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Building Environment for a Good Business: The Integration of Scrum Project Management Method to find and develop innovative Business Solutions in Peru

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Abstract: Agile and Integrated Business Solutions (Henceforth IBSs) have existed for years, and the primitive state indicates their evolution. In Peru, Innovative manufacturers employed IBSs and agile to cofound goods and services to solve various business difficulties and participate more successfully in their respective fields. However, the usefulness and benefits of IBSs and agile have declined due to the tight project management style used. This study proposes a method dealing with a concept for Peruvian manufacturers. The conceptual method to adjust new income sources in making good consumer partnerships by using the methodology of an agile project taking into account the iterative and interactive nature of IBS development. This study revealed that typical project management as a delivery strategy for IBSs is ineffective. Its customer-centred and iterative philosophy presents an alternate option in using an agile project management strategy. This study shows how the agile process known as Scrum works better with innovative IBS development and presents a conceptual description. This finding contributes to the corpus of knowledge about agile's application possibility in Peru.

Keywords: *Agile; Integrated Business Solutions; Project Management; Scrum;*

Introduction

By collaborating with their customers to create value, Peruvian manufacturers push downstream to erect new income sources. According to Brady T. et al. (2005), the value is produced by committing integrated business solutions (henceforth IBS), creating or solving new value for customers. These ways can be solutions in the areas of boosting a customer's asset effectively and competitively, facilitating the expansion of the market, or minimizing the risk in finance (Brady, T. et al., 2004; Cornet, E. et al., 2000; Davies, A., 2004; Raddats, C. et al., 2019). Conforto, E.C. et al. (2014) and Wilkinson, A. et al. (2009) concur with the experts mentioned above that such manufacturing enterprises recognize that physical products alone no longer provide a competitive advantage in today's dynamic business climate.

Co-creating services and customer solutions are the things that manufacturers increasingly struggle to move from (Stauss, B. et al., 2010; Kowalkowski, C. et al., 2017). Furthermore, according to Raddats, C. et al. (2019), these manufacturers have been forced to change existing product development frameworks to suit integrated services' needs. According to Pino, F.J. et al. (2010) and Mukker, A.R. et al. (2014), the software development industry has mostly moved away from traditional project management approaches and toward agile project management as a more efficient way of developing new products and services. This study proposes that firms involved in IBSs use an approach of agile Scrum for new products and the models of service development. It lays up a conceptual framework that businesses can use to achieve their IBS objectives.

Literature Review

The obstacles faced by businesses creating IBSs were carefully recognized in this study's literature review. It underlined one of the significant issues: suppliers and customers have fundamentally distinctive perspectives on the work of IBSs, a significant factor in IBS development deficiency. The research has provided explanations and insights into some causes of bad results from project management's application in such development. Traditional project management has been the most typical strategy with its highly planned, uncompromising, and distanced client participation approach.

It is the polar opposite of what is required for IBS successful development: a close collaboration of multi-stakeholders, dynamic, iterative learning and flexible pans. Thus, this research suggests a customer-centred, gradual, and iterative strategy using agile project management.

Scholars have explored difficulties that manufacturing companies must overcome to implement an IBS strategy properly. Raddats, C. et al. (2019) summarized four streams from research (marketing, service management, general management, and operations) and five themes (service development, sales, and delivery; service offerings; performance; resources and capabilities; strategy and structure; and motivations). Even though many researchers have taken this discussion's shape, no research has delved into the delivery mode in-depth, leaving a massive vacuum in the fundamental cause of failure.

In their studies, Brady, T. et al. (2005); Storbacka, K., (2011); Worm, S. et al., (2017); Zhang, W. et al., (2017) recognize the need for companies to create new organizational structures, processes, capabilities, and mindsets in order to transition from simply manufacturing focusing on product to successful products and organizations focusing on the business solution. Tuli, K.R. et al. (2007) discovered that customers and suppliers had diverse solutions based on in-depth interviews with suppliers and customers. They also point out that the suppliers have an approach of product-centric to be the solutions, yet the customers have an approach of relationship-centric. C. Grönroos et al. (2013) characterize these positions analytically and envision customer/supplier value co-foundation occurring in the domains of joint value creation. They contend that the suppliers of services (supply corporations) have to first and foremost figure out how to gain access to client value. They also noted that the researchers are invited to do challenges to empirically monitor the engagement of actors in the process of value co-creation, although much of this discussion is conceptual. Two empirical studies recorded to discuss the dynamics of multiple actors' engagement in the sphere of value co-creation were conducted by Storbacka, K., (2011) and Li, L.P. et al. (2017). Their research underlined the need to use an approach emphasizing dynamic, iterative, multi-stakeholders in examining the process of value co-creation.

