

# Awareness and Perception of Basel - II Norms Across Indian Banks: An Empirical Study

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## ABSTRACT

To soar the new heights of excellence, the Indian Banking industry requires a combination of new technologies, better processes of credit and risk appraisal, treasury management, product diversification, internal control and external regulations. With respect to the changing scenario and roller coaster ride of the banking industry, the Reserve Bank of India announced guidelines for implementation of Basel-II norms for all banks and made it compulsory for all scheduled commercial banks to implement the Basel-II norms. Implementation of Basel II is seen as a topsy-turvy situation for banks and has created challenges in the sector in many jurisdictions. There is a need for bank employees to have sufficient understanding of the Basel-II accord in order to guide the banking growth rate in the positive direction. Lack of understanding among employees regarding the new Basel-II accord affects banks negatively as these are the basis for any banking action. The objective of this paper is to find out the awareness level, as well as the perception among bank employees about the Basel-II norms, and also examines the efforts made by them for implementing it in their banks.

Keywords: Basel II, Risk Management, Credit Risk, Operational Risk, Market Risk

JEL Classification: E50 , E58

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## INTRODUCTION

The Reserve Bank of India regulates and controls banks in India and the major segment of Indian Banking, i.e. nearly 80% are State-owned, comprising of the Nationalized Banks and the State Bank of India Group. This segment comes under the direct control of the Finance Ministry. Following the staging of the economic reforms in the country as aforesaid from 1992, the Government also proceeded to reform the financial and the banking sectors to bring a new wave of hope and strength to the banks. A Committee under a former Governor of Reserve Bank of India, Mr. Narasimhan was appointed in 1992, and as per its recommendations, several momentous steps towards strengthening the structure and functioning of the banks were taken. The nationalized banks were significantly freed from directed and regulated control of the Government and the RBI, and were given full freedom to decide independently their respective business policies. The Indian market was opened for the setting of new private banks, as also freedom for foreign banks to establish their branches here. Banks were made more accountable. Their published financial position was directed to be more transparent and revealing a true picture of the status of the bank. Hence, on the one hand, we see a positive scenario represented by the rapid process of globalization presently taking shape and bringing the community of nations in the world together; while on the flip side, transcending geographical boundaries in the sphere of trade and commerce, and even employment opportunities of individuals took a new shape (Kannan, 2012).

All these indicate newly emerging opportunities for Indian Banking. However, on the darker side, we see the accumulated morass brought out by three decades of controlled and regimented management of the banks, a surfeit that has now turned into sickness. It has siphoned profitability of the Government-owned banks, distressed with bloated Non Productive Assets (NPA), threatens the Capital Adequacy of the Banks and their very stability and sustainability. Furthermore, the worry-some issue is that the nationalized banks are heavily over-staffed. To maintain standards across the Banking Industry and developing uniformity in a structured way, the RBI decided to implement the Basel-II norms. It is in this regard that the Reserve Bank of India announced the guidelines for implementation of the Basel-II norms for all banks, and it was compulsory for all scheduled commercial banks to implement Basel-II. Implementation of Basel II is seen as one of the significant challenges facing the banking sector in many jurisdictions. Basel II adopts a three pillar approach to risk management in banks. The minimum capital requirements are stipulated for Credit risk, Market risk and Operational risk under Pillar 1 ; while Pillar 2 deals with the supervisory review

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process and the Pillar 3 underlines the need for market discipline and disclosures required there under (Varghese, 2005). There is a need for bank employees to have a sufficient understanding of the new Basel-II accord in order to guide the banking growth rate in the positive direction. A lack of understanding among the employees regarding the Basel-II accord affects banks negatively as these regulations are the basis for any kind of banking action.

## REVIEW OF LITERATURE

Makwiramiti (2008) conducted a comparative analysis of the general implementation issues and established that all emerging countries should apply the Basel II rules uniformly across all the banking institutions that operate in their territories.

