Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Analytical Study of Various Measures of Successful Innovation Management in IT Companies: -With Reference to Various IT Companies Located in Maharashtra State

Dr. Smita Rohidas Temgire, Prof. Ketaki Jayant Kulkarni, Dr. Rajesh Jha, Prof. Sonali Joshi, Dr. Ashutosh Gadekar

HOD and Associate Professor, PVG's College of Engineering and Technology and G K Pate (Wani) Institute of management, Pune

Assistant Professor PVG's College of Engineering and Technology and G K Pate (Wani) Institute of management, Pune

Associate professor, D Y Patil Institute of Management and Entrepreneur Development Pune

Assistant Professor, Trinity Institute of Management and Research, Pune

Director ISMS Sankalp Business School, Pune

ARTICLE INFO

Received: 18 Jan 2025

Revised: 27 Feb 2025

Accepted: 19 Mar 2025

ABSTRACT

Introduction

In today's increasingly competitive global business landscape, innovation has emerged as a key differentiator, enabling companies to gain a competitive edge in the market. As innovation is perceived from diverse angles, effective innovation management can have a profound impact on an organization, influencing various aspects of its operations.

Keywords: influencing, management, angles

Literature Review

New Research Streams which are relatively focusing on practices of innovation in a particular industry contexts is thus emerging (Kuester et al., 2013), and latest contributions include analysis of innovation patterns (e.g., Chang et al., 2012) and success factors (Kuester et al., 2013) also exploration of in detailed innovation practices in various service sectors which include experiential services(Zomerdijk and Voss, 2011) and non profit services (Barczak, Kahn, and Moss, 2006). Scholars have recently concentrated on identifying the characteristics of businesses that drive innovation and the factors that facilitate it (Fernandes et al., 2015; Ferreira et al., 2015; Hwang, 2004; Lemon and Sahota, 2004; Tidd and Bessant, 2009). Despite the growing body of research on innovation management, there is a notable lack of consensus on the metrics that define successful innovation management. This paper aims to contribute to the innovation management literature by exploring and addressing these metrics.

Objectives

To analyze various measures of successful Innovation management in IT companies

Research Methodology

The pertinent data for the paper was gathered from IT company employees located in Maharashtra State using a standardised questionnaire. 300 sample respondents were taken from different Maharashtra State districts by applying random sampling technique. The constructs utilised in the study are validated using exploratory factor analysis (EFA). 5-point Likert scale (responses ranging from totally disagree (1) to

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

totally agree (5)) measured the opinion of respondents regarding measures of successful innovation management in IT companies of Maharashtra State.

Data Analysis

Bartlett's Test and KMO Kaiser-Meyer-Olkin Sampling Adequacy Measure, 548 The approximate Chi-Square value for Bartlett's Test of Sphericity is 615,583 df 105 Sig.,000

		Improved_Productivity	Reduced_Cost	Increased_Competitiveness	Improved_Brand_Recognition	Improved_Value	New_Partnership_Relationship	Increased_Turnover	Improved_Market_Share	Economic_Value_Addition_Staff	Increased_New_Ideas	Improved_Quality_Ideas	Efficient_Idea_Implementation	Improved_Resultant_Success	Improved_RandD	ed_Cher_Sction
Anti-image Covariance	Improved_Productivity	,835	-,057	-,054	,090	-,072	,044	,068	,009	-,190	,057	-,032	,084	-,099	,158	,055
	Reduced_Cost	-,057	,783	-,017	-,028	-,023	,145	-,166	-,208	,089	-,016	,066	,002	-,048	-,165	-,090
	Increased_Competitiveness	-,054	-,017	,885	-,175	-,026	,067	,021	-,080	,006	-,119	-,016	-,039	,034	-,061	-,020
	Improved_Brand_Recognition	,090	-,028	-,175	,801	,049	,013	-,181	,047	,038	-,157	,006	,017	,043	,072	,045
	Improved_Value	-,072	-,023	-,026	,049	,837	-,186	-,029	,063	,113	,012	-,141	,014	,089	,010	,051
	New_Partnership_Relationship	,044	,145	,067	,013	-,186	,794	-,125	-,094	,040	-,016	-,076	-,141	,081	-,009	-,029
	Increased_Turnover	,068	-,166	,021	-,181	-,029	-,125	,827	,149	,002	,067	-,084	-,038	,018	,065	,010

