



Performance Measurement of Handmade Carpet Industry through Innovation, Empowerment and Exploration of Socio-Economic Potentiality

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Abstract¹⁻⁴

The sustainability and survival of any organization invariably depend on performance. Performance measurement and management in right and dynamic way are the essential steps for survival, which is sustainable – real success. The traditional practice involves conventional thinking about performance metrics measuring financial performances like Net Profit. Literature survey reveals there is a scope and need to go beyond such traditional measurement and management. Therefore scope for using innovative technique and empowerment has been explored for the socio-economic potential sector in particular.

The present work is in that direction to develop, exhibit and demonstrate a new technique called as Business Performance Evaluation Technique to come out with Performance Index. To start with, through survey a bank of key factor to success was created. Thereafter, Stake Holders in 360 degree manner had the option to group them in four perspectives [1.Continuation Desired, 2.Improvement Needed, 3.Experimentation Sought and 4.Challenges for Sustainability], then fixing of success indicator, weightage and target value for all factors. Validation was done involving 10 Stake Holders who could work out Performance Index for each perspective and in totality. Correlation amongst gap in % Net Profit & Performance Index in said four perspectives also studied and reported to assess the relevancy of the model.

Next exercise was carried out where in metrics have been grouped in another four perspectives [1. Financial, 2. Customer, 3. Learning & Growth and 4. International Business Process] as per balanced scorecard concept. Gap in Performance Index in said four perspectives found out and similar correlation with gap in % Net Profit studied and reported for the similar purpose as well to compare amongst two way grouped perspectives. The study and analysis reveals how the new concepts can supplement traditional financial measures and enable companies/ intending one to track performance, monitor progress and manage intangible assets needed for future growth. The reported research is: (i) an innovation in performance measurement as evident from applications of novel technique, (ii) an empowerment in management where grass root level Stake Holder like artisans could participate and (iii) an approach to explore a sector which is socio-economic potential.

Keywords: Balanced Scorecard; Empowerment; Four Perspectives; Future Growth; Innovation; Tracking Performance; Progress; Socio-Economic Potential; Sustainability.

1. Introduction⁵⁻⁸

The prime motive of any business organization is profit. The sustainability and survival depends on profitability, which invariably further depends on performance. The measurement of performance and its management is done by all the organizations but effectiveness of the same varies due to many reasons. However, traditional measures of financial performance, a conventional thinking as such predominate.

Financial measures like Net Profit (N.P) or Return on Investment (ROI) are generally followed which monitors current goals. In a scenario when business houses are required to draw long term business plan which is monitorable for goals not only in current level but in future context too. The plan which is right, dynamic and follow Plan-Do-Check-Act (P-D-C-A) cycle can yield desired success. Besides above the plan to include all metrics identified in a holistic manner by stakeholders in 360 degree covering grass root workforce respecting empowerment. Identification of perspectives and metrics or key factors including all relevant aspects was aimed at. Further steps to include corresponding success indicator with unit, weightage and target value in different levels of achievement were also intended.

Survey of literature reveals there is a scope and need to go beyond traditional measurement. The new and dynamic way measurement thus become imperative for business houses if real success to be achieved. Therefore business performance evaluation technique (BPET) which is new, novel and dynamic is conceived, experimented, exhibited and discussed in this paper. The present work is capable of providing direction to that effect. The technique permits to come out with a Gross Index termed as performance index (P.I) by means of integration of indices of four perspectives [Continuation Desired (CD), Improvement Needed (IN), Experimentation Sought (ES), Challenges for Sustainability (CS)]. The corresponding success indicator, unit, weightage and target (with value for different levels of achievement) were also put in place. Ten stakeholder's participation was considered for validation and value for performance index (P.I) could be obtained for a given period of time. Simultaneously, data of their performance measured in traditional/ financial term i.e. Turnover, gap in % Net Profit (N.P) were also recorded. The correlation-ship amongst gap in %N.P with gap in P.I in overall and in four perspectives (key factor groups) [CD (A), IN (B), ES (C), CS (D)] studied and reported.

In addition similar exercise of studying the correlation ship amongst gap in %N.P with gap in P.I in another regrouped perspectives [Financial (F), Customer (C), Learning & Growth (L&G), Internal Business Process (IBP)] as per Balanced Scorecard (BSC) technique also studied and reported.

The study aims at justifying the identification of key factors in four perspectives (key factor groups) [KFA, KFB, KFC& KFD] and relevancy to supplement the single financial measure in practice. Further regrouping of same key factors in another four perspectives as mentioned earlier and similar study enables organization to get an alternative to choose the way performance measurement and management to proceed. A comparative view amongst two exercises involving two different groups of perspective also could be presented.

It is evident that study and analytical findings reveals that concepts and exercise can effectively supplement traditional financial measures. Moreover, the new system model shown and technique of operation management enables companies/ intending one to track performance, monitor progress and manage intangible assets needed for future growth. The reported research is inclusive of (i) an innovation in performance measurement technique as evident from novelty with alternative technique, (ii) an empowerment in management where grass root level workforce like artisans engaged in handmade carpet industry also could participate, (iii) an approach by which factorization permits appropriate exploration of socio-economic potentiality. The system model could enhance the methodology to integrate interactive and participative management in democratic way deriving the desired benefit.