Sharma and Tulsyan (2008) concluded that the Basel II framework provides significant incentives to banks to sharpen their risk management expertise to enable more efficient risk-return tradeoffs; it also presents a valuable opportunity to gear up their internal processes as per the international best standards.

Akhtaruzzaman (2009) examined the potential impact of Basel II on the developing economies, in particular reference to Bangladesh. A pilot testing model for Basel II parallel calculations were employed to measure the impact of capital requirements of Mercantile Bank Limited, a commercial bank in Bangladesh. The results showed that the capital requirement to comply with Basel II were increased by 41.94% as compared to Basel I capital requirements.

Abdullah (2009) investigated the degree of application of Basel committee requirements by Jordan banks and revealed that all banks in Jordan were applying the Basel II norms. Results did not reveal any significant difference in the extent of implementing Basel II committee resolutions.

## SIGNIFICANCE OF THE STUDY

Indian banks have already implemented Basel II, but some banks are trying to implement it fully. There is a need for proper representation of risk management at the top-level management, escalation and delegation matrices, 360 degree feedback mechanism, implementation of information technology supported by highly trained staff under Basel II. Lack of proper understanding of Basel II by the employees of the banks may slow down the process of implementation at all levels, so it is necessary for employees of banks to fully understand the Basel II accord for successful implementation as it also requires much investment in terms of time and money.

## OBJECTIVES OF THE STUDY

- 1) To examine the perception of employees of Indian banks regarding the Basel II norms.
- 2) To examine different factors which are more important for implementation of the Basel II norms.
- 3) To examine the preferences of banks for the measurement of risk under the Base II norms.

## METHODOLOGY

The research design used in this study is descriptive. The study is confined to five private sector and five public sector banks. The present study was carried out in the period from January – May 2012. Primary data was collected from 40 sample respondents taken from five private sector and five public sector banks (total ten banks) located in Ahmedabad city using non probability judgmental sampling method. Primary data on Basel II was collected directly from the bank

Particular	Frequency	Percent
0 to 1 year	3	7.5
2 to 5 years	10	25
6 to 10 years	12	30
More than 10 years	15	37.5
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Frequency	Percent
Yes	40	100.0
No	0	0
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Frequency	Percent
Capital adequacy	34	85
Supervisory review	15	37.5
Market discipline	11	27.5
No info of the above	0	0
Source: Primary Data		

Particular	Frequency	Percent
Yes	30	75
No	10	25
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	Expected Mean	Calculated Mean
Capital adequacy is the most important criteria for a bank	30	10	0	0	0	3	4.75
Supervisory review is the most important criteria for a bank	17	11	12	0	0	3	4.125
Market discipline is the most important criteria for a bank	8	28	4	0	0	3	4.1
Source: Primary Data							

Particular	Frequency	Percent
Following to the hilt	29	72.5
Following to a certain extent	11	27.5
Not following at all	0	0
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

managers through a structured questionnaire and personal interview. Due to time constraints and also due to the difficulty in obtaining permission to interview the bank staff, the number of respondents were limited to 40 respondents. In this study, simple percentage analysis, T-test, Chi-square test and K-S test has been employed to interpret the data and obtain the results.

## RESULTS AND DISCUSSION

The Table 1 shows that a majority of the respondents had more than six years of experience in the banking sector. The Table 2 shows that all respondents were aware about Basel II norms. The Table 3 depicts the respondents' level of awareness regarding the criteria for the implementation of the Basel II norms. It can be inferred that 85 percent of the respondents were aware about the capital adequacy criteria followed by the supervisory review (37.5 percent) and market discipline (27.5 percent). So, this depicts that most of the respondents were not aware about the supervisory review and market discipline criteria of Basel II, which is also very important for the banks to implement.

