

MEMORANDUM OF UNDERSTANDING (MOU)
A MEASUREMENT FRAMEWORK FOR SUPPORT
FUNCTIONS
IN A SOFTWARE ORGANIZATION.

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ABSTRACT

This paper is from Policy Management Systems (PMSI), India. 'Measurement by fact' has been the essence of software process. The higher levels of CMM address the management of software metrics. Software organizations have had a metrics program in place for managing their key software processes. However, the question that still remains is - How is the performance of support functions in a software organization to be measured? To be more explicit, how does one measure the performance of Human Resources, Finance, Administration and Network Management? Policy Management Systems, India has implemented a quantitative measurement system called MOU - Memorandum of Understanding. This paper describes the MOU framework, identifies the steps in defining, maintaining and controlling MOU parameters, the forms used as well as reporting mechanism. Examples of MOU for HR, Finance and Network have also been identified. With MOU in place, it is now possible for software organizations to extend 'metrics' throughout the entire organization.

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1. **ORGANISATION NEED**

1.1 BACKGROUND : Policy Management Systems India, located at Indore, is a whole owned subsidiary of MYND Corp, USA. which is the largest insurance software company in the world. MYND provides application ,software related automation, administration support & information services for global insurance & financial service industries. MYND has over 1000 customers in 37 countries with offices in 18 countries around the world .All its units are ISO 9001 certified. Policy Management Systems India has its development center in Indore employing around 250 highly skilled IT professionals .The company provides maintenance , customization, conversion & development services to the parent company on its insurance products. The company deals with a wide range of technologies like IBM mainframe, DB2,

CICS, AS400 ,RPG, SYNON, UNIX, NT, OS2, COBOL, C/ C++, SMALL TALK, JAVA & WEB TECHNOLOGIES.

PMS India started in May 1997 and achieved ISO 9001 certification in August 2000.

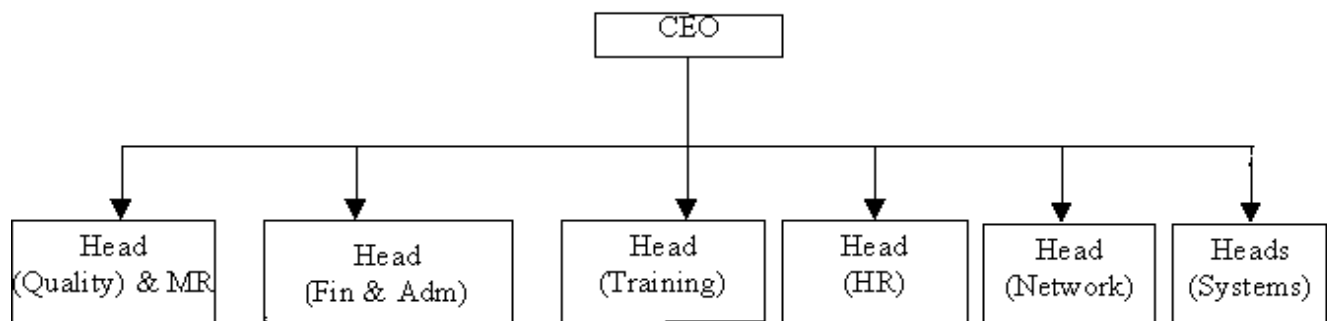
Given below is a typical organisational structure of a software business. The software projects, the core business is managed by Head(Systems). The other functions indicated in the chart are support areas. They are Quality, Finance, Administration, Training, Human Resources and Net - Work Management(NMG)

1.2 PROBLEM : With the implementation of ISO 9001 in the company, measurements were introduced. Traditionally ,the software metrics were focused on quality, delivery & cost parameters. These were obviously focused on the primary software process.

However management felt that the quality system through ISO had not really addressed the entire organisation. Following questions still remain unanswered .

1. How are the support departments performing ?
2. Could there be a set of performance measures for support departments?
3. Could these performance measures be used as a basis for improvement ?

In short, specifically in the areas of Quality, Administration, Finance , HR, NMG, the management needed to know how the support departments performed and with that as the



starting point, use the measurements as the basis for future improvements.

