

Automation Systems Driver or Inhibitor for Successful CRM

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Abstract- Generally a strong CRM coupled with marketing automation and lead nurturing, can effectively increase sales – not to mention keep existing customers happy with your improved customer service. An upgraded Customer Relationship Management system provides your company with a stream of warm and hot leads and an opportunity to turn those cold leads into unexpected dollars. But is it always true? In this exploratory study, the author has tried to look at the various aspects of automation and CRM. The attempt has been done with the help of theoretical concepts, some small situation based cases and her experience.

In the end some conclusions have been drawn which are quite applicable to the industry.

Key Words: Automation, CRM, Interaction, System (cost, life, value), Technology

I. INTRODUCTION

First of all we should know the prerequisites for CRM:

1. Setting up your Customer Relationship Management system
2. Updating and migrate your outdated CRM system
3. Leveraging specific subsets of your client list with targeted advertising
4. Implementing an automated lead-nurturing system
5. Adjusting and creating landing pages to capture more leads

The three keys to maximizing the process automation lifecycle:

- Extend the system life
- Lower the system cost
- Derive additional value from the system

To extend the system lifecycle, process operators must begin with a thorough understanding of the system at the component level. This requires an audit and planning process, typically conducted by the automation provider.

The audit identifies each asset and its main components to determine their age and condition. This data is compared to historical data regarding typical component failure experience in order to plot each component's location in its expected lifecycle. The result of this analysis is a report profiling each piece of equipment in the system. The process owners are then consulted to identify their expectations or goals for the system.

- What are the desired levels of performance and reliability?

- What are the budget constraints?
- What market or competitive forces must be considered?
- Is there a desired life expectancy for the system?

“With that information, it’s possible to generate a plan or set of prioritized recommendations to optimize the system lifecycle,” explains Kent Morrissey, Evolution Manager for ABB Process Automation Services. “The core of that plan and the major contributor to extended system life is a long-term maintenance program.”

Preventive Maintenance: Equipment very often will exceed its expected life. Plant operators may be fortunate to have equipment operating two or three times beyond what was expected. But without a plan for regular repair, update or replacement, nearly every system component will eventually fail. If system owners haven’t been keeping the system current, even a small component failure can create a ripple effect of serious problems and a major maintenance issue that could result in extended downtime.

Experienced maintenance staff may develop a good feel for the probable life of common mechanical components – motors, valves and actuators. Assessing the health and longevity of process control system components may be more problematic. Because of the difficulty of predicting the life expectancy of a piece of equipment, a common solution is to just keep it running until it fails. This may seem to be the best approach to getting the longest service from the component. In fact, with routine attention and maintenance, it may have continued to operate even longer and provided an even greater return on investment.

This approach, however, creates production disruption and unexpected downtime. Breakdowns often occur at exactly the time when it is difficult to afford by the plant managers. Then, the more logical approach is to proactively manage health of automation system through regular attention and routine service, avoiding unexpected shutdowns. The insights and tools needed to monitor and manage the lifecycle of an automation system are usually outside the areas of expertise of the process owners. They typically turn, instead, to the system provider or a third-party service organization. These resources have the tools needed to help maximize their automation system throughout its lifecycle.

Lifecycle Planning: OEMs and outside service providers often promote cradle-to-grave support for production equipment. Their engagement begins with the day the equipment is installed and extends until it is deemed obsolete and taken out of service. For process automation, that model is often inappropriate because there isn't a 'grave' as an endpoint. Instead, service providers can create a program supporting a constant evolution of the system.

In this "evolutionary" approach, they start with an audit, looking at each component in the automation system. That's followed by an analysis that results in an individual assessment of each part, its current health and predicted life.

But it is very important for the service provider to consult with the process owners regarding their system goals or expectations. Some owners opt to replace their system on a regular basis to keep latest systems. Others try to avoid system replacement, constantly updating and repairing what they have. Their preferences are an important input to the audit. With the information about the installed equipment base and input from the process owners, the outside experts can generate a detailed plan for managing the system throughout its lifecycle.

II. IMPORTANCE

Automation is essential to operating any complex production process. The sophistication and power of process automation enables vastly improved productivity, quality and cost control.