Particular	Frequency	Percent
Thorough understanding	11	27.5
Partial understanding	29	72.5
No understanding	0	0
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	5	4	3	2	1	Expected mean	Calculated mean
Technology is the important parameter for implementation of Basel II.	19	18	0	3	0	3	4.325
Personnel are the important parameter for implementation of Basel II.	12	17	4	7	0	3	3.85
Credit policy is the important parameter for implementation of Basel II.	21	19	0	0	0	3	4.525
Internal rating system is the important parameter for implementation of Basel II.	7	25	8	0	0	3	3.975
Infrastructure is the important parameter for implementation of Basel II.	4	21	15	0	0	3	3.725
Source: Primary Data							

Particular	Frequency	Percent
Market risk	31	77.5
Credit risk	33	82.5
Operational risk	30	75
Source: Primary Data		

Particular	Frequency	Percent
Aware	40	100
Not Aware	0	0
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Rank 1	Rank 2	Rank 3	Weighted score	Proportion (%)	Rank
Standardized approach	26	11	3	103	43	1
Internal rating based approach	11	25	4	87	36	2
Advanced internal rating based approach	3	4	33	50	21	3
<b>Total</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>240</b>	<b>100</b>	
Source: Primary Data						

The Table 4 depicts that 75 percent of the banks provided information regarding Basel II to their employees, and only 25 percent of the banks were not providing any information regarding Basel II.

The Table 5 shows that the calculated mean is higher than the expected mean in all the statements. The respondents' opinion about the importance of criteria ranged from strongly agree to agree. From the Table 6, it can be inferred that about 73 percent of the respondents said that the norms and policies of their banks were in accordance with the Basel-

Particular	Frequency	Percent
Aware	19	47.5
Not aware	21	52.5
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Rank 1	Rank 2	Rank 3	Weighted score	Proportion (%)	Rank
Basic indicator approach	4	11	4	38	33.33	2
Standardized approach	11	4	4	45	39.67	1
Advanced measurement approach	4	4	11	31	27	3
<b>Total</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>114</b>	<b>100</b>	
Source: Primary Data						

Particular	Frequency	Percent
Aware	29	72.5
Not aware	11	27.5
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Rank 1	Rank 2	Weighted score	Proportion (%)	Rank
Standardized measurement approach	18	11	47	54	1
Internal models approach	11	18	40	46	2
<b>Total</b>	<b>29</b>	<b>29</b>	<b>127</b>	<b>100</b>	
Source: Primary Data					

II norms, followed by 28 percent of the respondents, who opined that the norms and policies of their bank were, to a certain extent, as per the Basel II accord. The Table 7 shows that only 27 percent of the respondents had a thorough understanding of the Basel II norms, and 73 percent of the respondents had a partial understanding of the Basel II norms. The Table 8 shows that as per the respondents' opinion, credit policy, with 4.525 calculated mean, was a very important parameter for implementation of Basel II, followed by Technology and Internal rating with 4.325 and 3.975 calculated mean respectively.

In Basel II, the risk weighted assets explicitly include three types of risk. Credit risk, Market risk and Operational risk. The Table 9 depicts that 82.5 percent of the sample respondents were aware about Credit risk followed by Market risk (77.5 percent) and Operational risk (75 percent). From the Table 10, it can be inferred that all the sample respondents were aware about the Credit risk under Basel II. Hence, it could be ascertained that all banks focused more on the management of Credit risk.

For analyzing the various options for measurement of Credit risk, the ranking was done on the basis of weighted scores. The scoring was done as per the following scale: Rank 1 : 3 weights, Rank 2 : 2 weights, Rank 3 : 1 weight. From the Table 11, it can be inferred that 43 percent of the respondents opined that the Standardized approach was the best measurement of Credit risk, followed by Internal Rating based approach (36 percent) and Advanced Internal Rating approach (21 percent). The respondents were of the opinion that the Standardized approach rating is done by an external rating agency, hence, it is more reliable.

Particular	Frequency	Percent
High	29	72.5
Medium	11	27.5
Low	0	0
No priority	0	0
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

Particular	Rank 1	Rank 2	Rank 3	Rank 4	Weighted score	Proportion (%)	Rank
Information technology	13	19	8	0	125	31	2
Hiring and training of staff	15	17	8	0	127	32	1
Infrastructure	12	4	24	0	108	27	3
Other	0	0	0	40	40	10	4
<b>Total</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>400</b>	<b>100</b>	
Source: Primary Data							

Particular	Frequency	Percent
Ready	33	82.5
Not ready	7	17.5
<b>Total</b>	<b>40</b>	<b>100</b>
Source: Primary Data		

From the Table 12, it can be inferred that a majority of the respondents i.e. 52 percent were not aware about Operational risk under Basel II.