According to Kowalkowski, C. et al. (2017), Worm, S. et al., (2017), and Cusumano, M.A.; et al. (2015), the guidelines are still less in explaining when, how, or if enterprises ought to invest in IBSs. According to Kowalkowski C. et al. (2017), the study has focused on the stories discussing successful manufacturers who convert to services; however, many manufacturers overextended their services while others quit the transition services endeavour entirely. Zhang, W. et al. (2017) highlight five issues that companies must address when attempting a service expansion plan: Organizational structure, company strategy, development process, customer management, and risk management are all critical factors to consider. In companies with more substantial buyer power, Worm S. et al. (2017) discover that IBS initiatives can considerably boost return on sales performance, while the benefit is not more substantial in technology-intensive businesses.

In creating an IBS, a mindset that values the consumers' input and participation in the development process is required. According to Conforto E.C. et al. (2014), firms that confront such obstacles best tackle the obstacles they aim to solve by implementing an iterative approach that involves a collaboration of close customers. They also claim that the project management that is still done

traditionally has not shown to be not practical because of its proclivity for developing tight plans and inherent inflexibility in adapting to quick market or client environment change.

The above literature has revealed that the software development industry has given us some insight. The software industry's dynamic nature has encouraged providers to be agile and more adaptable when building solutions to change consumer needs, which is the same as what IBS requires. Moreover, they revealed that the software development industry has been developing agile project management approaches since the early 1990s, focusing on tight client participation and frequent involvement in rapid product iterations and continuous feedback.

From the various agile project management approaches, the approach that is primarily used is Scrum, according to J. A. Highsmith (2004). In Scrum, the collaboration with the client done directly is allowed with the autonomous cross-functional teams of provider firms. It also can be done with a team member who acts as the customer representative. In short, Sprints included predetermined durations permitting the teams to work step by step to deliver output which the client prioritized being the most valuable.

Methodology

Authors' knowledge in IBS development and project management, both traditional and agile, was integrated into this study. By comprehending the existing literature on the subject and their decades of expertise. They combined the findings in this research to develop the conceptual model proposed thanks to their professional experience and extensive knowledge and comprehension of the disciplinary practice setting.

This article lays out a conceptual model for how an IBS provider might use Scrum, a project management approach that is agile, to create creative IBSs and their clients. A qualitative literature analysis on IBS is the method used in this study. It is done to apprehend better manufacturers' desire in the business model and problems that come with it. It examines the theoretical framework of the project management that is still traditional, based on plans, to demonstrate why it failed to perform well due to a lack of alignment of IBS contextual needs. The study presents a new paradigm for implementing agile project management that appears to solve the challenges that plague traditional project management. Figure 1 depicts a hypothetical architecture for manufacturing companies building innovative IBS solutions using agile Scrum.

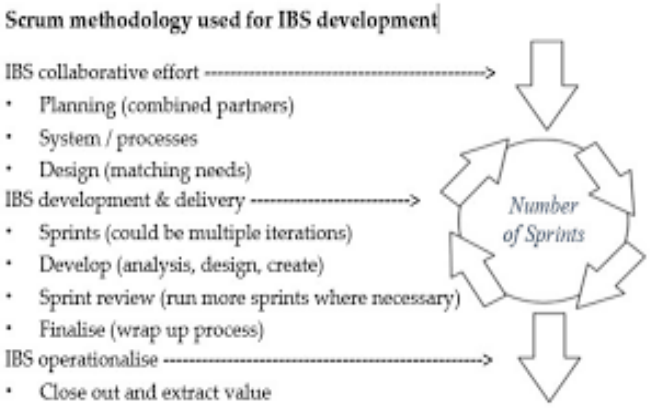

Figure 1. adapted from Schwaber, K.,(1997, p. 12).

The study emphasizes the several difficulties that IBS development faces. Every IBS is different, and the multiple multi-stakeholder relationships are typically complicated. This study proposes a conceptual model for IBS development.