Many believe that all technology follows a predictable arc of performance. A new system is installed and various startup issues addressed. That's followed by a long period of satisfactory operation with occasional repairs or updates. Towards the end of its life, performance degrades until it reaches the point where it becomes intolerable and replacement is required.

While most technology does follow this arc, this is not necessarily the typical or most desirable lifecycle for process automation. Managed properly, with the help of third-party experts, a process control system can provide continually higher levels of performance throughout its life. Rather than degrading over time, it can be maintained in a way that vastly extends its longevity and continually increases its performance.

Process automation is essential to operating any complex production process. The sophistication and power of process automation enables vastly improved productivity, quality and cost control. Process owners know that nearly every system has the potential for even greater productivity and efficiency. Mainly through minor incremental improvements and subtle system tuning, but also through the occasional giant improvement leap, process automation provides the tools to move towards the ideal of maximized production.

As with all technology, the day a process control system is installed, it starts to be outdated. Most process owners realize that these systems could benefit from an ongoing lifecycle optimization approach, but few invest the needed strategic thought and action to realize the same. Approximately only 20% of system owners take a strategic lifecycle approach to their control system. The rest do nothing or are strictly reactive, making changes only as needed to correct problems.

Presented with the potential for continually improved productivity and performance, why don't more process owners take a lifecycle approach to proactively manage process automation? Some don't want to invest in the next generation of technology until they've realized the greatest possible return on investment for their existing system. Others hesitate to alter a process that seems to be performing as required. Making changes, they believe, invites trouble. In some cases, this is understandable, since not all upgrade programs go as smoothly as the suppliers promised.

The solution; more appropriate automation: Many of the current problems are indeed a result of automation, but only in the sense that the automation is inappropriately designed and applied.

When people perform actions, feedback is essential for the appropriate monitoring of those actions, to allow for the detection and correction of errors, and to keep alert. This is hardly a novel point: feedback is an essential aspect of all control theory. But adequate feedback to the human operators is absent far more than it is present, whether the system be a computer operating system, an autopilot, or a telephone system. In fact, it is rather amazing how such an essential source of information could be skipped: the need for complete feedback is one of the major points of Norman [2]. Without appropriate feedback, people are indeed out of the loop: they may not know if their requests have been received, if the actions are being performed properly, or if problems are occurring. Feedback is also essential for learning, both of tasks, and also of the way that the system responds to the wide variety of situations it will encounter.

People construct mental models of systems with which they interact. The model is constructed entirely from what I have called 'the system image', the information available to them from the system, the environment, and their instructions [3]. But this system image depends critically upon the information displays of modern equipment. When we send a command to an automated piece of equipment, the only way we can update our mental models of the system is through the feedback provided to us.

Here I should mention a case of the China Airlines where the autopilot kept compensating for the loss of engine power, if the autopilot had been intelligent enough; it might have reported the need to keep compensating. In

the case study of the weight imbalance caused by a fuel leak, there were two opportunities to note the problem. An intelligent automaton could have reported on the continual increase in compensation necessary to keep the plane level. Or it might have noted that the fuel level of the number three tank was falling, even though fuel was only supposed to be pumped from the number two tank. And in the case of the incapacitated pilot, if the captain and his first officer had been better socialized and had followed normal and proper callout and response procedures with the two considered as equal members of the operation, the pilot's incapacitation would have been discovered.

In the above case; the loss of engine power and the fuel leak, the autopilots compensated by turning the control wheels. In theory, the crew could have noted the problem quite early by noting the position of the wheels, just as the second officer did note an abnormality in the fuel gauge readings in the fuel leak case study. Similarly, there was sufficient information in the case of pilot incapacitation. In these cases the problem was that no person or system commented upon the issues, so that nothing brought the potential problem to the attention of the relevant people. The feedback was potentially available, but it was not attended to properly.

The task of presenting feedback in an appropriate way is not easy to do. Indeed, we do not yet know how to do it. We do have a good example of how not to inform people of possible difficulties: overuse of alarms. One of the problems of modern automation is the unintelligent use of alarms, each individual instrument having a single threshold condition that it uses to sound a buzzer or flash a message to the operator, warning of problems. The proliferation of these alarms and the general unreliability of these single-threshold events cause much difficulty [9][11][13].