For analyzing the various options for measurement of Operational risk, the ranking was done on the basis of weighted scores. The scoring was done as per the following scale: Rank 1 : 3 weights, Rank 2 : 2 weights, Rank 3 : 1 weight. It can be inferred from the Table 13 that the respondents allotted the first rank to the Standardized approach for Operational risk followed by Basic Indicator approach and Advanced Measurement approach. Again, in case of Standardized approach, the rating was done by an external agency. Hence, it was more reliable.

The Table 14 depicts that 72 percent of the respondents were aware about the market risk under Basel II, followed by 28 percent of the respondents, who were not aware about the market risks.

From the Table 15, it can be inferred that 54 percent of the respondents were of the opinion that the Standardized approach was the best measurement of market risk followed by Internal Models approach (as opined by 46 percent of the respondents). For analyzing the various options for measurement of market risk, the ranking was done on the basis of the weighted scores. Scoring was done as per the following scale: Rank 1 : 2 weights, Rank 2 : 1 weight.

The Table 16 shows that the top management of most of the banks gave high priority for the implementation of the Basel II norms in their banks.

For analyzing the various options regarding the maximum cost incurred in the implementation of the Basel II accord, the ranking was done on the basis of the weighted scores. The scoring was done as per the following scale: Rank 1 : 4 weights, Rank 2 : 3 weights, Rank 3 : 2 weights, Rank 4 : 1 Weight. The Table 17 shows that the respondents allotted the first rank to Hiring and training of the staff, followed by Implementation of Information Technology and Infrastructure.

From the Table 18, it can be inferred that most of the respondents said that their bank was ready for Basel II but 18 percent of the respondents were of the opinion that they were not ready for Basel II because they required time for its

Particular	Frequency	Percent
1 year	4	57
2 years	3	43
3 years	0	0
More than 3 years	0	0
<b>Total</b>	<b>7</b>	<b>100</b>

Source: Primary Data

Particular	Frequency	Percent
Improvement	40	100
No improvement	0	0
<b>Total</b>	<b>40</b>	<b>100</b>

Source: Primary Data

Particular	0-1 year	2-5 years	6-10 years	> 10 years	Total
Thorough understanding	0	7	0	4	11
Partial understanding	3	3	12	11	29
No understanding	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>10</b>	<b>12</b>	<b>15</b>	<b>40</b>

Source: Calculated data, Total i.e. =  $\sum (O_i - E_i)^2 / E_i$

Rank / approach	Total Weighted Score	Weighted Average (O)	E = 1/3	O-E
<b>Credit Risk approach</b>				
Standardized approach	103	2.575	0.33	2.245
Internal rating based approach	87	2.175	0.33	1.845
Advanced internal rating based approach	50	1.25	0.33	0.92
<b>Total Score</b>	<b>240</b>	<b>0.23</b>	<b>K- S calculated value</b>	<b>5.01</b>
<b>Operational Risk approach</b>				
Basic indicator approach	38	0.95	0.33	0.62
Standardized approach	45	1.125	0.33	0.795
Advanced measurement approach	31	0.775	0.33	0.445
<b>Total score</b>	<b>114</b>	<b>0.23</b>	<b>K- S calculated value</b>	<b>1.86</b>
<b>Market Risk approach</b>				
Standardized measurement approach	47	1.175	0.5	0.675
Internal models approach	40	1	0.5	0.5
<b>Total Score</b>	<b>87</b>	<b>0.23</b>	<b>K- S calculated value</b>	<b>1.175</b>

Source: Primary Data

implementation. The Table 19 shows that 57 percent of the respondents thought that it will take 1 year for preparing themselves as well as their banks for the implementation of Basel II norms, followed by 43 percent respondents, who were of the opinion that it would take two years for its implementation.