2.0 ORGANISATON SOLUTION

2.1 GOALS

The following goals were set for the problem:

- (i) Identify performance measures for Support departments
- (ii) Instill Customer orientation within the organisation
- (iii) Identify improvements based on analysis of quantitative performance data
- (iv) Involve customer in target setting
- (v) Address qualitative aspects of Support department performance
- (vi) To ensure focus on key parameters by the Support departments

2.2 THE MOU FRAMEWORK

To solve the problem and achieve the objectives, the organisation planned to practice the concept of *Internal Customer* and *Next Process as Customer*. For this, the department which supplied the product/service was referred to as the *Supplier department* and the one which used the product/service was referred to as *Customer department*. Within the organisation “*Support departments*” such as Network Management Group(NMG), Finance, Human Resources(HR) etc. play the role of “*Supplier Department*”. The following steps were followed in the MOU deployment process:

STEP 1 : Issuing guidelines for signing Memorandum of Understanding (MOU) with Key

Customers : The following guidelines were issued for the Support departments :

- (i) All Support departments are required to sign MOUs with key Internal customers
- (ii) The Support department shall identify Key Customers to sign MOUs based on the following criteria :
 - (a) Criticality of Product or Service being rendered
 - (b) Financial impact of Product or Service being supplied

- (c) Volume of Product or Service being supplied
- (d) Chronic problems reported by customers
- (iii) The Support department shall approach the Customer department to identify and develop measures and set STRETCH targets
- (iv) It is desirable that the Support department comply to the MOU once it is signed.

STEP 2 : Signing the MOU :Using the guidelines the Support departments will perform the following activities :

- (i) Review all its processes, sub-processes and activities.
- (ii) Find out the key customer for each processes, sub-processes and activities
- (iii) Along with the respective key customer identify the key products and/or services which the customer wishes the supplier to focus on.
- (iv) Identify the key measures for the selected key product and/or services.
- (v) Use the MOU format (Annexure –01 enclosed) to sign the MOU. As commitment shown for the identified MOU parameters, both the Supplier department and the Customer(s) sign the MOU document. Annexure –01 also shows a sample MOU between Systems department(as Key Customer) and Network Management Group(NMG) (as Supplier department).
- (vi) This MOU format will identify the Customer and Supplier, Basis of Selection, MOU parameter, Initial level, target level and review frequency
- (vii) The MOU document is shared within the organisation to let all know the focus on selected MOU parameter performance.

STEP 3 : Customer Survey for Qualitative feedback : Support departments performance measurement also has elements of customer perception hence to capture this aspect of the performance, qualitative feedbacks through customer surveys are also taken from the key customer.

STEP 4 : Review of MOU and Customer Feedback : The performance of the Support department is measured against the identified MOU parameters on a monthly basis and is reviewed at a monthly / quarterly / half-yearly frequency. The following steps are followed during review :

- (i) Collect data for MOU parameters on a monthly basis and store in a centralised database.
- (ii) Review the measures on a Quarterly / Half-yearly basis as per identified review frequency.
- (iii) Using Form MOU/02 (Annexure – 02), calculate the MOU compliance on quarterly basis and calculate the *Qualitative measure Score : 'A'*
- (iv) Display the performance to demonstrate improvement vis a vis initial and target level.
- (v) Identify Corrective / Preventive Action (if any) after analysis and review of performance.
- (vi) Take half yearly customer feedback for ***Qualitative measures*** (other than the MOU parameters, format shown in Annexure - 03) and calculate the value '**B**'. Suitable action plans are drawn against these feedbacks also.
- (vii) Calculate the ***Total Score : "A+B"*** to compute the ***Composite Performance Index***.
- (viii) The MOU feedbacks are reviewed in the Management Review meeting.

2.3 THE MOU APPROACH

The MOU approach was taken to satisfy the Goals as mentioned in 2.1 above. Other alternatives could be stand-alone target setting by supplier department, which may not reflect the true requirements of their internal customers as they may not be fully aware of the external customer requirement. Hence this Next Process as Customer approach was taken so that the internal customer validates the key performance requirements of the support departments. It also gives a

combination of Quantitative and Qualitative measurements, thereby reflecting the true feedback from the customer.

2.4 : OBSTACLES

S.No.	OBSTACLES	STEPS UNDERTAKEN
1.	Understanding the MOU concept	Presentations made, Examples given, One to one discussion
2.	Lack of Customer focus	Importance of Customer focus explained
3.	Customer Survey – Tedious process	Lotus Notes used as a tool to crunch the cycle time from 1 month to 4 days
4.	Selecting Key parameters	Customers input used, Norms developed

3.0 ORGANISATION RESULTS

3.1 RESULTS VIS A VIS GOALS

S.No.	GOALS	RESULTS OBTAINED
1.	Identify performance measures for Support departments	29 measures identified for the 5 support departments jointly by Customer and the concerned Support department
2.	Instill Customer orientation within the organisation	Customer involved in Target setting and Performance review of Support departments
3.	Identify improvements based on analysis of quantitative performance data	The process of analysis of quantitative performance is on. The same is reviewed in the MR meeting.
4.	Involve customer in target setting	Target of MOU parameters were set based on discussions with customer. Refer to Annexure – 01 and 05 respectively for target set for various MOU parameters of NMG and Quality department .

