

Product development process in a machine learning firm

Survey Questions

1) Designation

Designation

Si. No.	Designation	No. of Respondents	Percentage (%)
1	Senior Manager	5	5
2	Technical Manager	10	10
3	Non-Technical Manager	3	3
4	Technical staff	70	70
5	Non-technical staff	12	12

2)Age

Age

Si. No.	Age	No. of Respondents	Percentage (%)
1	Below 30 years	57	57
2	30 – 39 years	41	41
3	40 – 49 years	2	2
4	Above 49 years	0	0

3)Gender

Gender

Si. No.	Gender	No. of Respondents	Percentage (%)
1	Male	51	51
2	Female	49	49

Source: Primary data

4) Total industry experience

Total industry experience

Si. No.	Total industry experience	No. of Respondents	Percentage (%)
1	Below 2 years	26	26
2	3 – 5 years	31	31
3	5 – 10 years	25	25
	10 – 20 years	18	18
4	Above 20 years	0	0

5) Which machine learning domain do you work generally?

Machine learning domain

Si. No.	Machine learning domain	No. of Respondents	Percentage (%)
1	Computer vision	82	82
2	Genomics	83	83
3	Chatbots	86	86
4	Natural language processing	80	80
5	Trend analysis	0	0

6) What kind of problems is attended generally?

Kind of problems attended generally

Si. No.	Kind of problems attended	No. of Respondents	Percentage (%)
1	Existing problems	84	84
2	New problem	16	16

7) Where do you get most of the ideas for new products?

Idea generation source

Si. No.	Idea generation source	No. of Respondents	Percentage (%)
1	From employees	3	3
2	Client/Customer	17	17
3	Market study reports/external agencies	80	80

8) Rank your preference for the idea generation methods given above

Preference for the idea generation methods

Si. No.	Idea generation source	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	Idea from employees	0	3	85	91	15
2	Client	9	76	15	194	33
3	Market study reports/external agencies	91	21	0	315	52

9) Employee's participation in idea generation is advisable or not?

Employee's participation in idea generation

Si. No.	Employee's participation in idea generation	No. of Respondents	Percentage (%)
1	Always advisable	65	65
2	Usually advisable	25	25
3	Sometimes advisable	10	10
4	Rarely advisable	0	0
5	Never advisable	0	0

10) How do you rate the idea generation process in you company?

Rating the idea generation process

Si. No.	Rating the idea generation process	No. of Respondents	Percentage (%)
1	Very high quality	68	68
2	High quality	23	23
3	Neither high nor low quality	9	9
4	Low quality	0	0
5	Very low quality	0	0

11) How are teams assigned for the feasibility study

Team assignment for the feasibility study

Si. No.	Team assignment for the feasibility study	No. of Respondents	Percentage (%)
1	Senior level management team	83	83
2	Pre designated team for all feasibility study	17	17
3	Random selection of members from each departments	0	0

12) Rank your preference for the methods of assigning teams for feasibility study

Preference for assigning teams for feasibility study

Si. No.	Preference for assigning teams for feasibility study	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	Random selection of members from each departments	0	0	100	100	16.7
2	Pre designated team for all feasibility study	21	79	0	221	36.8
3	Senior level management team	79	21	0	279	46.5

13) Who leads the team for studying the feasibility of selected ideas

Leadership of team for studying the feasibility of selected ideas

Si. No.	Team assignment for the feasibility study	No. of Respondents	Percentage (%)
1	Member from marketing	2	2
2	Member from technical	98	98
3	Member from finance	0	0
4	Member from HR	0	0

14) How the idea selection process works in the company?

Idea selection process in the company

Si. No.	Idea selection process	No. of Respondents	Percentage (%)
1	By voting majority	9	9
2	Consensus after discussion	91	91
3	Analytical	0	0

15) Rank your preference for the idea selection process

Preference for Idea Selection Process

Si. No.	Preference for Idea Selection Process	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	By voting majority	8	67	25	183	31
2	Consensus after discussion	81	15	4	277	47
3	Analytical	8	17	75	133	22

16) How do you evaluate the feasibility of an idea? Rank the influencing factors.

Rank the influencing factors to evaluate the feasibility of an idea

Si. No.	Preference for Idea Selection Process	Ranks					Points	Percentage
		Rank 1	Rank 2	Rank 3	Rank 4	Rank 5		
1	Market acceptance	72	13	13	2	0	442	30
2	Cost of production	4	7	18	67	4	240	17
3	Technology	24	75	1	0	0	423	28
4	Competitors	0	4	61	24	11	258	17
5	Profit	0	1	7	7	85	124	8

17) What are the means of finding the approximate time and cost estimate for a product

Estimate the approximate time and cost for a product

Si. No.	Estimate the approximate time and cost for a product	No. of Respondents	Percentage (%)
1	Experience from similar projects carried out by us	79	79
2	Competitors cost/quote	5	5
3	Own estimate	16	16

18) How teams do the detailed study on each selected ideas?