What is needed is continual feedback about the state of the system, in a normal natural way, much in the manner that human participants in a joint problem-solving activity will discuss the issues among themselves. This means designing systems that are informative, yet non-intrusive, so the interactions are done normally and continually, where the amount and form of feedback adapts to the interactive style of the participants and the nature of the problem. We do not yet know how to do this with automatic devices: current attempts tend to irritate as much as they inform, either failing to present enough information or presenting so much that it becomes an irritant: a nagging, 'back-seat driver', second-guessing all actions [5].

Marketing automation platforms are fantastic for helping you automate marketing processes and centralize marketing collateral (i.e. emails, landing pages and hosted content). But if you want to take your marketing automation experience to the next level, you must

integrate your marketing platform with your customer relationship management (CRM) system.

Tight integration with your CRM system will allow you to transfer lead information seamlessly between marketing and sales, ensuring you present the right messages at the right time. Better alignment between marketing and sales will improve the effectiveness of campaigns, and provide a stronger return on your software – and marketing – investments.

The Basics: Integration between your marketing automation system and CRM system should be bi-directional. In other words, your CRM system should talk to your marketing automation platform and your marketing automation platform should talk to your CRM system. For example, if you have your website's "Contact Us" form integrated into your marketing automation platform, the data submitted via that form submission should be replicated in your CRM system.

On the flip side, if your organization is making regular updates to their customer and prospect records within the CRM system, that data should sync back to your marketing automation platform. This ensures there is consistency in the data between the two systems. For example, let's say a sales rep is speaking with a prospect. There has to be an ability to update the record to reflect the proper title, then have that information synced back with your marketing automation platform. This is important when it comes to database segmentation, lead nurturing and lead scoring.

How does this work? It begins with a process of mapping fields from your CRM system into your marketing automation system. Some marketing automation Vendors offer automated mapping with major CRM systems (e.g. Salesforce.com). Others will manually map CRM data into the marketing automation system. After the initial mapping, data added or changed in one system will automatically update in the other. This bi-directional synchronization can occur in real-time, though large systems may update at intervals up to 15 minutes. Synchronization frequency can also be controlled by the user.

III. A HIGHER ORDER OF AWARENESS IS NEEDED

To give the appropriate kind of feedback requires a higher level of sophistication in automation than currently exists. Consider what is required for an automatic pilot to note that it is compensating more than normal. The current automatic systems are feedback loops that attempt to maintain a constant system state. To provide self-monitoring capability that would let it recognize that conditions are changing and more and more compensation is being used, would require a kind of higher-level of awareness, a monitoring of its own monitoring abilities.

The solutions will require higher levels of automation, some forms of intelligence in the controls, an appreciation for the proper form of human communication that keeps people well informed, on top of the issues, but not annoyed and irritated. Our current level of knowledge is not enough to do these things.

Why don't current systems provide feedback?

Why do current systems have such poor feedback and interaction? In part, the reason is a lack of sensitivity on the part of the designer, but in part, it is for a perfectly natural reason: the automation itself doesn't need it! That is, if a designer is asked to design an automatic piece of equipment to control some function, the task is completed when the device functions as requested. Providing feedback and monitoring information to the human operators is of secondary importance, primarily because there does not appear to be any need for it.

Feedback is essential because equipment does fail and because unexpected events do arise. In fact, in any complex task or environment, one should always expect unexpected events: what is unexpected is the type of event that will occur.

Human operators need to cope with these situations, and this is why the feedback and 'conversation' is required. Were the equipment never to fail, were it capable of handling all possible situations, then the human operator would not be necessary, so the feedback and interaction would similarly not be necessary. Today, in the absence of perfect automation an appropriate design should assume the existence of error, it should continually provide feedback, it should continually interact with operators in an appropriate manner, and it should have a design appropriate for the worst of situations. What is needed is a soft, compliant technology, not a rigid, formal one.