2. Research Methodology⁹⁻¹³

Application of Business Performance Evaluation Technique (BPET I) for 10 stakeholders and finding out the Performance Index (P.I) as a whole as well as in four perspectives individually (CD, IN, ES, CS). The gap in P.I vis-à-vis financial measure (gap in % N.P) plotted for establishing relationship.

Similar technique (BPET II) was carried out in another four perspectives [Financial (F), Customer (C), Learning & Growth (L&G) and Internal Business Process (IBP)] out of same metrics or key factors which could successfully be regrouped in new four perspectives satisfying the existing strategic management system of balanced scorecard concept.

The methodology involved in performance measurement as evident from applications of novel technique prima facie is an innovation. Further in the process, grass root level Stake Holder like artisans could participate to identify the performance metrics and decide success indicators is an approach of empowerment in management. Therefore this socio-economic potential sector has been planned to be explored methodically within the present scope of research.

3. Experimental¹⁴⁻¹⁵

The data in the form of performance metrics (PM): traditional v/s new and dynamic in BPET I and BPET II for 10 stakeholders (SH) or validating organizations (VO1-VO10) compiled for statistical analysis including finding out the coefficient of correlation amongst Gap in P.I and Gap in % N.P in totality as well as in four perspectives of I & II technique both. Empowerment, innovation and exploration of socio economic potentiality have become a part of experimental especially in BPET I context since grouping of P.M has been done through empowered SH.

3.1. BPET I:

Four perspectives are KFA, KFB, KFC, KFD pertain to continuation desired, improvement needed, experimentation sought and challenges for sustainability respectively identified in the present research work.

The PM in this case are the key factors which influence the business performance as chosen and grouped in above mentioned four perspectives by any organizations. It is pertinent to mention that for the handmade carpet industry a bank of key factors is also available to be chosen from.

3.2. BPET II:

Four perspectives are F, C, L&G, IBP pertain to financial, customer, learning & growth and internal business process respectively identified by Robert S. Kalpan & David P. Norton has been utilized to supplement the present research.

The PM in this case are the key factors which influence the business performance as chosen and regrouped in above mentioned four perspectives by any organizations. It is pertinent to mention that for the handmade carpet industry the same bank of key factors is also found to be appropriate to be chosen from.

3.3. Regrouping of Metrics

The regrouping of PM of BPET I to suit application of BPET II was done with justifications behind as detailed in table 1.

3.4. Comparison between two Different Strategic Performance Measurement Tool: BPET, Technique I (BPET I) v/s Technique II (BPET II)¹⁶⁻¹⁹

3.4.1. Tabulation of Performance Data

Performance indices for correlation perspective pertain to BPET I & II could be calculated for volunteering organizations VO1 to VO10 and gap found out. Statistical analysis was also made in the form of coefficient of variation for gap in perspectives pertain to BPET I & II. Details are available in table 2.

3.5. Coefficient of Correlation

The values for gap in overall P.I and all the four perspectives pertain to BPET I & II vis-à-vis values for gap in NP% have been plotted to find out the correlation (R) determination (R^2) and regression equation ($y = mx + c$). The outputs obtained are available in table 3. The scatter diagram depicts the relationship in fig. 1 to 9.

4. Results & Discussions

In reference to table 1, it is evident that all the PM (key factors) grouped as per BPET I could be regrouped successfully as per BPET II. The mentioned justifications behind further ensures that regrouping has been done logically and scientifically

Further in reference to table 2 statistical analysis for traditional financial measures reveals existence of CV% of 82.61 for Turnover while 16.44% for gap in %N.P and 22.78% for gap in P.I. The data justifies selection of gap in % N.P as the acceptable traditional financial metrics to correlate with P.I.

Next analysis in respect of Technique I shows existence of CV% amongst group of key factors for VO1-VO10: 14.86, 35.87, 29.23, 43.17, 15.31, 17.67, 11.02, 15.69, 19.19 and 35.06 for BPET I while the same for BPET II are 22.61, 32.28, 43.99, 79.96, 59.28, 51.20, 45.78, 75.98, 87.02 and 63.75 respectively. Empowered participation may be attributed for lower CV% in case of BPET I. The CV% in respect of gap in P.I for KFA (CD), KFB (IN), KFC (ES) and KFD (CS) for BPET I worked out to be 46.68, 27.04, 21.85 and 12.59 while for BPET II pertain to F, C, L&G and IBP worked out to be 41.26, 41.51, 92.23 and 41.92 respectively. The CV % of overall gap remaining same and common. However CV% in case of BPET I as compared to BPET II reveals perspective grouping in former technique is more realistic attributable to approach of innovation with empowerment to explore socioeconomic potentiality.

Further coefficient of correlation (R), determination (R^2) and regression equation ($y = mx + c$ form) could be worked out amongst gap in P.I (overall as well as individually to four perspectives) for BPET I & II with gap in % N.P. The information is available in table 3.

The table clearly indicates that as far as BPET I is concerned fair degree of correlation exist for each perspective i.e. 0.71, 0.57, 0.93 and 0.81 for KFA, KFB, KFC and KFD respectively.

The degree of correlation however as far as BPET II is concerned is poor and the same is 0.27, 0.87, 0.089 and 0.37 respectively which indicate that fair correlation exist only in respect of 'C' i.e. Customer focused perspective.

The scatter diagram for exhibiting degree of correlation and best fit regression line in linear form of $y = mx + c$ are depicted in fig. 1-9.

Fig. 1 depicts the relationship amongst gap in %N.P and gap in overall P.I which is common to BPET I & II. It exhibits existence of correlation-ship in the order of 0.88, which indicates that BPET, newly conceived is not only novel but also statistically justified as replacement or supplement to traditional measurement technique.

Fig. 2-5 similarly exhibits existence of fair correlation amongst gap in %N.P with gap in P.I in newly identified perspectives (CD, IN, ES & CS). However, fig. 6-9 exhibits poor correlation amongst %gap in N.P with gap in P.I in Balanced Scorecard (BSC) based perspectives (F, C, L&G and IBP) except for 'C' i.e. customer focused.

5. Conclusion

The newly conceived BPET whether I & II are statistically justified solution for performance measurement and management. Out of these two techniques BPET I, which involve four groups of perspectives where metrics or key factors consists: required continuation (CD), Improvement (IN), experimentation (ES) and combating the challenges (CS), is more useful and statistically justified too.

The system modeled in the form of BPET I balances the scorecard much more effectively which gives a new direction to existing balanced score card developed by Robert S. Kaplan and David P. Norton in the year 1992. The superiority of BPET I over BPET II is visible which may be attributed to approach of empowerment adopted in exploring socioeconomic potentiality

It is concluded that BPET I could be proved to be an appropriate and dynamic tool for performance measurement and management of handmade carpet industry. Moreover acceptance of continued research work by RDC, U.P. Technical University, Lucknow and encouragement for compilation¹⁶ is the evidence of expected utility of the present research work.

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Table 1: BANK OF KEY FACTORS: TECHNIQUE I & TECHNIQUE II

S. No.	Code of KF*	Objectives: Key Factors	Element: Action	Criteria / Success Indicator	Original Grouping Technique I (Feedback based)				Logical Regrouping Technique II				Justification / Logic for Regrouping in Technique II	
					CD (A)	IN (B)	ES (C)	CS (D)	F	C	L&G	IBP		
1	ABCD1	<i>Availability of weavers / work force</i>	Skill management	Skill up-gradation: training out of 100	✓	✓	✓	✓					✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
2	ABCD2	<i>Brand image (IPR –GI)</i>	Maintaining quality parameter	Growth in T.O.	✓	✓	✓	✓			✓			One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
3	ABCD3	<i>Market accessibility to artisans</i>	Empowerment	Empowerment level	✓	✓	✓	✓		✓				One way or the other associated to satisfaction or delightment of customer hence under 'C'
4	ABCD4	<i>Trend setting (color/ design)</i>	Market research	Sources identified	✓	✓	✓	✓			✓			One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
5	ABC5	<i>Creation of new customer base</i>	Market research	Identification of new customer base	✓	✓	✓			✓				One way or the other associated to satisfaction or delightment of customer hence under 'C'
6	ABC6	<i>Government policy</i>	Data base & awareness	Availing benefits	✓	✓	✓		✓					One way or the other linked to financial perspective hence under 'F'
7	ABC7	<i>Innovation (Originality)</i>	R & D	Acceptable output	✓	✓	✓				✓			One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
8	AB8	<i>Compliance of customers need/ quality assurance</i>	Quality policy	Compliance to check list	✓	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
9	AB9	<i>Terminal Competency</i>	Knowledge integration	Program / Evaluation	✓	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'

10	AC10	<i>Diverse design base</i>	Outsourcing of expertise	Acceptable output	✓		✓				✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
11	AC11	<i>Global competitiveness</i>	Benchmarking	Compliance to checklist	✓		✓		✓			One way or the other linked to financial perspective hence under 'F'
12	AD12	<i>Fluctuation of currency rate</i>	Finance intelligence	Successful prediction (ideas)	✓			✓	✓			One way or the other linked to financial perspective hence under 'F'
13	A13	Adaptability to orders	Maintaining paradigm	Acceptance	✓						✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
14	A14	Control on entire value chain process	Adherence to check list	Compliance	✓						✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
15	A15	Craftsmanship	Skill Management	Upgraded competency	✓						✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
16	A16	Entrepreneurship	Risk taking	Success in risk taking	✓						✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
17	A17	Flexible manufacturing capacity	Outsourcing of weavers	Assured competency	✓						✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
18	A18	Governmental incentives (MDA etc.)	Awareness	Availing	✓				✓			One way or the other linked to financial perspective hence under 'F'
19	A19	Institutional support	Time to time consultancy	Organizational overall benefit	✓						✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
20	A20	New business enquiry	Exposure to fairs	Receipt of enquiry	✓					✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'

