How to Prepare for Digital Transformation Initiatives: Part II

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As I wrote in the previous blog, I found a lot of inspirational points in an interesting study published by LNS Research on digital transformation called: *Understanding Industrial Transformation Today—Digital Readiness is the Foundation for Success.*

In the study, the results of a December 2018 global survey conducted on the state of industrial transformation programs in manufacturing companies. It's based on 302 completed surveys across a wide range of industries and geographies. In the previous blog, I took into consideration how digital transformation projects are driven differently from traditional manufacturing system (MES) and advanced automation projects, where they require a different approach from the system integrator as well since the pre-sale and sale phase.

Another interesting point coming from the survey is that most of the digital transformation projects are incrementally funded. Funds come from different sources during the various phases of the projects. Most of the

initiatives start small with proof-of-concepts and pilots which are corporately funded. They are then rolled out on multiple areas or plants and funded by an individual business unit or plant. This has a significant impact on how the project needs to be managed and scaled in terms of both team size and project governance.

Most of the time, during the proof-of-concept and pilot phases, a pretty small and agile team is enough. The budget itself prevents organizations from having a big team in place. On the other side, digital transformation projects have a tendency to scale up very quickly, especially in multi-plant environments.

During the initial phase, the system integrator only has to deal with a single client. But during the roll-out phase, the number of clients multiplies. Initiatives start in parallel in multiple plants and—since each of them has its own budget—it's difficult to have a single, centralized governance. However, it's important to be prepared to grow the team or split into multiple teams, fast and without losing control. This can only be done if the project was correctly managed from the beginning. It's also important to have the core team share functional and technical knowledge among all members, so that each of them can become their own leader of a sub-team working in parallel on different plants.

It's even important to have very strict and well-organized project governance to avoid a situation where, as soon as the pilot implementation generates multiplesub-projects working in parallel—or change requests start coming from different users, department, or plants—the corporate initiative becomes compromised. Governance need to be jointly managed between the customer and system integrator, as does the need to clearly share goals and methodology.

> A strong leadership, with people from all the departments that were involved in the definition of the initiative and the system integrator itself, should evaluate all the opportunities of improvement and authorize their implementation to guarantee that the scope stays aligned with the business strategy.

Last but not least, the survey shows how most of the digital transformation initiatives leverage multiple and different technologies, without having a significant predominating one. Industrial Internet of Things (IIoT), advanced analytics, intelligent information management, augmented reality (AR) and virtual reality (VR), intelligent wearables, remote operations centers, process and product simulation, blockchain, networking, digital twins, Big Data analytics, and many more technologies and systems are combined in order to implement a unified digital strategy. Even if a single system integrator doesn't need to manage them all, he needs to be able to understand and connect to them. This brings some technical challenges—even if interfaces are becoming easier to implement—but mostly some organizational challenges. The number of integrators that are part of the project increases and the governance of the project becomes more difficult. Each system integrator needs to be ready to collaborate with other system integrators who can sometimes be a competitor. This requires a change of approach and culture that is not always easy to accomplish. It's fundamental that the customer itself promotes the culture of collaboration in the project team helping make the relationship between various system integrators as easy as possible.

In the survey, there are many other interesting results that can help system integrators to better understand how the business related to industrial digital transformation initiatives is changing, and how to prepare to manage opportunities and challenges related to them is changing as well. I hope that these few thoughts can help you understand how it's going to impact the system integration business, not only in terms of which technologies to manage, but even in terms of organization and culture.