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

	Improved_Market_Share	,009	-,208	-,080	,047	,063	-,094	,149	,782	-,092	,175	-,058	-,078	,046	,112	-,094
	Economic_Value_Addition_Staff	-,190	,089	,006	,038	,113	,040	,002	-,092	,605	-,197	-,014	-,034	,217	,014	-,142
	Increased_New_Ideas	,057	-,016	-,119	-,157	,012	-,016	,067	,175	-,197	,694	-,121	,070	,027	-,041	-,082
	Improved_Quality_Ideas	-,032	,066	-,016	,006	-,141	-,076	-,084	-,058	-,014	-,121	,826	-,163	,003	-,095	,116
	Efficient_Idea_Implementation	,084	,002	-,039	,017	,014	-,141	-,038	-,078	-,034	,070	-,163	,702	-,259	,015	-,092
	Improved_Resultant_Success	-,099	-,048	,034	,043	,089	,081	,018	,046	,217	,027	,003	-,259	,621	-,125	,036
	Improved_RandD	,158	-,1665	-,061	,072	,010	-,009	,065	,112	,014	-,041	-,095	,015	-,125	,754	-,197
	Increased_Customer_Satisfaction	,055	-,0900	-,020	,045	,051	-,029	,010	-,094	-,142	-,082	,116	-,092	,036	-,197	,758
Anti-image	Improved_Productivity	,459[a]	-,070	-,063	,110	-,086	,054	,082	,012	-,267	,075	-,038	,110	-,137	,199	,070
	Reduced_Cost	-,070	,493[a]	-,021	-,035	-,029	,184	-,207	-,265	,129	-,021	,082	,002	-,068	-,215	-,116

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

ge Correlation	Increased_Competitiveness	-,063	-,021	,595[a]	-,208	-,030	,080	,024	-,096	,008	-,151	-,019	-,049	,045	-,074	-,025
	Improved_Brand_Recognition	,110	-,035	-,208	,576[a]	,060	,017	-,223	,060	,054	-,211	,007	,022	,061	,092	,058
	Improved_Value	-,086	-,029	-,030	,060	,576[a]	-,228	-,035	,078	,158	,015	-,170	,018	,124	,012	,064
	New_Partnership_Relationship	,054	,184	,080	,017	-,228	,554[a]	-,155	-,119	,058	-,021	-,094	-,188	,115	-,012	-,037
	Increased_Turnover	,082	-,207	,024	-,223	-,035	-,155	,507[a]	,185	,003	,089	-,101	-,050	,025	,082	,012
	Improved_Market_Share	,012	-,265	-,096	,060	,078	-,119	,185	,421[a]	-,134	,238	-,073	-,105	,067	,145	-,122
	Economic_Value_Addition_Staff	-,267	,129	,008	,054	,158	,058	,003	-,134	,569[a]	-,305	-,019	-,053	,354	,021	-,210
	Increased_New_Ideas	,075	-,021	-,151	-,211	,015	-,021	,089	,238	-,305	,591[a]	-,160	,100	,041	-,056	-,114
	Improved_Quality_Ideas	-,038	,082	-,019	,007	-,170	-,094	-,101	-,073	-,019	-,160	,541[a]	-,214	,004	-,121	,147
	Efficient_Idea_Implementation	,110	,002	-,049	,022	,018	-,188	-,050	-,105	-,053	,100	-,214	,566[a]	-,391	,021	-,126

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Improved_Resultant_Success	-,137	-,068	,045	,061	,124	,115	,025	,067	,354	,041	,004	-,391	,571[a]	-,182	,053
Improved_RandD	,199	-,215	-,074	,092	,012	-,012	,082	,145	,021	-,056	-,121	,021	-,182	,540[a]	-,261
Increased_Customer_Satisfaction	,070	-,116	-,025	,058	,064	-,037	,012	-,122	-,210	-,114	,147	-,126	,053	-,261	,586[a]

a. Measures of sampling Adequacy(MSA)

Communalities

	Initial	Extraction
Improved_Productivity	1,000	,623
Reduced_Cost	1,000	,600
Increased_Competitiveness	1,000	,550
Improved_Brand_Recognition	1,000	,628
Improved_Value	1,000	,384
New_Partnership_Relationship	1,000	,656
Increased_Turnover	1,000	,570
Improved_Market_Share	1,000	,726
Economic_Value_Addition_Staff	1,000	,688
Increased_New_Ideas	1,000	,677
Improved_Quality_Ideas	1,000	,613
Efficient_Idea_Implementation	1,000	,573
Improved_Resultant_Success	1,000	,723
Improved_RandD	1,000	,630
Increased_Customer_Satisfaction	1,000	,663

Extraction Method: Principal Component Analysis.