Methods for the detailed study on the selected ideas

Si. No.	Methods for the detailed study on the selected ideas	No. of Respondents	Percentage (%)
1	Assigning different teams with different objectives	85	85
2	Studying reports of similar products within the company	15	15
3	Competitors reports	0	0

19) Rank your preference for the process of detailed study of selected idea

Preference for the process of detailed study of selected idea

Si. No.	Preference for the process of detailed study of selected idea	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	Assigning different teams with different objectives	85	12	3	282	47
2	Studying reports of similar products within the company	13	79	8	205	35
3	Competitors reports	0	10	90	110	18

20) Who leads the team for detailed study of selected idea

Team leader for studying the details of selected ideas

Si. No.	Team leader for studying the details of selected ideas	No. of Respondents	Percentage (%)
1	Member from marketing	2	2
2	Member from technical	98	98
3	Member from finance	0	0
4	Member from HR	0	0

21) What are the important fields covered in the detailed study of a product, Rank them in preference

Preference for the important fields covered in the detailed study of a product

Si. No.	Important fields covered in the detailed study of a product	Ranks				Points	Percentage (%)
		Rank 1	Rank 2	Rank 3	Rank 4		
1	Marketing	20	67	13	0	307	31
2	Technical	81	15	4	0	377	38
3	Finance	2	16	78	4	216	21
4	HR	0	0	5	95	105	10

22) How do you rate the process for the detailed study of an idea in your company?

Rate the process for the detailed study of an idea in the company

Si. No.	Rate the process for the detailed study of an idea in the company	No. of Respondents	Percentage (%)
1	Very high quality	2	2
2	High quality	23	23
3	Neither high nor low quality	73	73
4	Low quality	2	2
5	Very low quality	0	0

Source: Primary data

23) How are teams assigned for product development in the company?

Teams assigned for product development in the company

Si. No.	Teams assigned for product development in the company	No. of Respondents	Percentage (%)
1	New team with sufficient expertise in each functionality	87	87
2	Reassigning work to a team had similar project	9	9
3	Inviting application from employees	4	4

24) Rank your preference for the assignment of teams for product development

Rank the preference for the assignment of teams for product development

Si. No.	Preferences	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	New team with sufficient expertise in each functionality	2	71	26	174	29
2	Reassigning work to a team had similar project	86	10	3	281	47
3	Inviting application from employees	12	19	71	145	24

25) How many times in the last six months a prototype model have faced serious issues which then required serious rework from beginning

Serious issues in the last 6 months

Si. No.	Issues	No. of Response	Percentage (%)
1	Once	5	5
2	Twice	10	10
3	Thrice	12	12
4	More than thrice	73	73

26) What all kinds of code review methods are there in your company?

Code review methods

Si. No.	Support statements	No. of Response	Percentage (%)
1	Self	16	12
2	Peer	13	10
3	Lead	97	78
4	Architect	0	0

27) In your opinion, whether the workforce in the company are capable of handling works in any new technology or domain.

Capability of workforce in working in new technology

Si. No.	Support statements	No. of Respondents	Percentage (%)
1	Definitely would	15	15
2	Probably would	85	85
3	Probably would not	0	0
4	Definitely would not	0	0

28) What are the positives of prototype development process in your company?

Positives of prototype development process

Si. No.	Methods	No. of Respondents	Percentage (%)
1	Approach for development	80	31
2	The way in which selecting members for the development team	94	35
3	Availability of subject matter experts	88	34

29) Rank the positives of prototype development process in your company

Rank the positives of prototype development

Si. No.	Areas	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	Approach for development	64	14	20	240	40
2	The way in which selecting members for the development team	10	79	10	198	33
3	Availability of subject matter experts	26	7	70	162	27

30) Rank the areas that need improvements for the prototype development

Rank the areas need improvement for the prototype development

Si. No.	Areas	Ranks				Points	Percentage
		Rank 1	Rank 2	Rank 3	Rank 4		
1	Approach for development	21	16	7	56	202	20
2	The way in which selecting members for the development team	9	23	66	2	239	24
3	Availability of subject matter experts	13	60	27	0	286	29
4	Others	57	1	0	42	273	27

31) How are unit testing done in your company?

Assigning the task of unit testing

Si. No.	Method	No. of Respondents	Percentage (%)
1	Developer along with the development	90	90
2	Assigning to a separate team member	10	10

32) Who explains the requirements and functionalities of the product to testing team

Process of requirement gathering for testers

Si. No.	Support statement	No. of Respondents	Percentage (%)
1	Developer	31	31
2	Self-learning from design and requirement documents	10	10
3	Business Analysts and Developers	59	59

33) Do you think if testing is done by other company, will it be more effective?

Effectiveness of assigning testing to external companies

Si. No.	Support statement	No. of Respondents	Percentage (%)
1	Strongly Agree	8	8
2	Somewhat Agree	80	80
3	Neither Agree nor disagree	12	12
4	Somewhat disagree	0	0
5	Strongly Disagree	0	0

34) What are the positives of overall testing process in your company?

Positives of overall testing process in your company

Si. No.	Areas	No. of Respondents	Percentage (%)
1	Enough allocation of time for testing	86	86
2	Detailed review for Unit testing, SIT and UAT results	22	22
3	Testing is done by other company	0	0
4	Very active user base to check detailed user acceptance	3	3

35) Rank the areas those need improvement for overall testing process in your company

Rank the areas those need improvements for the overall testing process

Si. No.	Areas	Ranks			Points	Percentage
		Rank 1	Rank 2	Rank 3		
1	Enough allocation of time for testing	13	2	85	128	21
2	Testing is done by other company	14	74	10	200	33
3	Very active user base to check detailed user acceptance	73	24	5	272	46