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Technology	Equal variances assumed	0.00	1.00	-3.56	38.00	0.00
	Equal variances not assumed			-3.56	38.00	0.00
Personnel	Equal variances assumed	6.33	0.02	0.00	38.00	1.00
	Equal variances not assumed			0.00	30.40	1.00
Credit policy	Equal variances assumed	0.00	1.00	3.56	38.00	0.00
	Equal variances not assumed			3.56	38.00	0.00
Internal rating	Equal variances assumed	0.00	1.00	6.16	38.00	0.00
	Equal variances not assumed			6.16	38.00	0.00
Infrastructure	Equal variances assumed	15.55	0.00	0.00	38.00	1.00
	Equal variances not assumed			0.00	28.65	1.00

Source: Primary Data

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Capital	Equal variances assumed	1.07	0	4.359	38	0
Adequacy	Equal variances not assumed			4.359	19	0
Market	Equal variances assumed	1	0.324	-1.314	38	0.197
Discipline	Equal variances not assumed			-1.314	31.493	0.198
Supervisory	Equal variances assumed	3.167	0.083	-1	38	0.324
Review	Equal variances not assumed			-1	37.076	0.324

Source: Primary Data

The Table 20 shows that all the respondents thought that the implementation of Basel II would improve the performance of their bank as it considers all the risks associated with a bank.

## TEST OF HYPOTHESES

1) To ascertain the relationship between the understanding level of Basel II and the experience of the employees.

❖ **Ho: There is no relationship between the understanding level of Basel II and the experience of the employees.**

❖ **H1: There is a relationship between the understanding level of Basel II and the experience of the employees.**

For the Table 21, the calculated value = 14.75, Degree of Freedom = (r- 1)(c-1) = (3-1)(4-1) = 6, then the Table value at 5% level of significance is 5.35. As the calculated value (14.75) is more than the table value (5.35), so the null hypothesis is rejected and it can be concluded that there is a relationship between the understanding level of Basel II and experience of the employees.

2) To ascertain the relationship between the ranks awarded by the employees to the approaches of Credit risk, Operational risk and Market risk.

❖ **Ho: There is no relationship between the ranks awarded by the employees to the approaches of Credit risk, Operational risk and Market risk.**

❖ **H1: There is a relationship between the ranks awarded by the employees to the approaches of Credit risk, Operational risk and Market risk.**

It can be inferred from the Table 22 that the K-S calculated value = 5.01, 1.86 and 1.175 for Credit risk, Operational risk and Market risk respectively. The Table value at 5% level of significance is 0.0694 (Table value formula :  $-1.36 / \sqrt{n}$ ). As the calculated values are more than the table value (0.0694), so the null hypothesis is rejected, and it can be concluded that there is a relationship between the ranks given by the employees to the approaches of Credit risk, Operational risk and Market risk.

3) To ascertain the Mean difference in the agreement level of employees of public and private sector banks regarding the important parameters for implementation of Basel-II.

❖ **Ho: There is no significant difference in mean with reference to the agreement level of employees of public and private sector banks regarding the important parameters for the implementation of Basel-II.**

❖ **H1: There is a significant difference in mean with reference to the agreement level of employees of public and private sector banks regarding the important parameters for the implementation of Basel-II.**

❖ The Table 23 shows that the Levene's Significant value is 1, which is more than 0.05, so it is assumed that the variances are equal, and the Sig. (2-tailed) value is 0.0, which is less than 0.05, so there is a significant difference in mean (regarding the agreement level for the factor "*Technology*" being an important parameter for the implementation of Basel II) between the public and private sector banks.

❖ The Table 23 shows that the Levene's Significant value is .02, which is less than 0.05, so it is assumed that the variances are not equal, and the Sig. (2-tailed) value is 1, which is more than 0.05, so there is no significant difference in mean (regarding the agreement level for the factor "*Personnel*" being an important parameter for the implementation of Basel II) between the public and private sector banks.