Explanation of Total Variance

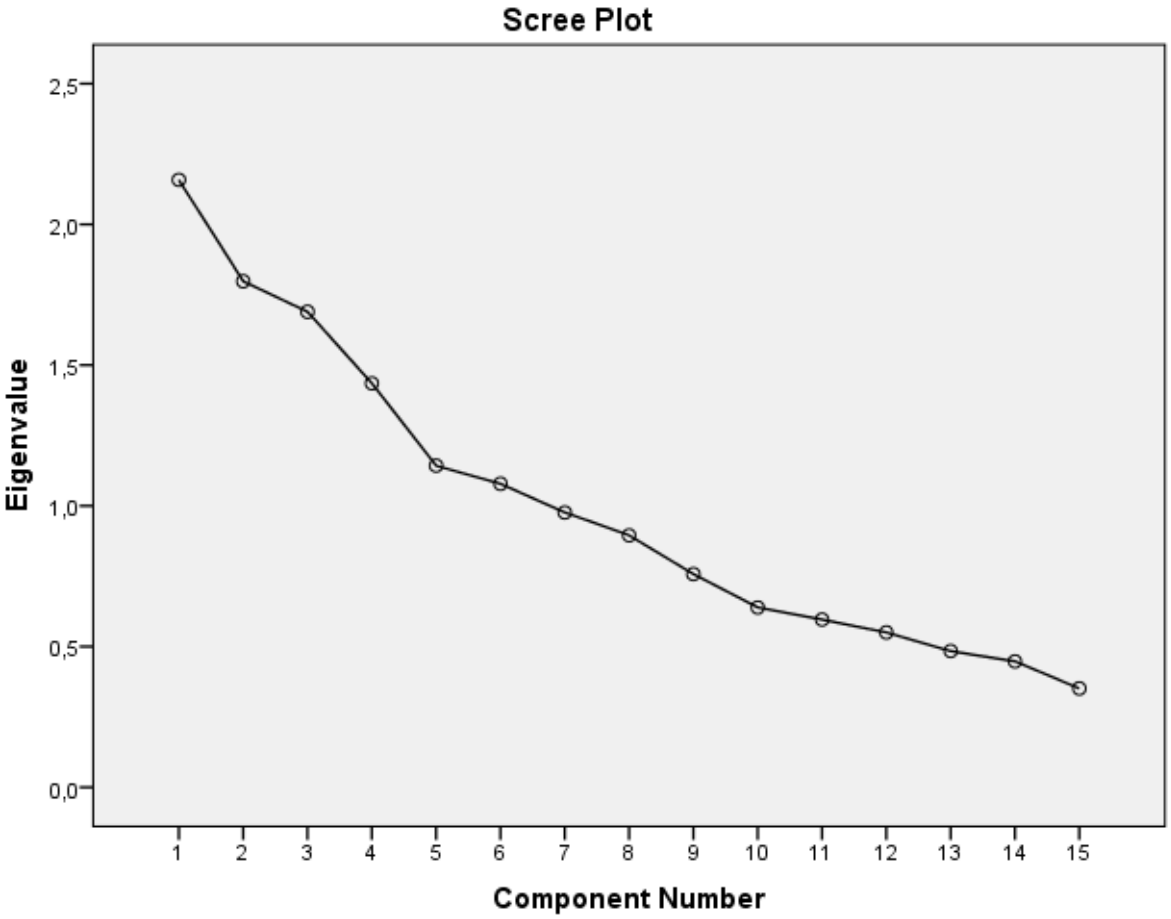
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,158	14,388	14,388	2,158	14,388	14,388	1,915	12,768	12,768
2	1,798	11,987	26,376	1,798	11,987	26,376	1,645	10,967	23,735
3	1,690	11,264	37,639	1,690	11,264	37,639	1,556	10,375	34,110
4	1,435	9,570	47,209	1,435	9,570	47,209	1,414	9,424	43,534
5	1,143	7,619	54,828	1,143	7,619	54,828	1,393	9,284	52,818
6	1,078	7,190	62,018	1,078	7,190	62,018	1,380	9,200	62,018
7	,977	6,510	68,528						
8	,895	5,969	74,497						

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

9	,757	5,050	79,547						
10	,639	4,260	83,807						
11	,596	3,973	87,780						
12	,550	3,668	91,448						
13	,484	3,226	94,675						
14	,447	2,983	97,658						
15	,351	2,342	100,000						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Components					
	1	2	3	4	5	6
Improved_Productivity	-,259	-,036	-,416	,211	,252	,522
Reduced_Cost	,240	,509	,179	-,131	,481	-,060
Increased_Competitiveness	-,252	,142	,423	-,026	,321	,428
Improved_Brand_Recognition	-,233	-,203	,531	-,376	,330	,005
Improved_Value	,204	-,519	,107	,240	,046	,042
New_Partnership_Relationship	,242	-,425	,238	,513	-,044	-,308
Increased_Turnover	,208	-,322	,425	-,183	,370	-,269
Improved_Market_Share	,051	,359	-,168	,541	,503	-,146
Economic_Value_Addition_Staff	-,709	,143	,058	,399	-,038	,004

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Increased_New_Ideas	-,553	,007	,524	-,002	-,251	,184
Improved_Quality_Ideas	,207	-,315	,385	,409	-,075	,387
Efficient_Idea_Implementation	,584	,131	,228	,362	,002	,178
Improved_Resultant_Success	,693	,252	-,034	-,178	-,092	,370
Improved_RandD	,267	,484	,417	-,046	-,383	,031
Increased_Customer_Satisfaction	-,160	,598	,304	,306	-,131	-,276

Extraction Method: Principal Component Analysis.
a. 6 components extracted.