21	A21	Purchase order	Controls as per plan	Adherence to plan	✓						✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
22	A22	Responsiveness	Response	Prompt response	✓								✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
23	A23	Retention of customers	Quality policy	Customer loyalty program	✓						✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
24	A24	Service to client	Existence of policy	Execution in totality	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
25	A25	Strong and diverse product base	R&D for new technique	Market acceptable sample	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
26	A26	Traditional business – family oriented	Identify legacy	Completion & updating paper work	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
27	A27	Traditional product base	Identify USP	Propagation program	✓							✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
28	A28	Training	Training programs	Increased availability	✓						✓		One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
29	BCD29	Financial	Relationship with banker(s)	Exhibit continual relation		✓	✓		✓	✓			One way or the other linked to financial perspective hence under 'F'
30	BCD30	Infrastructure	Identify your need	Avail support		✓	✓		✓	✓			One way or the other linked to financial perspective hence under 'F'

31	BC31	Technology up gradation	Identify	Execute		✓	✓				✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
32	BD32	Control on manufacturing cost	Control on raw material cost & wages	Maintenance of competitive cost in consignment		✓	✓					✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
33	BD33	Language barrier	Identify language	Develop compliancy in person		✓	✓			✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
34	BD34	Law & Order	Identify your problems	Get sorted out		✓	✓					✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
35	BD35	Seller-seller competition	Identify secrecy	Preserve secrecy		✓	✓				✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
36	B36	Delivery schedule	1. Strong production planning 2. Effect of season; monsoon, heat	1. Delay in delivery 2. Alternative facility/ arrangement		✓						✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
37	B37	Employees welfare	Linkage with production & incentives	% Employee benefitted		✓						✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
38	B38	Event management like ICE (Indian Carpet Expo)	Identify improvement & communicate	Get executed		✓					✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
39	B39	Maintenance of product quality	Checklist	Compliance		✓						✓ One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'

40	B40	Packing and shipping	Data base on complaint	Redress successfully		✓						✓	One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
41	B41	Promotional activities	Create your profile	Out reach		✓						✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
42	B42	Social accountability (Pay, PF, etc.)	Check list	Compliance		✓				✓			One way or the other linked to financial perspective hence under 'F'
43	B43	Work environment	Check list and S.O.P	Compliance		✓							One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
44	C44	Classified as cottage sector	Representation	Success			✓				✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
45	C45	Competitive advantage	Identify strength	Retain strength			✓				✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
46	C46	Customer loyalty program	Identify	Execute			✓					✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
47	C47	Customized product	Successful execution	Ok certification			✓				✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
48	C48	Employee loyalty program	Identify	Execute			✓					✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
49	C49	Large customer reach	Identify	Execute			✓				✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
50	C50	Market research	Dynamic feedback	Compliance			✓					✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
51	C51	P-D-C-A	Monitoring action plan	Continuation			✓						One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'

52	C52	Product development (texture etc.)	New items	Market accessibility			✓				✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
53	C53	Quality of exhibition	Model to exist	Execute model successfully			✓		✓			One way or the other linked to financial perspective hence under 'F'
54	C54	Semi-mechanization	Identify scope	Implement			✓					One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
55	C55	Socio economic potentiality	Identify scope	Implement			✓			✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
56	C56	Spirituality in workplace	Definite program	Exist / execute			✓					One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
57	C57	Technical collaboration	Fixation of target	Compliance			✓			✓		One way or the other associated to satisfaction or delightment of customer hence under 'C'
58	C58	Wage regulation/standardization	Identify agreed requirements	Pay in access on			✓		✓			One way or the other linked to financial perspective hence under 'F'
59	D59	Control of environmental standards	ISO 14000	No. of N.C at given point				✓				One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
60	D60	Diversified base (introduction of fashionable products)	Paradigm identification	Shift paradigm				✓			✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
61	D61	Downsizing (retention of USP of handmade carpets)	Ensure value addition	Turn over				✓				One way or the other the stakeholder or organization need to have introspection through self and internal process for improvement in business performance hence under 'IBP'
62	D62	Inflation/ decline in purchase	Data base	Market intelligence to arrest decision				✓	✓			One way or the other linked to financial perspective hence under 'F'
63	D63	Influx of cheaper imports	Data base	Market intelligence to arrest decision				✓	✓			One way or the other linked to financial perspective hence under 'F'

