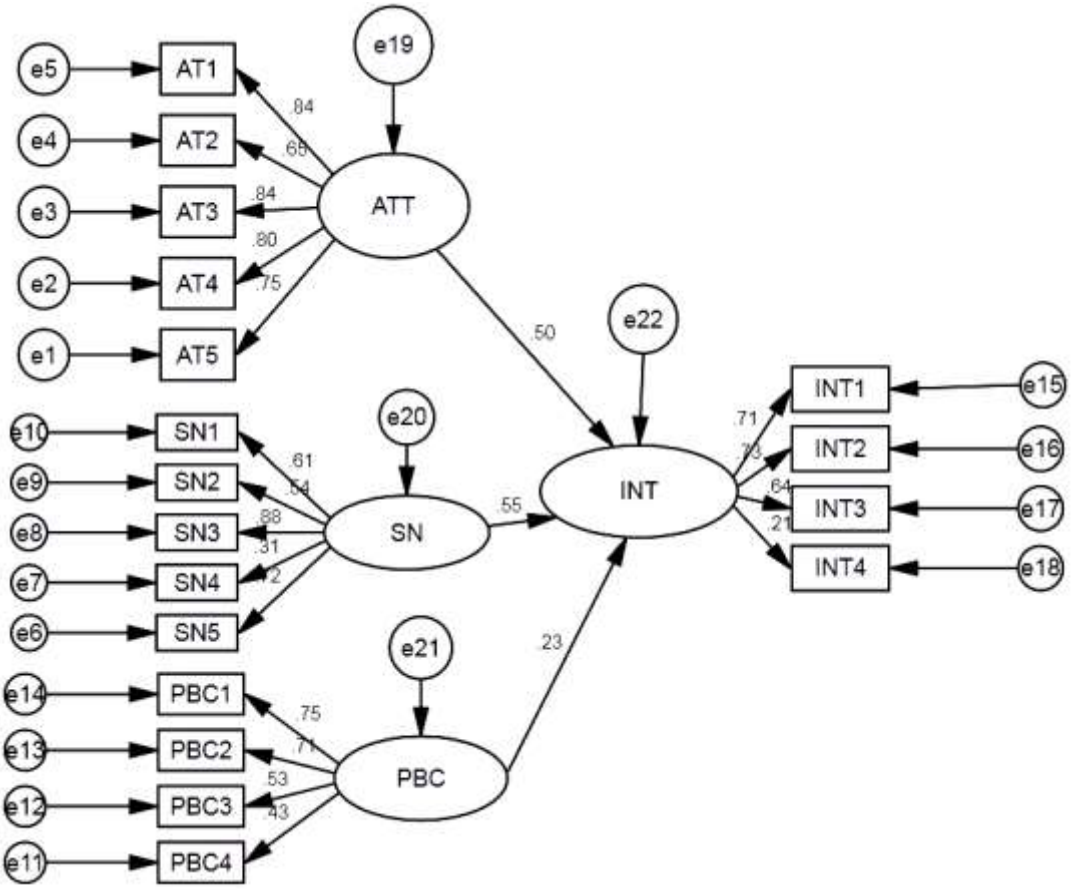

Figure 5: Arts private

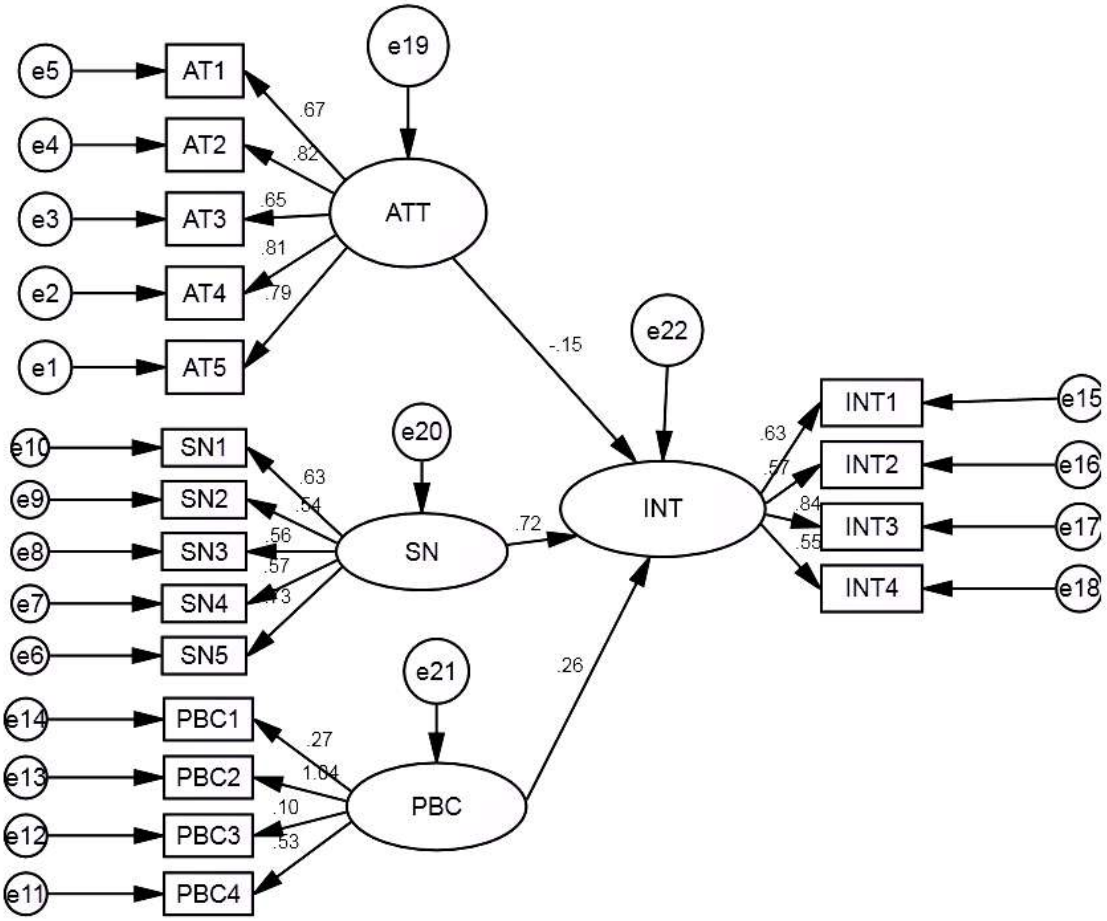

Figure 6: Engineering Private

Table 2: Factor Loadings for various dimensions

	Eng	Arts	Arts Govt	Eng Govt	Pri Arts	Pri Eng
AT1	0.93	0.76	0.81	0.75	0.84	0.67
AT2	0.65	0.67	0.70	0.54	0.65	0.82
AT3	0.73	0.74	0.86	0.63	0.84	0.65
AT4	0.93	0.84	0.81	0.72	0.80	0.81
AT5	1	0.82	0.90	0.56	0.75	0.79
SN1	0.73	0.63	0.70	0.38	0.61	0.63
SN2	0.65	0.76	0.83	0.17	0.54	0.54
SN3	0.71	0.82	0.87	0.08	0.88	0.56
SN4	0.97	0.50	0.72	0.70	0.31	0.57
SN5	1.00	0.45	0.60	0.48	0.42	0.73
PBC1	0.57	0.51	0.63	0.06	0.75	0.27
PBC2	1.12	0.77	0.87	0.16	0.71	1.04
PBC3	1.06	0.52	0.63	0.97	0.53	0.10
PBC4	1.00	0.73	0.86	0.27	0.43	0.53
INT1	1	0.77	0.72	0.59	0.71	0.63
INT2	0.97	0.64	0.63	0.38	0.73	0.57
INT3	1.12	0.74	0.86	0.46	0.64	0.84
INT4	0.70	0.81	0.40	0.60	0.80	0.73

Hypothesis:

H1: Attitude has a positive effect on intention to share knowledge in engineering institutions.
H2: Attitude has a positive effect on intention to share knowledge in Arts institutions.
H3: Attitude has a positive effect on intention to share knowledge in Private engineering institutions.
H4: Attitude has a positive effect on intention to share knowledge in Private Arts institutions.
H5: Attitude has a positive effect on intention to share knowledge in Government engineering institutions.
H6: Attitude has a positive effect on intention to share knowledge in Government Arts institutions.
H7: Subjective Norms has a positive effect on intention to share knowledge in academic institutions.
H8: Perceived Behavioral Control has a positive effect on intention to share knowledge in academic institution.

Path Coefficients and Conclusions

Table 3: Significance and strengths of individual paths

Path Coefficient	Engineering	Arts	Private Engineering	Private Arts	Government Engineering	Government Arts
AT → IN	0.12	0.11	-0.15	0.50	0.83	0.13
SN → IN	0.49	0.51	0.72	0.55	0.94	0.51
PBC → IN	0.62	0.63	0.26	0.23	0.29	0.74

The path coefficients and their respective significance levels are shown above.

The path coefficients from attitude to intention i.e Government Engineering must be given priority as it leads other dimensions with a score of 0.83, hence proving the like of Government Engineering staff to share knowledge is more.Subjective norms to behavioral intention were noteworthy for Private Engineering, hence social pressure is found in private engineering thus comrades and others contribute to sharing of knowledge,while perceived behavioral control scores 0.74, i.e. Government Arts specifies the about ease and the difficulty in sharing knowledge.

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