The Definitions of Integrated Business Solutions (IBSs)

Many definitions stand for IBSs, having been employed depending on the context. IBS projects, according to Brady, T., et al. (2005), are "projects (that) extend the typical lifespan to include pre-bid and post-implementation activities requiring creative approaches to producing value for customers and suppliers" (p. 361). Solutions, according to Evanschitzky, H. et al., (2011), are "individualized proposals for complicated client cases interactively constructed and whose components convey an integrative added value by combining services and, or, products so that the gained value is higher than the overall components" (p. 657)

For both parties, Storbacka (2011) emphasized the strategic importance of the firms, the customers, and the problems. He explained integrated solutions as the longitudinal relational processes. Solution providers combine components like goods, service, and knowledge into unique combinations that solve specific challenges strategically essential customers and are changed regarding the customers' value-in-use (p. 699).

Other researchers underline the processes of the importance of longitudinal customer relationship in generating solutions characterized by integration from a business model and process perspective (Tuli, K.R. et al., (2007); Bass, J.M. et al. (, 2018). From this standpoint, the client's strategic value to the firm is paramount, and offering unique services and solutions should meet their requirements.

Both the provider and the client are eager to come up with solutions. According to Miller, D. et al. (2002) and Roehrich, J. et al. (2012), customer demand for solutions is driven by raising the potential of the technological and regulatory complexity, risk management, cost pressures, and competitive differentiation. According to Davies A. et al. (2007), as their core product business becomes more commoditized, IBS providers are forced to seek opportunities to go further down the value chain to fight against price erosion or offset seasonal variations in the cycles of sales.

IBSs are capital goods manufacturers' business models centred on providing products with a customized combination and services (Bardy T et al. (2005) & Davies, A. et al., (2007). Succeeding the transition from a product-focused manufacturer to a product-and-business-solution-focused company, Brady T. et al. (2005) recognize enterprises' necessity to establish new organizational competencies, structures, mindsets, and processes. They also suggested that integrated solution providers adapt, change, and renew their structures regularly while delivering solutions to their consumers. The capability of adapting and renewing organizational structures continuously is complex for many large established product production organizations. According to Wilkinson A. et al. (2009), these companies must strike a compromise between the requirement to develop specific business solutions and the need to keep their current customer base. Instead of constantly renewing and updating the organizational structure of a firm, as Brady T. et al. (2005) recommend, an approach based on a non-hierarchical team—a cross-functional team—is advocated.

Options in Delivery

Methodologies of Traditional Project Management

Traditional project management techniques were compared to Takeuchi H. et al. (1986) race. It is like a race with one functional specialist group lapsing the bastinade to another expert team. From concept development to development, product testing, and pilot phase till final production, the project moves from phase to phase. Each specialized role is divided into segments and is responsible for passing the baton at certain phases.

According to White, D. et al., (2002), when project management has been a feature that is permanent in strategic plans and the most organizations, it has been examined that a significant number that is undeniably in the public sector excel their budgets and/or miss their deadlines, failing to meet agreed-upon objectives. According to Atkinson, R et al. (2006) and Linberg, K.R., (2006), the failure of the project can be linked to milestones that are unrealistic and timeframes placing an undue emphasis on task completion, causing members of the project to compromise on output and quality, resulting in the overall objective failure (1999).

The support of upper management, the competence of the project team, the interdepartmental cooperation, and the clarity in project objectives and goals were identified by White, D. et al. (2002) and Somers, T.M. et al. (2001) as critical common factors supporting the completion of the project within the time framework, quality, and resources used. These are some critical aspects for the resource of effective enterprise aiming implementation and IBSs, without project failure is possible.

According to Koskinen, K.U.; et al. (2003), effective project delivery is dependent on the competency of workers and project managers, making human resources a critical component of PM success. It necessitates all project team members' continual and consistent participation and dedication. The project team have to be acquainted of the goals of the project, timetables, and other disciplines to contribute to success successfully. It necessitates a firm contact between the project managers and the workers daily, according to Engwall, M. (2003). Kappelman, L.A.; et al. (2007) went on to say that team members must comprehend and commit to the project as a whole, rather than just as individuals.