64	D64	Introduction of machine made carpets	Identify USP of handmade	Propagation effectively				✓		✓			One way or the other associated to satisfaction or delightment of customer hence under 'C'
65	D65	Recessionary trend	Data base	Predicted market interest				✓	✓				One way or the other linked to financial perspective hence under 'F'
66	D66	Retention of USP (hand knotted Carpets/ demand for cheaper products)	Ensure value addition	Turn over				✓		✓			One way or the other associated to satisfaction or delightment of customer hence under 'C'
67	D67	Statutory Obligations	Checklist in place	Ensure compliance				✓	✓				One way or the other linked to financial perspective hence under 'F'
68	D68	Tariff barrier	Awareness	efficiency in implementation				✓	✓				One way or the other linked to financial perspective hence under 'F'
69	D69	Technical competency	Knowledge integration programs	Targeted terminal competency				✓				✓	One way or other experimentation and creativity sought which is a learning process for growth hence under 'L&G'
70	D70	UVR (Unit Value Realization)	Fix target	Value addition & propagation				✓	✓				One way or the other linked to financial perspective hence under 'F'
Total					28	24	27	23	15	14	17	24	
Grand Total					102				70				

Note: Code of K.F*: ABCD means K.F common in Group A, B, C and D, ABC means K.F common in Group A, B and C, AB means K.F common in Group A and B, AC means K.F common in Group A and C, AD means K.F common in Group A and D, BCD means K.F common in Group B, C and D, BC means K.F common in Group B and C, BD means K.F common in Group B and D.

Table 2: Performance Metrics: Traditional V/s New and Dynamic Including Balanced Score Card (BSC) Based Factorization of Key Factors (KF)

Parameters		Sr. No.	Validating Organizations Performance metrics ↓	VO1	VO2	VO3	VO4	VO5	VO6	VO7	VO8	VO9	VO10	Mean Value	STDEV	CV%	
BPET I & II both	Traditional: Financial	1	T.O	100	8	5	40	120	120	60	200	10	150	81.3	67.16	82.61	
		2	Gap in NP%	10.2	8.8	8.3	9.2	11.3	11.2	9.3	13.6	9.1	12.1	10.31	1.69	16.44	
	New & Dynamic: Performance Index (PI)	3	Overall Gap in P.I%	28.1	17.75	16.65	22.5	32.1	31.5	26	33.9	25.75	31.6	26.585	6.06	22.78	
BPET I	KF: Grouped in 4 perspectives A (CD), B(IN), C(ES)& D (CS)wise & Breakup of same	4	Gap in A(CD)	7.1	2.25	3	2.5	9	9.5	6.7	8	8	11.3	6.735	3.14	46.68	
		5	Gap in B(IN)	6.7	4.4	3.2	8	8	6.4	6.6	9	6.8	5.4	6.45	1.74	27.04	
		6	Gap in C (ES)	8.4	5.4	5.35	7	8.8	8.5	7.2	10	5.75	9	7.54	1.65	21.85	
		7	Gap in D (CS)	5.9	5.7	5	5	6.3	7.1	5.5	6.9	5.2	5.9	5.85	0.74	12.59	
	Statistical analysis of above	8	Mean Value (4-7)	7.03	4.44	4.14	5.63	8.03	7.88	6.50	8.48	6.44	7.90	6.64			
		9	STDEV	1.04	1.56	1.21	2.43	1.23	1.39	0.72	1.33	1.24	2.77				
		10	CV%	14.86	35.17	29.23	43.17	15.31	17.67	11.02	15.69	19.19	35.06				
BPET II	KF: Regrouped in 4 perspectives in compliance to BSC & Breakup of same	11	Gap in Financial(F)	5.6	5.6	4	4	11.1	10.3	6.1	4.5	4.8	5.1	6.11	2.52	41.26	
		12	Gap in Customer (C)	6.6	4	4.1	9	13	10.7	6.1	14	6.7	9.5	8.37	3.47	41.51	
		13	Gap in Learning & Growth (L&G)	9.3	2.6	2	0	4.8	2	3.3	1.5	0.4	2.8	2.87	2.65	92.23	
		14	Gap in Internal Business Process (IBP)	6.6	5.55	6.45	9.5	3.2	8.5	10.5	13.9	13.85	14.2	9.23	3.87	41.92	
	Statistical analysis of above	15	Mean Value (11-14)	7.025	4.4375	4.138	5.625	8.025	7.875	6.5	8.475	6.4375	7.9	6.64	1.52	22.86	
		16	STDEV	1.59	1.43	1.82	4.50	4.76	4.03	2.98	6.44	5.60	5.04				
		17	CV%	22.61	32.28	43.99	79.96	59.28	51.20	45.78	75.98	87.02	63.75				

Table 3: Correlation with P.I with Gap in %N.P

Particulars	BPET I					BPET II				
	Overall	KFA	KFB	KFC	KFD	Overall	F	C	L&G	IBP
R ²	0.790	0.517	0.330	0.871	0.658	0.790	0.075	0.759	0.008	0.137
R	0.88	0.71	0.57	0.93	0.81	0.88	0.27	0.87	0.089	0.37
y = mx + c	0.248x+3.717	0.387x+7.699	0.558x+6.705	0.960x+3.067	1.865x-0.605	0.248x+3.717	0.184x+9.181	0.425x+6.751	0.058x+10.14	0.162x+8.809

y = mx + c where; y = gap in % N.P, x = Gap in P.I

Figures Are Reproduced Below in Graphical Format (Fig. 1-9)