5.	Address qualitative aspects of Support department performance	Qualitative feedbacks taken for the Quality department. Results enclosed in Annexure – 04
6.	To ensure focus on key parameters by the Support departments	Support departments now focus more on achieving the target levels set for the MOU parameters.

RESULT : A sample feedback on quantitative MOU parameters as well as Composite Performance Index for Quality department is shown in Annexure – 05

3.2 BENEFITS

The real effect on the organisation was related to the change in the approach towards the customer. The real importance of one of PMS India's *Quality Objectives "To Increase Customer satisfaction"* was understood and it helped deploy this quality objective throughout the organisation. The Management now has quantitative measures for monitoring the performance of support departments. As we all know, Quality is all about continuous improvement, however, no improvement is possible if one does not know the current status in Quantitative terms. This approach helped the support departments to know its present level and also address the gaps vis a vis the target as improvement opportunities. The Customer orientation among the employees has been enhanced. Sharing of targets among the employees has given them a focus to work towards the target. Full deployment of this process is yet to be seen as the entire process of deployment is only a few months old and hence in the initial stages of implementation.

3.3 WHAT NEXT?

The performance measurement system for the support processes will be automated. Data collection and reporting will be done through use of automated systems. The entire process will be made an integral part of the organisations Quality Management System(QMS). The

Opportunities for Improvement(OFI) will be identified and specific methodologies like Juran trilogy, Benchmarking etc. will be used for achieving breakthrough improvements in the Support department performance.

4.0 : ORGANISATION LEARNING

The Challenges faced and the lessons learnt are presented as follows :

S.No.	CHALLENGES FACED	LESSONS LEARNT
1.	Understanding the MOU concept	First practiced in Quality, shown in form of example
2.	Lack of Customer focus, Customer Survey – Tedious process	Customer Surveys automated through Lotus Notes. Reduced cycle time (from 1 month to 4 days) achieved
3.	Developing measurement systems	Difficulty in identifying performance measures and developing measuring mechanism.

Annexure : 01: MOU FORMAT & A SAMPLE MOU

Form No. MOU/01

MEMORANDUM OF UNDERSTANDING
With Key Internal Customers

CUSTOMER DEPARTMENT : Systems

SUPPLIER DEPARTMENT: NMG

Basis of selection : Volume/Criticality/Financial Impact/Others (please specify): Volume & Criticality

S. No.	MOU Parameter	Unit	Initial Level	Target Level	Review Frequency	Remarks
1.	Closing of Break-Fix calls for desktop in 2 hrs	%	87	90	Half - yearly	--
2.	Closing of PC requests (Avg./Max)	Days	3/10	2/7	Half - yearly	After last Approval
3.	Closing of RUS requests for software (Avg/Max)	Days	3/10	2/7	Half - yearly	After last Approval
4.	Closing of RUS requests for HDD upgrade (Avg/Max)	Days	7/20	3/7	Half - yearly	--
5.	Lease line uptime during office hrs. including ISDN backup	%	97	99	Quarterly	--
6.	CM/2 and SNA gateway connectivity downtime	Link-hrs.	Not Known	Reduce by 10%	Monthly	Data to be collected in the 1 st month

Agreed by :

Signature Supplier Department
Name : Sanjay Bhargava
Designation: Deputy Manager-

Signature Customer Department
Name : Prashant Jain
Designation: GM(Systems)

Annexure : 02

Form No. MOU/02

FEEDBACK ON CUSTOMER SATISFACTION
For Internal Customers

Feedback Frequency :-----: June/September/December/March
(Please circle the appropriate month)

CUSTOMER DEPARTMENT :----- SUPPLIER DEPARTMENT:-----

A. FEEDBACK ON QUANTITATIVE MEASURES MENTIONED IN MOU
WEIGHTAGE : 60 %

S. No.	MOU Parameter	Initial Level	Target Level	Actual Level				Compliance Score	Remarks
				Q1	Q2	Q3	Q4		
<i>Average Score</i>									