Guttman, H.M. et al. (2006) conducted an empirical survey and discovered that the projects are practical when the members of the team are devoted to the jobs. When the members of the team are trained before the start of a project, Guttman, H.M. et al. (2006) and Belout, A. et al. (2004) found that they can handle adverse scenarios during the project's implementation significantly more effectively. Moreover, Hirst, G. et al. (2009) found that the 'dynamic interplay between the individual and the team' can boost team members' creative levels (p. 280). It is aided by the team's sharing of comprehensive expertise. Indeed, Kilkelly E. (2011) proposes that team members receive training prior to starting a project to fill competency gaps and guarantee that all members of the team are conversant with the technical and non-technical aspects of the project.

According to F.A. et al. (2014) and Sauser, B.J. et al. (2009), project success has not increased significantly in recent decades, regardless of advances in understanding the processes, tools, and systems of the project management. It suggests that despite the popularity of the factor of critical success deliberates in the literature of the project management, managers or few organizations use the results to amend managerial processes. Projects were studied as entities divorced from the settings for an extended period, according to Hanisch, B. et al. (2012). (p. 4).

The planning and control of the project are difficult for organizations creating new goods and technology, according to Conforto E.C. et al. (2014). According to Hobbs, B. et al. (2014), the planning of the project management that is rigid and oversight processes are incompatible with increasingly assertive business settings. Based on the authors' point of view, adopting a more stretchable approach to product development/technology development is the same as that utilized in software development, perhaps the answer to these problems. Agile project management strategies are a collection of flexible project management approaches.

Agile Project Management Methodologies

Many distinct opinions have contributed to the literature on the origins of agile project management (Agile PM). According to Adjei, D.; et al. (2010), agile was first used in the early 1990s in the software development business, whereas some writers believe it arose from complex adaptive theories.

The movement of agile software development creates agile project management as its byproduct. When the contemporary strains agile project management can be tracked back to the ideas proposed by Takeuchi, H. et al. (1986), Sutherland and Schwaber did not discuss the agile method that first came up for software development until in 1995 OOPSLA conference, adopting what is known as the Agile Manifesto now, according to Cervone, H.F. (2011). The following are four of its fundamental principles:

1. People and their interactions, rather than processes and equipment.

2. Functional software trumps extensive evidence.

3. Cooperation with the customers rather than negotiation the contracts.

4. Reacting to a transition in a planned manner.

Agile project management is based on these concepts and differs from traditional project management in many ways. Some of the characteristics of agile product management concern the short iterations with flexibility in embracing change and defined deliverables. Instead of developing substantial project documentation, direct communication with associates is prioritized during the development process. According to Denning, S. (2013), these two principles are stressed because they allow a project team to adjust quickly to the varying needs that most development projects confront.

According to Cervone, H.F., (2011), there are currently many specific applications of agile project management methods, with some of the more well-known approaches being Scrum, Excessive, Adaptive and Dynamic project management Methods. Scrum is an agile project management strategy using a team-based approach to manage and control iterative, incremental operations. According to Cervone, H.F., (2011) and Denning, S. (2013), the Scrum technique has grown popular in managing various systems, projects, and organizations in the environment of today's fast-moving and fluid business because of its adaptability.

Scrum Project Management Methodology

According to K. Schwaber (2004), Scrum is a process of project management that is agile developed especially for the industry of software. By the late 1980s, the team of software developers discovered that the project management methodologies they used had not matured to negotiate with the more assertive environment where software businesses operated, according to Sutherland, J. (2014). Both Sutherland and Schwaber knew that they needed to modify how software was built to be competitive and relevant in the software industry. They were guided by an article in the Harvard Business Review: 'The new product development game' (Takeuchi, H.,1986) detailed how to lead firms in Japan and the US were innovating and establish a process of flexible and rapid new product development. They outlined the process of product development, including ongoing interaction among hand-picked multi-disciplined team members who work on a project from start to end and go through numerous iterations when new information becomes available. The team's operation is similar to a rugby team, which pass the ball back and forth when it moves around the field. As a result, Schwaber and Sutherland coined the term Scrum to describe this new method.

The Scrum team, according to Schwaber, is a group that is autonomous and self-organizing, with three operational tasks: Scrum master, developer, product owner. Product owner and Scrum Master positions were often handled by one member of the team (different person), and the rest members of the team became developers. Serving as the team servant-leader and facilitating the Scrum process are the duties of the Scrum Master; nevertheless, the members of the team are indirectly accountable to the Scrum Master and do not report to him. The Scrum master facilitates and shields the team from outside disturbances and diversions (a period of fixed time-box in which the members of the team accomplish the allocated tasks). The tasks of the product owner are to offer the customers' perspectives to the team and prioritize the work of the team regarding the end customer's impaired value. Scrum teams having been advanced may involve the client as the product owner to advise the team's members in prioritizing the impaired-value work in progress in specific instances. Whereas the people of the team, responsible for the work's production, are the developers. They have complete authority over attaining the required result, except for the instruction of the product owner on the priority of customer value.