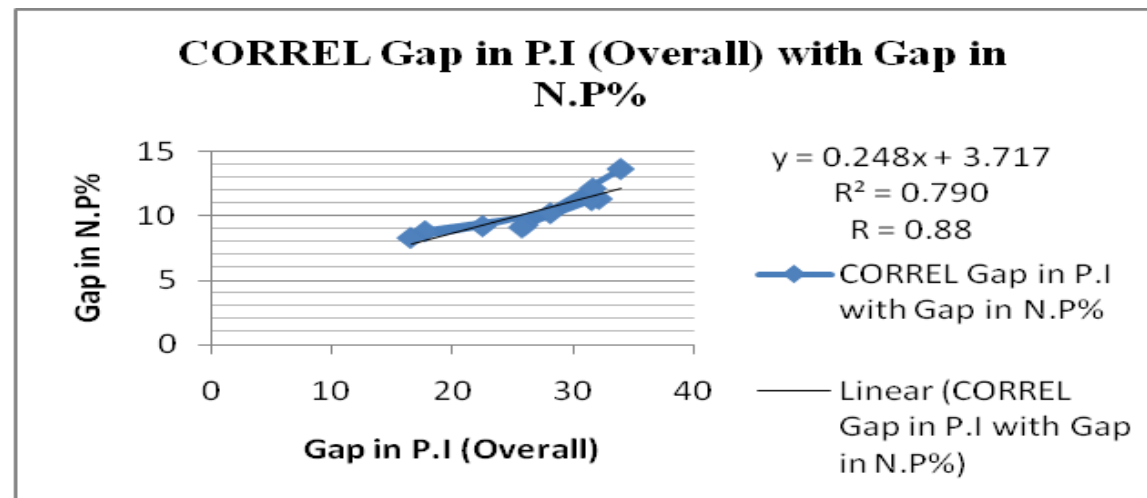


Fig. 1: Correlation amongst Gap in P.I (Overall) with Gap in N.P%

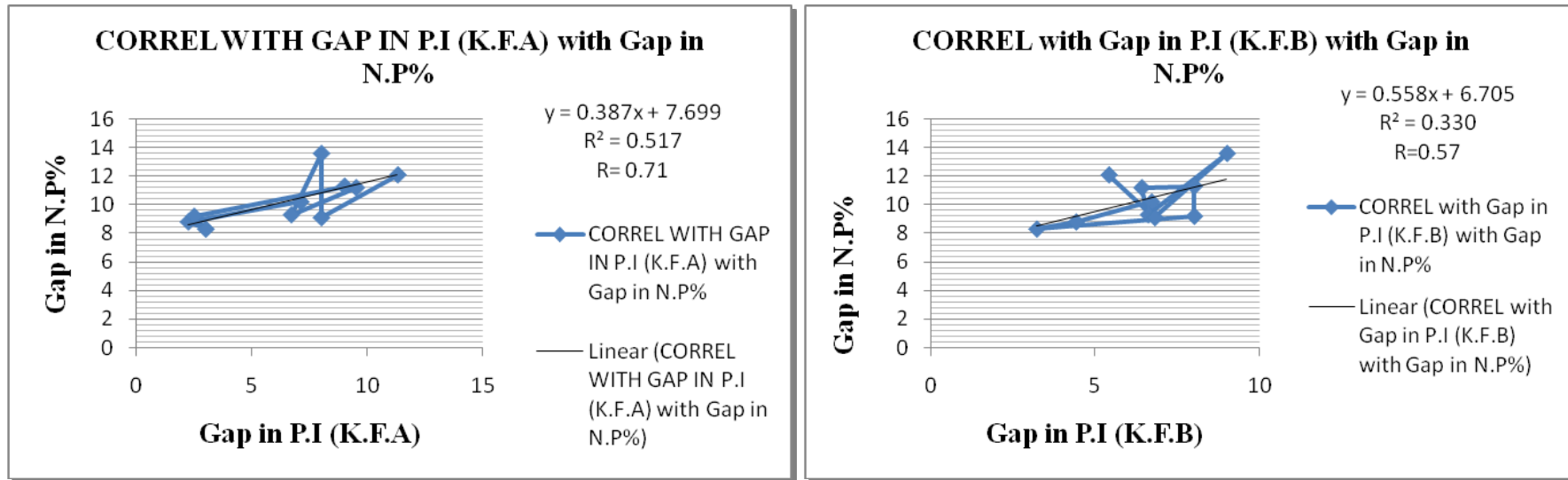


Fig. 2: Correlation amongst Gap in P.I (KFA) and Gap in N.P%

Fig. 3: Correlation amongst Gap in P.I (KFB) and Gap in N.P%