Calculation of % Compliance	Compliance Score
If Compliance Score >100 (Actual Level . Target Level)	100
If improvement implies increase in parameter value	(Actual Level/Target level) * 100
If improvement implies decrease in parameter value	(1-(Actual Level - Target level)/Target level) * 100

SCORE OBTAINED IN A = AVG. COMPLIANCE SCORE * 0.6

TOTAL SCORE OBTAINED(Composite Performance Index) = (A+B)%
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Annexure : 03

Form No. MOU/03

FEEDBACK ON QUALITATIVE MEASURES (Other than MOUs)

Feedback Frequency : Half yearly September/March from key customers

(Please put a tick in the appropriate column)

WEIGHTAGE : 40 %

S. N o.	Attribute	Max Marks	Level of Satisfaction					Remarks
			A Excelle nt (1)	B Very Good (0.8)	C Good (0.6)	D Satis- Factory (0.4)	E Poor (0.2)	
1.	SERVICE QUALITY - Quality of Service -Reliability of Product/Service	25						
2.	SERVICE EFFICIENCY - Timeliness of Service -Response to Emergency/special needs	25						
3.	CUSTOMER RELATIONSHIP - Attitude of personnel - Complaint Resolution	25						
4.	OVERALL PERCEPTION OF DEPARTMENT - Is there an improving trend - Is there a worsening trend in the quality of product/service	25						
	Indicate areas which need immediate attention to enable the supplier to take action							

SCORE OBTAINED IN 'B' * 0.4 = -----
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Feedback from Customer Department : ----- Given By: -----

Signature of Customer Departmental Head : ----- Dated : -----

Annexure : 04 Feedback for Qualitative measures for Quality department(Sample)

Form No. MOU/03

FEEDBACK ON QUALITATIVE MEASURES (Other than MOUs)

Feedback Frequency : Half yearly September 2000 from key customers

(Please put a tick in the appropriate column)

WEIGHTAGE : 40 %

S. N o.	Attribute	Max Marks	Level of Satisfaction					Remarks
			A Excelle nt (1)	B Very Good (0.8)	C Good (0.6)	D Satis- Factory (0.4)	E Poor (0.2)	
1.	SERVICE QUALITY - Quality of Service -Reliability of Product/Service	25		•				25*0.8 = 20
2.	SERVICE EFFICIENCY - Timeliness of Service -Response to Emergency/special needs	25			•			25 * 0.6 = 15
3.	CUSTOMER RELATIONSHIP - Attitude of personnel - Complaint Resolution	25		•				25*0.8 = 20
4.	OVERALL PERCEPTION OF DEPARTMENT - Is there an improving trend - Is there a worsening trend in the quality of product/service	25		•				25*0.8 = 20
	Indicate areas which need immediate attention to enable the supplier to take action			Timeliness of response to special needs requires improvement				

SCORE OBTAINED IN 'B' * 0.4 = (20+15+20+20) * 0.4 = 30

Feedback from Department : Systems Head

Given By: Rajesh Therani

Signature of Departmental Head : Rajesh Therani

Dated : 02/10/2000

Annexure : 05 – Feedback for MOU for Quality department(Sample)

Form No. MOU/02

FEEDBACK ON CUSTOMER SATISFACTION
For Internal Customers

Feedback Frequency : Nine months ending December 2000
(Please circle the appropriate month)

CUSTOMER DEPARTMENT : Systems SUPPLIER DEPARTMENT: Quality

A. FEEDBACK ON QUANTITATIVE MEASURES MENTIONED IN MOU
WEIGHTAGE : 60 %

S. No.	MOU Parameter	Initial Level	Target Level	Actual Level				Compliance Score (%) Cumulative	Remarks
				Q1	Q2	Q3	Q4		
1.	Compliance to IQA plans	-	12	3	3	3		100	
2.	No. of QMS requests serviced	79	48	10	08	12		(30)/36)*100 = 83.33	
3.	Avg. Cycle time of QMS requests	10	07	4	4	5		100	
Average Score								94.44	

Calculation of % Compliance	Compliance Score
If Compliance Score >100 (Actual Level . Target Level)	100
If improvement implies increase in parameter value	(Actual Level/Target level) * 100
If improvement implies decrease in parameter value	(1-(Actual Level - Target level)/Target level) * 100

SCORE OBTAINED IN A = AVG. COMPLIANCE SCORE * 0.6 = 94.44 * 0.6 = 56.66

TOTAL SCORE OBTAINED (Composite Performance Index) = (A+B)%
= (56.66 + 30)% = 86.66 %