Denning, S.(2013, p.6) summarized Scrum's major principles can be readily articulated as follows:

• The work is short cycle organized

• Interruption from the management to the team in the working cycle will not occur.

• Reports must be delivered to the customers by the team, not to the manager.

• The estimation of the time of work will take is also done by the team.

• The decision of the workload that the team can handle in an iteration should be conducted.

• The team should measure its performance.

• Before the cycle starts, the work goals must be set.

• Through user stories, the work goals are set.

• Removing the impediments systematically to have the work done is done.

Scrum teams build services, products, and features in an iterative approach combining frequent review and feedback, drawing on lean manufacturing concepts and continuous process improvement. This method ensures that what the members of the team have learned is promptly put into practice, that the feedback of the customers is constant, and that if the client's needs alter, the team may revolve. Intra-team communication is minimal, and team output increases, emphasizing a small team of five to nine members. The Stakeholder Review and the Retrospective are two review procedures in each Scrum sprint cycle, focusing on the external stakeholders and convincing output aligned with the objective of the customers. The internal team of Scrum's communication, functioning, and process improvement emphasize later review processes.

Findings

Because of the typical class of IBSs that is a delivery system which is stretchable in operation, bestows change requirements through its development, involves close customer engagement and interaction, apprehends the necessity for a compelling exploratory disposition of intention through iterations, as well as endeavours on projects, not typically significant, is required. It is commonly less than AUD 20 million. These features are compatible with Scrum procedures that are agile.

Findings Leading to the Concept Model

Wilkinson et al. (2009) investigated two manufacturing organizations' efforts to create IBSs with their consumers. They claimed that many of the issues stemmed from two significant errors made by manufacturing companies: (1) assuming that all of the customers passed over a model of standard industry-specific business and (2) the professionals of the product development in the organizations that overlook the reality that the customers' practical-minded technicians could be an innovation source. They claimed that for manufacturers to generate solutions meeting the expectations of the customers, they have got to first learn about the customers' operations, then assess their products and competitiveness from the client's perspective. A collaborative and well-functioning partnership

comprising terminated duties and roles is the precondition for the provider of integrated solutions, Wilkinson, A. et al. (2009) found (p. 551). According to Wilkinson A. et al., A conceptual framework might utilize Scrum to establish a well-functioning partnership with clear responsibilities and terminated roles (2009). T.R. Hernández et al. (2019) focused on four agile characteristics when researching the Scrum applicability in the systems of product-service (management, personnel, technical, and application). They discovered that this thing might help them overcome some of the most challenging issues in establishing the systems of product services.

In industry research, the authors participated in which a framework of Scrum was utilized to dispatch challenges that traditional project management methods had in the past. The companies worked on medical equipment goods for most hospitals and all kinds of healthcare facilities. A discovered fact from the author is that utilizing a method of agile project management to synergize client co-creation was significantly more effective. Its exploratory, iterative, and developing methodology aided businesses in better understanding and creating client requirements.

Why It Is the Scrum Framework

Scrum includes a method for completing projects in the short term using a heuristic foundation. It is a stretchable yet organized approach that drives the team to complete the works discovered to be immediately applicable to IBS development, allowing business solutions to address consumer concerns. According to the company, it has several essential qualities, including self-managing teams organizing a focus on communication over documentation and short iterations of workload with certainly terminated deliverables (Dulock, M.J.et al., 2015, p. 10).

The team of a cross-functional development, Product Owner and Scrum Master are the three positions that make up a Scrum team. Product owners are in charge of comprehending business, client needs, and market requirements and providing clear direction on which features should be prioritized. Their primary responsibility is to convince that the product or service is understood, that its vision is realized, and that any necessary adjustments are balanced throughout the process. A member of the senior management from the organization of customers would assume the functions of the product owner in this proposed conceptual model. They would work directly with the IBS Scrum team at the provider firm. These individuals define the stakeholders' interests and are eventually responsible for the co-created value.