Fig. 4: Correlation amongst Gap in P.I (KFC) and Gap in N.P%

Fig. 5: Correlation amongst Gap in P.I (KFD) and Gap in N.P%

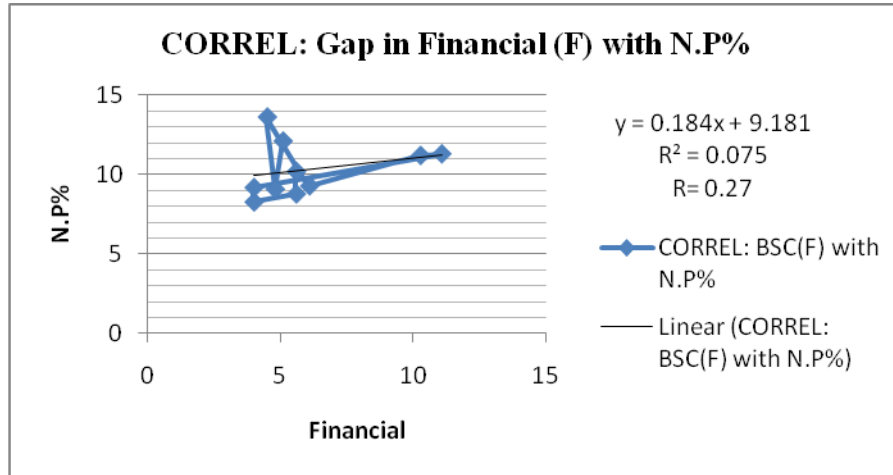


Fig. 6: Correlation amongst Gap in P.I (F) and Gap in N.P%

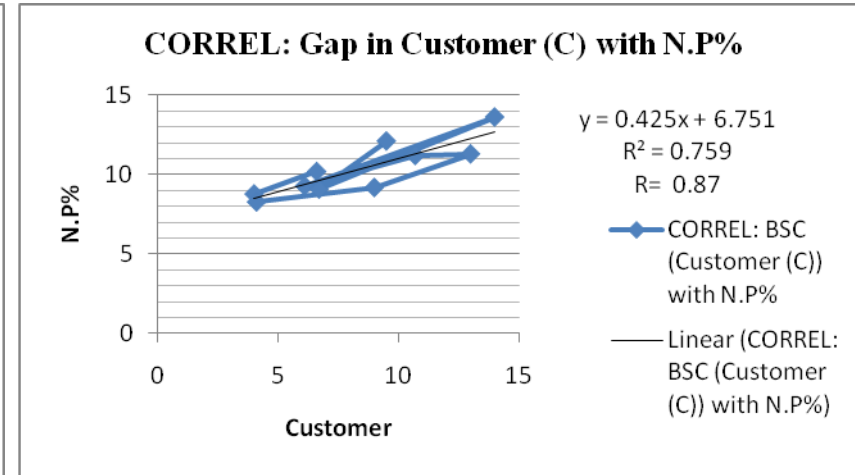


Fig. 7: Correlation amongst Gap in P.I (C) and Gap in N.P%