Rotated Component Matrix[a]

	Components					
	1	2	3	4	5	6
Improved_Productivity	-,057	-,032	-,523	-,473	,301	,173
Reduced_Cost	,307	-,280	,197	,275	,195	,525
Increased_Competitiveness	-,034	-,014	,017	,098	,727	,102
Improved_Brand_Recognition	-,134	-,066	-,055	,619	,444	-,152
Improved_Value	,026	,550	-,230	,134	-,062	-,078
New_Partnership_Relationship	-,157	,709	,075	,187	-,281	,095
Increased_Turnover	,064	,203	-,057	,720	,028	,047
Improved_Market_Share	-,098	,060	-,014	-,133	-,030	,833
Economic_Value_Addition_Staff	-,708	-,018	,103	-,299	,267	,123
Increased_New_Ideas	-,437	,039	,306	,005	,518	-,352
Improved_Quality_Ideas	,121	,699	,031	-,070	,311	-,085
Efficient_Idea_Implementation	,459	,461	,265	-,082	,047	,265
Improved_Resultant_Success	,828	,007	,130	-,139	,027	,001
Improved_RandD	,295	-,025	,722	-,051	,110	-,081
Increased_Customer_Satisfaction	-,264	-,089	,682	-,098	,056	,328

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 12 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6
1	,851	,327	,112	,134	-,342	,149
2	,161	-,549	,593	-,296	,154	,458
3	-,060	,345	,559	,531	,518	-,121
4	-,312	,672	,120	-,437	-,050	,494
5	,030	-,096	-,484	,443	,296	,687
6	,386	,113	-,274	-,475	,708	-,192

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Exploratory Factor analysis is applied of collected data of 300 respondents for reducing the variables to few factors. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = .548) is greater than the rule of thumb 0.50 and Bartlett's test of sphericity is significant, which means that the included items in the scale do have correlation with each other. Thus factor analysis is found to be an approximate technique for construct validity. The variables which has loadings of less than 0.50 were excluded and dimensions with eigenvalues of more than 1 were retained.

Journal of Information Systems Engineering and Management
2025, 10(56s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Results and Discussion

For the present study 15 variables were analyzed to determine the employees' perception about measures of innovation management in IT companies. Principal component analysis varimax rotation was employed for extracting the factors for data reduction in factor analysis; extracting only those factors having eigenvalues greater than 1. Six extracted components explained 62.018% variance of the data. So these six components will explain the combination of all the variables. As illustrated in the scree plot above, the maximum number of extractable factors is clearly indicated. The scree plot exhibits a steep downward slope initially, followed by a gradual levelling off into a nearly horizontal line. The inflection point, where the curve begins to straighten, suggests the optimal number of factors to extract. As shown in the scree plot, six factors meet this criterion.

References

[1] Barczak, G, KB Kahn and R Moss (2006). An Exploratory Investigation of NPD Practices in Nonprofit Organizations. Journal of Product Innovation Management, 23, 512-27.
[2] Chang, Y-C, JD Linton and M-N Chen (2012). Service regime: An empirical analysis of innovation patterns in service firms. Technological Forecasting and Social Change, 79(9), 1569-1582.
[3] Fernandes, C., Ferreira, J. And Marques, C. (2015) 'Innovation management capabilities in rural and urban knowledge intensive business services: empirical evidence' , Service Business, Vol. 9, No. 2, pp. 233-256, DOI: 10.1007/s11628-013-0225-7
[4] Hwang, A. (2004) ' Integrating technology marketing and management innovation', Research-Technology Management, Vol. 47, No. 4, pp. 27-31
[5] Kuester, S, MC Schuhmacker, B Gast and Worgul (2013). Sectoral Heterogineity in New Service Development: An Exploratory Study of service Types and Success Factors. Journal of Product Innovation Management, 30(3), 533-544.
[6] Lemon, M. and Sahota, P.S.(2004) ' organizational culture as aknowledge repository for increased innovative capacity' , Technovation, Vol. 24, No. 6, pp. 483-498
[7] Tidd, J. and Bessant, J (2009) Managing Innovation – Integrating Technological, Market and Organizational change, John Wiley and Sons, England.
[8] Zomerdijk, LG and CA Voss(2011). NSD Processes and Practices in Experiential Services. Journal Product Innovation Management, 28, 63-80.