Serving as team and product owner coaches to improve team performance are the obligation of Scrum masters. They are also in charge of the Scrum methodology's governance. They organize and schedule sprint resources for the team. A sprint is a collection of activities that the team agrees to work on during usually 2 to 4 weeks, a short time.

Carrying out the product or service development work in IBSs, the manufacturer (provider) is done by the Scrum team. They usually consist of eight to twelve people with specialized knowledge and capability of completing the given jobs. They correlate any difficulties, concerns, delays, or dangers early in the meetings when sprint planning to fix them promptly and without obstructing progress. They also develop the "we-are-all-in" mentality, assisting one another to secure the finish of a good sprint.

Several tools (artefacts) helping project managers to achieve their objectives are offered by Scrum. The first, known as a service or product backlog, entails creating a prioritized checklist of all necessary work that must be completed. It is then split down further into sprint cycles, starting with the IBS activities that give the best return on investment. The product owner maintains this artefact, containing the significant features and product or service needs. The product owner reviews it regularly and re-prioritizes it as needed. In this phase, the detail level in making plans and IBSs would become substantially lower than in designing the same sort of IBSs utilizing the approach of standard project management.

Whereas, Sprint planning is a process led by Scrum master where the team decides and meets sprint goals and schedule with the product owner's approval. Throughout the sprint, members of the team collaborate often. They usually have daily stand-up meetings that last around 15 minutes. It allows everyone on the team to be on the same page and express any problems that need to be addressed. They usually go through what has been completed that day, what has to be completed, what is planned, and any backups for the next day.

A sprint retrospective, in the end of a sprint, is conducted to document and discuss the elements working and/or challenging the relationships, people, tools, project, or special activities of works. The goal is to take what you have learned from each sprint and apply it to the following to increase the outcomes and processes. In the environment of IBSs, Scrum closes as the team has already made new sources of value for the manufacturers, providers, and customers.

The Model Challenges

The Scrum IBS model advantages over traditional project management in terms of fit for purpose were discussed. However, there are inherent flaws and challenges as with all systems and models. Scrum is proven to perform successfully in the exact circumstances, such as adequately resourced by skilled operators. This organizational culture understands its application when there is executive buy-in and, most crucially, a supporting engaged customer. If such parameters are missing, the system and model are at risk of failing.

As a result, recognizing the setting and culture where such a model will contribute to successful work is a barrier to deploying the concept. It is only a problem of assuring that the necessary organizational structures facilitate the implementation. It is especially true in firms with a lengthy history of adopting traditional project management approaches. It will almost certainly fail in IBS development if this is not done.

Limitations

This study is confined to a theoretical concept that must be validated and implemented. Even though customers' satisfaction is an essential aspect of IBS delivery, this study did not address the cost, time or scalability of IBS creation nor considered the investment analysis in return for either the manufacturers or the IBS customers.

Conclusions and Implications

Developing IBSs is complex and necessitates various management abilities for a manufacturer. The value chain of a product-centred organization is based around research and development, design, production, marketing, delivery, and support. Designing, building, deploying, and encouraging an IBS necessitates the creation of a different value chain allowing for a more stretchable approach to generate new profit streams and always entails a close engagement with customers throughout the development process.

Scrum project management has successfully built new services/products, and it loans itself to adaptation to the IBSs because of its frequent customer iterations, focus, and ability to accommodate requirements to change. The collaboration results between the customer and the delivering organization, a personalized product/service can be generated. A company that adapts the Scrum technique to produce an IBS may gain a competitive edge by taking an unconventional approach.

Scrum's application to the development of IBSs is a first. This study indeed adds to the present body of knowledge in theory and practice. The study emphasizes the significance of developing IBSs with a customer-centred and iterative attitude, and it offers a Scrum-based conceptual model that might be deployed, streamlined, and validated in the world of industry to help the future development of IBSs.