The Technology: The majority of CRM and marketing automation systems provide integration and external access to their databases using an Application Programming Interface (API). An API will allow an external system to access and make use of the services of the connected system. For example, it can allow a marketing automation system to access a specific lead's data from the CRM system and add it to a campaign.

Utilizing an API will provide a much more stable experience from an integration standpoint, as well as provide access in areas where one data table has a relationship with another (i.e. contacts linked to accounts/companies). Other methods of integration consist of batch or automated file imports via either a static URL or FTP where the file referenced is updated on a regular basis. These methods are best suited for the initial upload of data, rather than the ongoing synchronization of detailed data.

IV. Taking Your Integration to the Next Level

To take the marketing and sales efforts to the next level, it's important to adopt advanced integration activities. Here is a list of six advanced functions you can perform by integrating your CRM and marketing automation systems [17].

Function	Description
Activity Alerts	The marketing automation system will send an alert to sales reps when a lead performs a certain behavior, such as visiting a web page.
Assign Leads to Sales Reps	Users can create rules in the marketing automation system that will assign and transfer a new lead to a sales rep based on certain criteria.
Campaign Integration	Campaigns from the marketing automation system will synchronize with the CRM system so that you can tie revenue back to campaigns to measure ROI.
Campaign Triggers	Campaigns can be triggered based on certain lead behaviors or changes in the CRM system. Lack of contact, for example, could trigger a campaign.
Send Leads Based on Campaign Rule	The marketing automation system will send a lead to sales reps through the CRM system after a lead completes an activity in a campaign flow.
Send Leads Based on Score	The marketing automation system can send a lead to sales reps through the CRM system when the lead reaches a specific lead score.

10 questions you should ask when evaluating a marketing automation platform: [17]

1. Do you offer pre-built connectors to the [insert your CRM system] CRM system?
2. Can you quickly reference new fields within your marketing automation platform and add them to your integration?
3. How frequently does your system synchronize with the CRM system?

4. Can your system send leads to the CRM system based on a lead score?
5. Can it send leads based on buyer behavior or a campaign outcome?
6. Can the system assign leads to sales reps based on score, campaigns, etc.?
7. Can the system synchronize campaigns with the CRM system?
8. Are you able to import flat files into your marketing automation database?
9. Can a sales rep remove a lead from a campaign from within the CRM system?
10. Can you pass implicit or behavioral activity information to your CRM?

V. CONCLUSION

Marketing Automation was meant to be tightly integrated with CRM because that's where all the data and the good stuff are found on any contact in the system. User experience has been the guiding light during the development of the proof of concept. The implementation of every feature has been strictly balanced to ensure that functionality does not forego ease-of-use or the satisfaction of using the application.

The problem with having CRM disconnected from your Marketing Automation system is they aren't in synchronization at all times. This can cause campaigns to be sent inappropriately and generally, chaos. One way to address this is to have another system maintain bi-directional sync and to keep them monitored in the event of any data loss.

CRM integration is definitely a key to the success of marketing automation. CRM and marketing automation engine should fit as closely as possible as this ensures a 360 degree view of all marketing and sales programs executed by a company.

Marketing Automation solutions are focused more on measuring the online marketing activities of a company, while a CRM platform mostly reflect the offline activities of a company and its sales professionals. The combination of both ensures that you have a foolproof program giving you all insight required into your online and offline prospects. This works best if the systems are completely in sync and allow the syncing up of both these data's derived and updated independently on any given day.

VI. FUTURE

In social CRM, automation is how you create content and distribute it as simply and consistently as possible. If you automate content creation and distribution, you should be able to join some really good conversations.

If there is some automation in the social CRM process, it makes CRM more efficient for the company to scale their efforts and hopefully engage with their customers. The challenge is going to be for brand to not make their customers feel like they are talking to an automated machine. This is where the actual structural components of social CRM are going to come into play. Once the automated system identifies the type of relationship it will be able to connect the two humans together. There is a need of exploring the organizational and process structure of social CRM.

We can favor the CRM and Marketing Automation engine fit closely (or as close as one can get) to remove any chances of problems later and to keep the data as accurate and timely as possible. When this happens, the sky is the limit with how flawless a marketing campaign can operate.

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