❖ The Table 23 shows that the Levene's Significant value is 1, which is more than 0.05, so it is assumed that the variances are equal, and the Sig. (2-tailed) value is 0.0, which is less than 0.05, so there is a significant difference in mean (regarding the agreement level for the factor "*Credit Policy*" being an important parameter for the implementation of Basel II) between the public and private sector banks.

❖ The Table 23 shows that the Levene's Significant value is 1, so it is assumed that the variances are equal, and the Sig. (2-tailed) value is 0.0, which is less than 0.05, so there is a significant difference in mean (regarding the agreement level for the factor "*Internal Rating*" being an important parameter for the implementation of Basel II) between the public and private sector banks.

❖ The Table 23 shows that the Levene's Significant value is 0, which is less than 0.05, so it is assumed that the variances are not equal, and the Sig. (2-tailed) value is 1, which is more than 0.05, so there is no significant difference in mean (regarding the agreement level for the factor "*Infrastructure*" being an important parameter for the implementation of Basel II) between the public and private sector banks.

4) To ascertain the Mean difference regarding the agreement level of employees of public and private sector banks for the most important criteria to implement Basel II.

❖ **Ho: There is no significant difference in mean regarding the agreement level of employees of public and private sector banks with reference to the most important criteria to implement Basel II.**

❖ **H1: There is a significant difference in mean regarding the agreement level of employees of public and private sector banks with reference to the most important criteria to implement Basel II.**

❖ The Table 24 shows that Levene's significance value is 0.0, which is less than 0.05, so the variances are not equal. While the Sig. (2-tailed) value is 0.0, which is less than 0.05, so there is a significant difference in mean regarding the agreement level of the employees with reference to the factor "*Capital Adequacy*" to be the most important criteria

for banks while implementing Basel II.

❖ The Table 24 shows that the Levene's significance value is 0.324, which is more than 0.05, so the variances are equal. While the Sig. (2-tailed) value is 0.197, which is more than 0.05, so there is no significant difference in mean regarding the agreement level of the employees with reference to the factor "Supervisory Review" to be the most important criteria for banks while implementing Basel II.

❖ The Table 24 shows that the Levene's significance value is 0.083, which is more than 0.05, so the variances are equal. While the Sig. (2-tailed) value is 0.324, which is more than 0.05, so there is no significant difference in mean regarding the agreement level of the employees with reference to the factor "Market Discipline" to be the most important criteria for banks while implementing Basel II.

## MAJOR FINDINGS

The important findings of the study are summarized below :

- ❖ It was found that all the respondents had a fair level of awareness about Basel II.
- ❖ A majority of the respondents were aware about the importance of Capital adequacy followed by Supervisory review and Market discipline to be the three pillars of Basel II.
- ❖ It was found that only 27 percent of the surveyed respondents (bank employees) had a thorough understanding of Basel II and 73 percent of the respondents had a partial understanding of Basel II norms.
- ❖ A majority of the respondents believed that Credit Policy and Technology were the most important parameters for implementation of Basel II.
- ❖ Most of the respondents were aware about Credit Risk and Market Risk. However, they did not have a thorough understanding of Operational Risk.
- ❖ A majority of the respondents believed that the Standardized Approach is the best measurement for Credit risk, Market risk and Operational risk. The Standardized Approach is more reliable because rating is done by an external rating agency.
- ❖ A majority of the banks gave high priority to the implementation of Basel II.
- ❖ A majority of the respondents believed that the highest cost was incurred in hiring and training of staff and incorporating information technology in their processes for the implementation of Basel II.

## CONCLUSION

It could be concluded that the employees thought that Basel II had improved the performance of the banking sector, and full implementation of Basel II was a high priority in their bank, yet the banking sector needs concrete work in the area of implementation of Basel-II norms.

Still, a vague understanding prevailed in the minds of the employees and the middle level management as far as Basel norms were concerned. Amidst this, the road ahead for Basel-III norms is full of uncertainties and ambiguity.

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