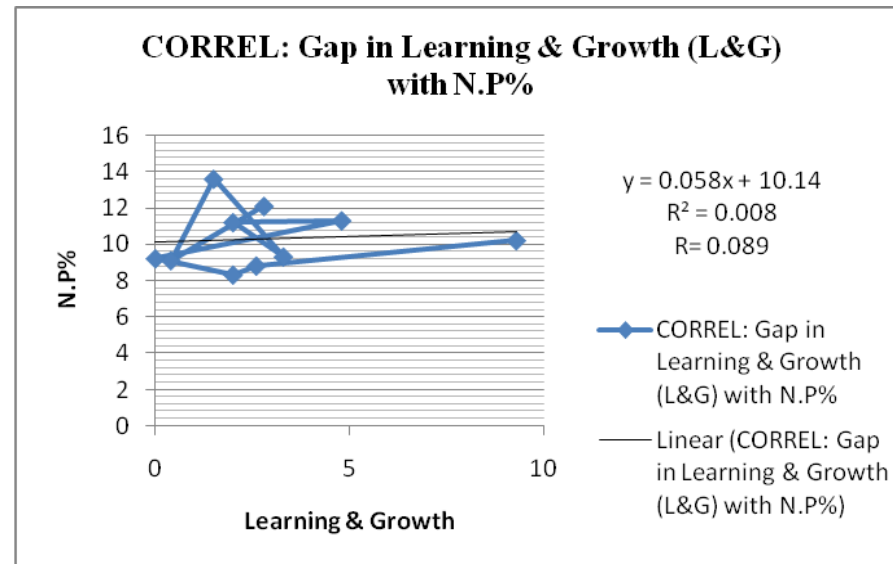


Fig. 8: Correlation amongst Gap in P.I (L&G) and Gap in N.P%

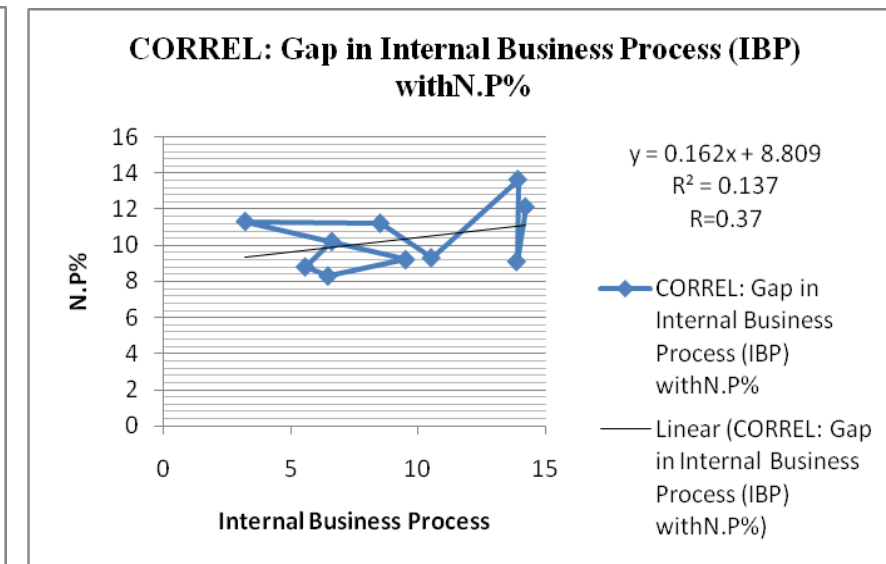


Fig. 9: Correlation amongst Gap in P.I (IBP) and Gap in N.P%

Fig. 10: BPET I

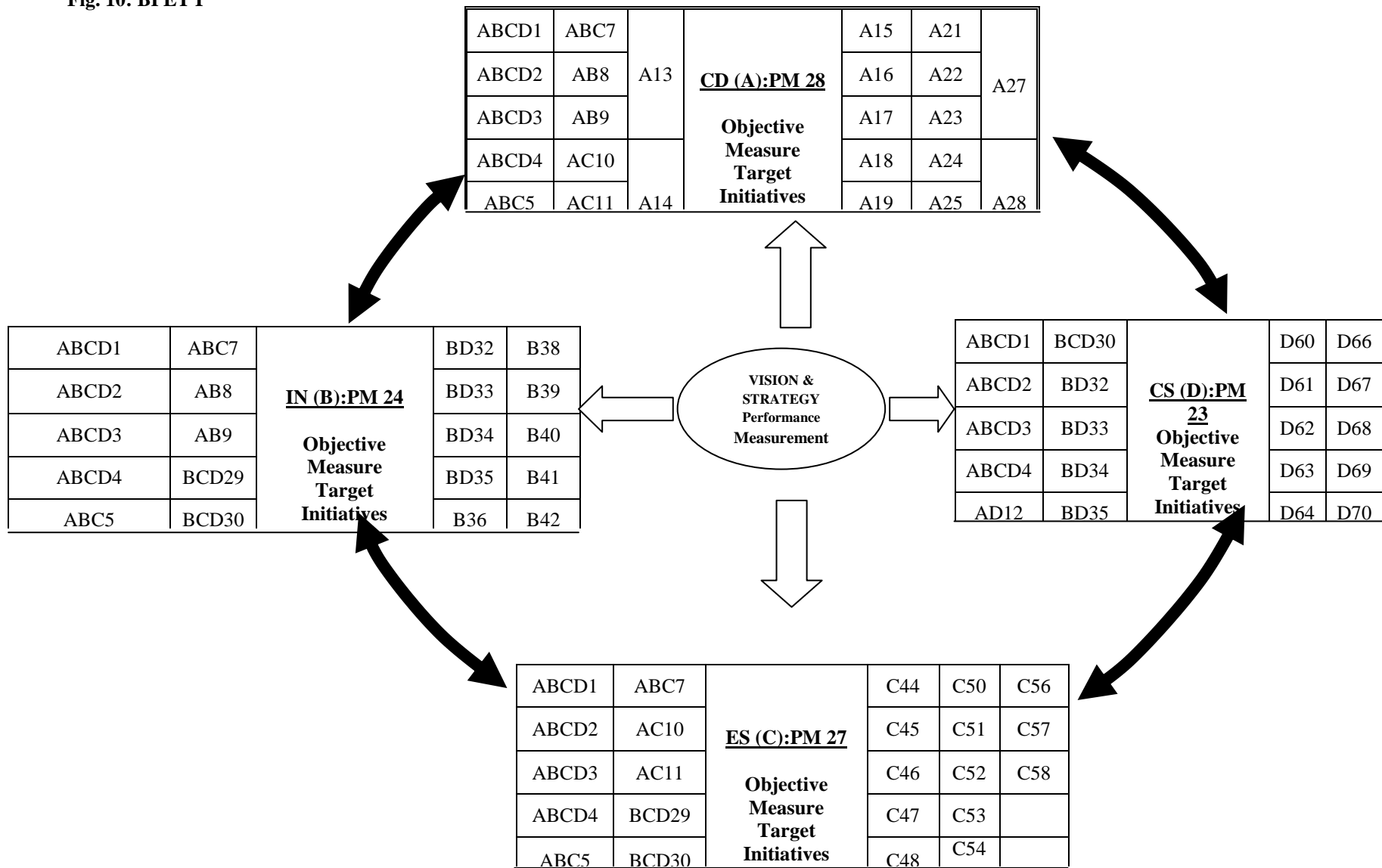


Fig. 11: BPET II