References

1. Brady, T.; Davies, A.; Gann, D.M. Creating value by delivering integrated solutions. Int. J. Proj. Manag. 2005, 23, 360–365.
2. Brady, T.; Davies, A. Building project capabilities: From exploratory to exploitative learning. Organ. Stud. 2004, 25, 1601–1621.
3. Cornet, E.; Katz, R.; Molloy, R.; Schädler, J.; Sharma, D.; Tipping, A. Customer Solutions: From Pilots to Profits; Booz Allen & Hamilton: New York, NY, USA, 2000.
4. Davies, A. Moving base into high-value integrated solutions: A value stream approach. Ind. Corp. Chang. 2004, 13, 727–756.
5. Raddats, C.; Kowalkowski, C.; Benedettini, O.; Burton, J.; Gebauer, H. Servitization: A contemporary thematic review of four major research streams. Ind. Mark. Manag. 2019, 83, 207–223.
6. Conforto, E.C.; Salum, F.; Amaral, D.C.; da Silva, S.L.; de Almeida, L.F.M. Can agile project management be adopted by industries other than software development? Proj. Manag. J. 2014, 45, 21–34.
7. Wilkinson, A.; Dainty, A.; Neely, A.; Brax, S.A.; Jonsson, K. Developing integrated solution offerings for remote diagnostics: A comparative case study of two manufacturers. Int. J. Oper. Prod. Manag. 2009, 29, 539–560.
8. Stauss, B.; Nordin, F.; Kowalkowski, C. Solutions offerings: A critical review and reconceptualization. J. Serv. Manag. 2010, 21, 441–459.
9. Kowalkowski, C.; Ulaga, W. Service Strategy in Action: A Practical Guide for Growing Your B2B Service and Solution Business; Service Strategy Press: Scottsdale, AZ, USA, 2017.
10. Pino, F.J.; Pedreira, O.; García, F.; Luaces, M.R.; Piattini, M. Using Scrum to guide the execution of software process improvement in small organizations. J. Syst. Softw. 2010, 83, 1662–1677.
11. Mukker, A.R.; Mishra, A.K.; Singh, L. Enhancing quality in scrum software projects. Int. J. Sci. Res. 2014, 3, 682–688.
12. Storbacka, K. A solution business model: Capabilities and management practices for integrated solutions. Ind. Mark. Manag. 2011, 40, 699–711.
13. Worm, S.; Bharadwaj, S.G.; Ulaga, W.; Reinartz, W.J. When and why do customer solutions pay off in business markets? J. Acad. Mark. Sci. 2017, 45, 490–512.
14. Zhang, W.; Banerji, S. Challenges of servitization: A systematic literature review. Ind. Mark. Manag. 2017, 65, 217–227.

15. Tuli, K.R.; Kohli, A.K.; Bharadwaj, S.G. Rethinking customer solutions: From product bundles to relational processes. J. Mark. 2007, 71, 1–17.
16. Grönroos, C.; Voima, P. Critical service logic: Making sense of value creation and co-creation. J. Acad. Mark. 2013, 41, 133–150.
17. Li, L.P.; Juric, B.; Brodie, R.J. Dynamic multi-actor engagement in networks: The case of United Breaks Guitars. J. Serv. Theory Pract. 2017, 27, 738–760.
18. Cusumano, M.A.; Kahl, S.J.; Suarez, F.F. Services, industry evolution, and the competitive strategies of product firms. Strateg. Manag. J. 2015, 36, 559–575.
19. Dingsøyr, T.; Nerur, S.; Balijepally, V.; Moe, N.B. A decade of agile methodologies: Towards explaining agile software development. J. Syst. Softw. 2012, 85, 1213–1221.
20. Dyba, T.; Dingsøyr, T. What do we know about agile software development? IEEE Softw. 2009, 26, 6–9.
21. Bass, J.M.; Abdul, A.O.; Ghavimi, H.; MacRae, N.; Adam, P. Scrum for product innovation: A longitudinal embedded case study. Int. J. Multimed. Image Process. 2018, 8, 414–424.
22. Highsmith, J. Agile Project Management: Creating Innovative Products; Pearson Education: New York, NY, USA, 2004.
23. Schwaber, K. Scrum development process. In Business Object Design and Implementation; Sutherland, J.V., Patel, D., Casanave, C., Miller, J., Hollowell, G., Eds.; Springer: London, UK, 1997; pp. 117–134.
24. Evanschitzky, H.; Wangenheim, F.V.; Woisetschläger, D.M. Service & solution innovation: Overview and research agenda. Ind. Mark. Manag. 2011, 40, 657–660.
25. Miller, D.; Hope, Q.; Eisenstat, R.; Foote, N.; Galbraith, J. The problem of solutions: Balancing clients and capabilities. Bus. Horizons 2002, 45, 3–12.
26. Roehrich, J.; Caldwell, N. Delivering integrated solutions in the public sector: The unbundling paradox. Ind. Mark. Manag. 2012, 41, 995–1007.
27. Davies, A.; Brady, T.; Hobday, M. Organizing for solutions: Systems seller vs. systems integrator. Ind. Mark. Manag. 2007, 36, 183–193.
28. Davies, A.; Brady, T.; Tang, P.; Hobday, M.; Rush, H.; Gann, D. Integrated Solutions: The New Economy Between Manufacturing and Services; SPRU: Brighton, UK, 2001.
29. Takeuchi, H.; Nonaka, I. The new new product development game. Harv. Bus. Rev. 1886, 64, 137–146.
30. White, D.; Fortune, J. Current practice in project management—An empirical study. Int. J. Proj. Manag. 2002, 20, 1–11.
31. Atkinson, R.; Crawford, L.; Ward, S. Fundamental uncertainties in projects and the scope of project management. Int. J. Proj. Manag. 2006, 24, 687–698.
32. Linberg, K.R. Software developer perceptions about software project failure: A case study. J. Syst. Softw. 1999, 49, 177–192.
33. Somers, T.M.; Nelson, K. The impact of critical success factors across the stages of enterprise resource planning implementations. In Proceedings of the 34th Annual Hawaii International Conference on System Sciences, Maui, HI, USA, 3–6 January 2001.
34. Koskinen, K.U.; Pihlanto, P.; Vanharanta, H. Tacit knowledge acquisition and sharing in a project work context. Int. J. Proj. Manag. 2003, 21, 281–290.
35. Engwall, M. No project is an island: Linking projects to history and context. Res. Policy 2003, 32, 789–808.
36. Kappelman, L.A.; McKeeman, R.; Zhang, L. Early Warning Signs of IT Project Failure: The Dominant Dozen. EDPACS 2007, 35, 1–10.
37. Guttman, H.M.; Longman, A. Project teams: How good are they? Qual. Prog. 2006, 39, 59–62.
38. Belout, A.; Gauvreau, C. Factors influencing project success: The impact of human resource management. Int. J. Proj. Manag. 2004, 22, 1–11.
39. Hirst, G.; Van Knippenberg, D.; Zhou, J. A Cross-Level Perspective on Employee Creativity: Goal Orientation, Team Learning Behavior, and Individual Creativity. Acad. Manag. J. 2009, 52, 280–293.
40. Kilkelly, E. Using training and development to recover failing projects. Hum. Resour. Manag. Int. Dig. 2011, 19, 3–6.
41. Mir, F.A.; Pinnington, A. Exploring the value of project management: Linking Project Management Performance and Project Success. Int. J. Proj. Manag. 2014, 32, 202–217.

42. Sauser, B.J.; Reilly, R.R.; Shenhar, A.J. Why projects fail? How contingency theory can provide new insights–A comparative analysis of NASA's Mars Climate Orbiter loss. Int. J. Proj. Manag. 2009, 27, 665–679.
43. Hanisch, B.; Wald, A. A Bibliometric View on the Use of Contingency Theory in Project Management Research. Proj. Manag. J. 2012, 43, 4–23.
44. Hobbs, B.; Petit, Y. Agile Methods on Large Projects in Large Organizations. Proj. Manag. J. 2017, 48, 3–19.
45. Adjei, D.; Rwakatiwana, P. Application of Traditional and Agile Project Management in Consulting Firms: A Case Study of Pricewaterhouse Coopers. Master's Thesis, Umeå School of Business, Umeå, Sweden, 2010.
46. Cervone, H.F. Understanding agile project management methods using Scrum. OCLC Syst. Serv. Int. Digit. Libr. Perspect. 2011, 27, 18–22.
47. Denning, S. Why Agile can be a game changer for managing continuous innovation in many industries. Strat. Leadersh. 2013, 41, 5–11.
48. Schwaber, K. Agile Project Management with Scrum; Microsoft Press: Redmond, WA, USA, 2004.
49. Sutherland, J. Scrum: The Art of Doing Twice the Work in Half the Time; Crown Business: New York, NY, USA, 2014.
50. Hernández, T.R.; Kreye, M.; Eppinger, S. Applicability of agile and Scrum to product-service systems. In Proceedings of the EurOMA Conference, Helsinki, Finland, 17–19 June 2019.
51. Dulock, M.J.; Long, H. Digital Collections Are a Sprint, Not a Marathon: Adapting Scrum Project Management Techniques to Library Digital Initiatives. Inf. Technol. Libr. 2015, 34, 5–17.