Incremental Sales Methodology in IT sector: A probabilistic analysis of marketing strategy

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Abstract: The pandemic impact on business is truly unmeasurable. Generating positive deliverables, increasing productivity and adopting to the situation is now what is desired. While majority of the IT sector still relies on the traditional approaches to maintain business continuity, the research presented here shows that with incremental approach in reaching out to the customer demands, has shown significant impact on the productivity. The paper discusses and showcases the findings based on surveys using probabilistic approach thus urging the companies to embrace incremental approaches for B2B growth with deliberate learning.

Keywords: incremental, marketing, IT, sales, strategy

1. Introduction:

The current IT scenario in India is challenging, changing and demanding. With acute impact of pandemic to almost every potential company, the ones who could sustain exhibited different strategies and varied approaches. To keep up with the tremendous shift in the supply-chain process and to deliver stupendous outcomes, a need of incremental approach was identified and analysed.

In the current era of devising and modelling strategies in marketing [1], the roll out of appropriate model with revision necessarily revealed deep hidden strengths from which every industry can be benefitted. The approach towards the strategy, understanding the context [2] and then adopting to the situation is need of the time.

With rapid pace, it is desired that the industries should gear up to face the challenges and the effects during the pandemic. The current work presented is based on surveys – data collection from Indian IT sectors during pre-and-post pandemic. Probabilistic analysis shows that companies following a differential, incremental strategy have shown noteworthy year over year - YOY growth.

Hence, the need for incremental approach as a means to drive the business and at the same time exhibit sales growth is a crucial aspect today which every industry should look at.

2. Literature Survey:

There has been a quest for improved marketing strategies and how a product is percolated and presented to the customer segment for years [3]. The strategies deployed and put to practice have been observed following traditional approaches. The periodic revision of the strategies, the cannibalism impact, the endogenous factors are often left untouched.

Cannibalism [4] and ambidextrous innovation are few of the pointers observed in the IT industrial marketing development.

Researchers expressed the need of full proof, adopting and shifting paradigm marketing strategy [6] as its conceptualization will be able to address the challenges been faced by current companies. Marketing strategy – the key of business school pedagogy, needs to be put to practice to realise its actual potential.
Among the varied aspects been put up in the revision processes for marketing strategies— the promotion, the pricing, the aftersales service [7] and many others have observed to be affecting the overall performance [8] for the organisation.

More over the transformation of the commitments [5] to purchase fulfilsments is also a key towards the devising appropriate marketing strategy and making it successful. With the risk involved, the returns expected, path diversion towards improved assessment is what needs to be addressed in the current times.

It is equally important to identify the potential of the product to be marketed, the customer needs and strong customer-bond in revising the marketing strategy [9].

From the literature review, on a broader scale, it is observed that marketing strategies have potential to bring out positive change in the deliverables and increase business productivity.

Finally, it is treated as the ‘front face’ of the organization and overall a brand name - value venture lies in the capacity of the strategy adopted.

3. Data collection and Methodology

3.1 Data collection

To understand and prove the use case for organisations adopting incremental sales strategy, survey from respondents belonging to IT sector with focus on marketing division was carried. The sample size comprising of 512 samples was studied and analysed. A structured questionnaire and response forms were used to gather relevant data.

A sample of the same is shown in fig1. (a) and (b)

![Compiled data collected from the respondents](image1.png)

![Google form for data collection](image2.png)
3.2 Methodology

The hypothesis:

‘Impact of use of incremental sales strategy on business’

The data collected was pre-processed and used to understand the underlying nature of the methods, the practices followed by the organizations. Traditionally regression models are applied to determine the outcomes. To prove the hypothesis, we applied Naïve Bayes classifier – a Probabilistic machine learning approach to determine the accuracy of incremental approach deployed.

The Naïve Bayes:

The classifier works on the following rule:

\[
p(h|d) = \frac{P(d|h)P(h)}{P(d)}
\]

- \(p(h|d)\): the posterior probability
- \(p(d)\): probability of evidence
- \(p(h)\): the prior probability
- \(p(d|h)\): the likelihood

Probability that the hypothesis holds true given unclassified data was studied and calculated.

Of all the samples provided, 80% of the data was used as train data and 20% was used as test.

A typical k-fold cross validation with \(k\) as 10 was carried out and the results were studied.

Confusion Matrix:

The outcomes of the Naïve Bayes are shown on the basis of the confusion matrix given below.

The TP indicate True positives and TN are true negatives. Whereas the FN are false positives and FP are false positives. The confusion matrix shows the expected classification results.

<table>
<thead>
<tr>
<th>Actual class</th>
<th>Predicted class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TP</td>
</tr>
<tr>
<td>FN</td>
<td>54</td>
</tr>
<tr>
<td>TN</td>
<td>309</td>
</tr>
</tbody>
</table>

Outcomes:

The labelled dataset was treated with respect to the output class of incremental learning. Since the entire data set was previously labelled, the outcomes were observed with the 80-20 Train-test split.

After applying the classifier - naïve bayes classifier, confusion matrix was obtained. Figure 2 depicts the same.

<table>
<thead>
<tr>
<th>Actual class</th>
<th>non-incremental</th>
<th>incremental</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-incremental</td>
<td>309</td>
<td>57</td>
</tr>
<tr>
<td>incremental</td>
<td>54</td>
<td>92</td>
</tr>
</tbody>
</table>

Figure 2. confusion matrix for Naïve Bayes classifier
The average accuracy observed was 80% where the data samples belonging to incremental class were correctly classified as incremental whereas others were wrongly classified.

The graph depicting the impact of incremental method on YOY growth – sample data is shown in figure 3. It is visible from the findings that the incremental approach has accelerated in the growth.

4. Conclusion and discussion:
It was observed from the experimentation carried out that companies demanding drift, initiated incremental approach. The reason for lower accuracy was owing to the skewed dataset, still shows promising results.

The organisations who had already adapted it,

(i) showed substantial digitization capability to overcome the pandemic crisis.
(ii) Accessing mitigating risks.
(iii) Understanding and valuing customer propositions
(iv) Better understanding of customer demands

With current pandemic, where everyone is waiting for the end of it, the businesses – all across have been hugely impacted. Promising results are observed where the incremental approach was used in marketing, thereby making a reduced effect in the organization growth.

Lastly, in coming years, incremental approach will be definitely making a remarkable and commendable transformation to the way businesses run!

5. References:


