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Title	<i>MSP model integration and optimisation : A flourishing opportunity for an economic expansion on the French IT managed services market?</i>		
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Abstract	
<p>According Gartner Information Technology Glossary« Managed service provider (MSP) delivers services, such as network, application, infrastructure and security, via ongoing and regular support and active administration on customers' premises, in their MSP's data center (hosting), or in a third-party data center. » This innovative providing model is approximately 30 years and is still considered as a new model. In France, MSP market is existing and is working well. Anyway, its growth evolves slower than other countries. In this innovative model, agility in business process is important. When it comes to tools and other solutions and processed used to manage the activity, constant optimisation and integration are possible. This paper provides an eight-step processes on which optimisation and integration process can be based on. Besides, this paper provides insight from three French IT MSPs, one MSP reseller to MSP and one supplier/editor representative. Through interviews, observations and practical case, recommendations are made to support understanding of this model. This research follow a qualitative methodology combined to a positivist approach.</p>	
Key words	Managed Services Providers, Business Process Management, integration, optimisations, MSP principals, France





**UNIVERSITY
OF TURKU**

Turku School of
Economics

***MSP MODEL INTEGRATION AND OPTIMISATION :
A FLOURISHING OPPORTUNITY FOR AN ECONO-
MIC EXPANSION ON THE FRENCH IT MANAGED
SERVICES MARKET?***

Master's Thesis
in Management of Information Techno-
logy (IMMIT)

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1. INTRODUCTION

In the current economic situation, small and medium enterprises (SME) occupy an important place by being an economical engine for both developed and developing countries. In the non-financial business economy, according to the European Commission, between 2014 and 2018 in France, SMEs generated 55.8% of added value to the French economy as well as 64.1% of employment. These numbers coincide with the averages concerning the European Union countries taken into account in the study, during the same period. Moreover, a growth expectation for both employment and adding value axis is forecasted for the coming years. (European Commission, 2019) More specifically, when it comes to the information, communication, and services sectors, the European Union takes initiatives for years to improve growth for small and medium enterprises. Besides, with the increasing popular understanding that the information technology (IT) sector seeks to embrace many other sectors, thanks to worldwide digitalisation and globalisation, the understanding that ICT (information and communication technology) is a promising area that has already begun flourishing in the past decades, through innovation and standardisation endeavours (ICT Innovation - Shaping Europe's digital future - European Commission, 2020).

With the eruption of the COVID-19 pandemic, many countries around the world had to face sharp and drastic actions and decisions which had an effect on many sectors and markets. When it comes to SMEs, these were more inclined to favour certain measures geared towards forced adaptation, for example remote work, due to these exceptional external circumstances from the pandemic. This sudden haziness has reshuffled the cards fostering SMEs, which have already driven their activities with strong and stable organisational management: proper knowledge and technical command as well as clarity of the used tools and processes. Moreover, the rise of remote work adoption has emphasised the importance of an effective telecommunication as well as information sharing and access which turn out to be a windfall for IT service providers. By providing telecommunication tools and general IT support, these enterprises found an emerging market composed of enterprises and entrepreneurs with the need of services covering video conferencing software, cybersecurity, and virtual private network among other technologies creating an exponential increase in demand (Ltd, 2020).

IT service providers' economic prosperity lies in their ability to earn perpetually. In theory, this flow of income does not have to be generated by the same contracts, projects

or clients, as long as a company can earn enough money to cover their liability — comprising fixed and variable load — the company's revenue model would not be too much of a burden (Comment savoir si mon entreprise est rentable : indicateurs de rentabilité, interprétation et optimisation, 2021). Particularly for IT service providers, two main types of selling models are clearly identified: the break/fix model and the Managed Service Provider (MSP) model. The break/fix and MSP models are two distinct way of billing which correspond to different need and demands. On one hand, the break/fix model refers to reactive solution. Indeed, with this model, the billed work is the effective work done. This could be assimilated to a project, an emergency or a one shot action that have to be accomplished or resolved. For the customer, it seems that getting an intervention on a break/fix model, would be a better economic option. In fact, if the number of intervention does not exceed a certain amount, this would probably the best solution. On the other hand, if the need to call for support, help or any intervention, getting a package would be more interesting, and this is where the managed services providers model appears. With the MSP model, the customer pays an amount on a monthly basis and get the chance to obtain any help, support or emergency intervention, depending on the contract terms. Indeed, MSP model may presents multiple levels of availability. For instance, three level can be distinguished: level 1: restriction free for call, email, ticket creation and remote intervention between 9 AM and 5 PM from Monday to Friday; level 2: restriction free for call, email, ticket creation and remote intervention 24/7; level 3: 24/7 availability for remote help (call, ticket, email) and possible on site intervention. These different levels may fit the customers needs based on their observation and analysis.

On one hand, the break/fix model refers to reactive solution, the way to react to problems that already occur. Indeed, with this model, the billed work is the effective work done. This could be assimilated to a project, an emergency or a one shot action that has to be accomplished or resolved. For the customer, it seems that getting an on-site service on a break/fix model, would be a better economic option. In fact, if the number of intervention does not exceed a certain amount, depending on the type of business this would probably be the best solution. On the other hand, if the need to call for support, assist or any intervention arises, getting a package would be more interesting, and this is where the managed services providers model appears.

With the MSP model, the customer pays an amount on a monthly basis and gets the chance to obtain any help, support or emergency intervention, depending on the contract terms. Indeed, MSP model may presents multiple levels of availability. For instance we

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The two models are complementary and not opposite. Indeed, both model can be used by a company to bill their clients; being a Managed Service Provider — which roughly means working with the MSP model — does not forbid the use of break/fix model. Anyway, a smart combination has to be planned together by marketing and commercial teams in collaboration with the IT team to elaborate the most effective portfolio and MSP level contract terms, aligned with their strategic choice.

According to Markets and Markets (2021) report on Managed Services Market from 2020, a Compound Annual Growth Rate (CAGR) of 8.1% is expected on the current quinquennium between 2020 and 2025, on a worldwide scale. At the beginning of the period, the market is worth USD 223 billion and should be worth USD 329,1 billion, five years later. To have a comparison with the same market: few years ago, in 2016, the Managed Service Market reached USD 145.33 billion, which signifies a compound annual growth rate of 11.30%, between 2016 and 2020 (Managed Services Market Growth Based on Game-Changing Necessity, Needed Business Solutions, 2021). This has been an encouraging market for more than 20 years and looks set to continue to grow for some time to come.

Despite its promising future, we can clearly see that Europe and especially latin countries like France, Italy and Spain have not evolved with the same velocity as their Scandinavian neighbours or as their friends on the other side of the Atlantic, specially on the release of tools and method that support the MSP activity. In fact, according to [channel2e.com](https://www.channel2e.com), in 2018, the Perceived Market leaders are from the United States of America (US) which are Datto, LabTech Software and Kaseya, among many others (25 RMM Software Tools for MSPs: 2018 List of Options, Alternatives - ChannelE2E, 2021).

Large enterprises such as IBM, Accenture and Infosys also use the term MSP (Largest IT Managed Service Providers for Business | Swifts Systems, 2021) such as multiple SMEs. MSP used in large companies and the MSP model used by SMEs that claim to be MSPs. Even if the MSP model is also adopted by small and medium enterprises, becoming an MSP is a complex process that is sometimes mooched by unexpected or unhandled underpinning aspects such as information management process inside the enterprise,

the tools used to facilitate the activity or the strategic choice on the MSP model used in the catalogue. However, no information has been found on the difference of activity between

The following research question will be answered in order to achieve the aim : *How is the PSA market and the followed IT service management processes are fostering an economic expansion on French IT MSP market ?* First of all, a literature research has been done to investigate the origin of the MSP model and PSA solutions, the methods and motivation to integrate the model and the solution, as well as PSA integration and optimisation management for MSPs. To analyse these business process management, a triangular data collection method has been used, composed with semi-structure interview, observations made during an internship made while this paper redaction and other textual and pictorial data collection. Eventually, this paper will provide conclusion, discussion and recommendations for aspiring managed IT services providers enterprises.

The MSP model is adopted by Large Enterprises such as IBM, Accenture and Infosys (Largest IT Managed Service Providers for Business | Swifts Systems, 2021) and multiple SMEs.

The scope of the research is on IT related MSP enterprises in France, which are also considered as SME and the solution they work with.

2. THEORETICAL BACKGROUND

Throughout this theoretical background part, we will convey about theories and methods for integration and optimisation of tools currently used on the market as well as the main ideas and factors linked to « being an MSP » or using MSP model and differentiation with other strategic choice made on the market.

2.1. Origins

To begin, definition of terms and expressions on which the subject lies have to be set. First, according to the Cambridge Dictionary, *small and medium enterprise (SME)* is defined as « a company, or companies considered as a group, that are neither very small nor very large » (SME, 2021). Similarly, the dictionary defines a company as « an organisation that sells goods or services in order to make money ». The European commission details that an SME employs less than 250 employees and its annual turnover is less than 50 million euros (SME definition - Internal Market, Industry, Entrepreneurship and SMEs - European Commission, 2003). In order to give more details on an enterprise, other terms can be used, such as *very small enterprise (VSE)* and *small and medium industry (SMI)* which inform, respectively, about the number of employees and the activity sector. Roughly speaking, the main difference between large enterprises and SMEs occurs to be the number of employees. This difference of size may influence the main strategy and vision of the company. This last mentioned subjects will be discussed later in the paper.

When it comes to knowledge-based economies, SMEs are a valuable source of job creation and local development and this is recognised by the industry whether it be for VSE or SME (Alexandre and Renault, 2008, North and Varvakis, 2016).

On the other side, according to Gartner Information Technology Glossary, « Managed service provider (MSP) delivers services, such as network, application, infrastructure and security, via ongoing and regular support and active administration on customers' premises, in their MSP's data center (hosting), or in a third-party data center. The term MSP traditionally was applied to infrastructure or device-centric types of services but has expanded to include any continuous, regular management, maintenance and support »

(Definition of Managed Service Provider (MSP) - Gartner Information Technology Glossary, 2021). Because MSPs also have the possibility to provide cloud service, and then may also be considered as CSP, standing for cloud service provider.

Because this is a current area of interest, there are a lot of research and report made on managed services providers. Unfortunately, most of these report are expensive which is a hurdle that we have to work with.

The « managed service provider » economic model exists for more than 20 years now. To understand what it is nowadays we have to understand its evolution from the creation of system builder, in the early 80s.

In the 1980s, we have seen the apparition of three types of what we could call today, IT services companies: system builder, system reseller and value-added resellers. With the personal computers (PC) democratisation and commercialisation, large IT firms such as IBM, Dell or HP, offered « white box » computers building service. In parallel, many smaller enterprises offered this building services as well. These are considered as *system builders*. Yet, some smaller enterprises became resellers of larger enterprises' product which removed specialist builders' requirement and then facilitate the activity by taking off costs linked to system building — no need of specialists. Thus, the *system reseller* market has emerged. Thereafter, in order to create an enterprise identity and differentiate their activity from the others', smaller companies initiated the troubleshooting and installation to the product they sold. Obviously, in addition to these motives, the fact that these options were « adding value » because of the additional margin they brought, was one of the most important reason to these implementation. Yet, the willing of differentiation started soon to be vanished by the competitive willing, since more and more SME were prone to append troubleshooting and installation options. These are *value-added resellers*.

During the 1990s, evolution of technology led to network computers creation and internet growth which have influenced businesses' way of working. Indeed, as Samuel Hatton explains in his article, with the need of internet connection and IT infrastructure for small businesses, the previous called *value-added resellers* started calling themselves *system integrators* and expanded their product and services catalogue with firewall, switch and routeurs, among others, to support the IT infrastructure efficiency (Hatton, 2021). With the market growth and businesses' will to compare offers they were facing, advisory services became more interesting. Thus IT consultants took shape in extension

of what was called *system integrators*. Thereupon, with software development that enabled IT professionals to take control of the computer remotely and thus fix issues without being physically on the PC, *IT Helpdesk services* emerged and grew through years.

In the 2000s, following important evolution for IT enterprises and every aspects that composes them: Helpdesk, consultancy/advisory and product/services resellers, **Managed Services Providers** raised and gathered these three aspects as an hybrid (Hatton,

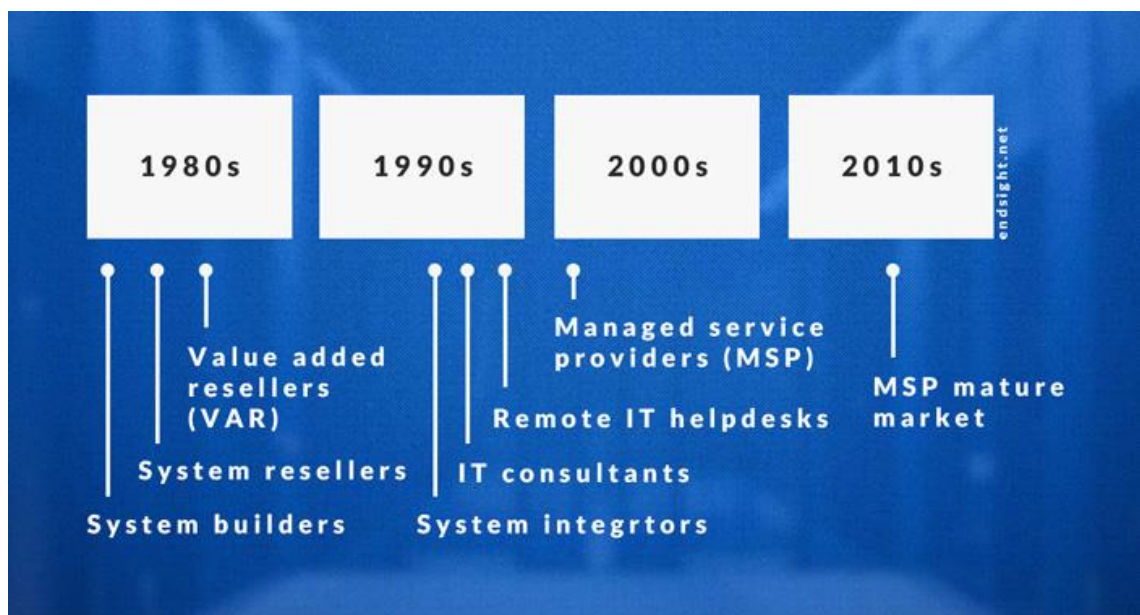


Figure 1 - Historical timeline of Managed Services Providers' evolution from end-sight.net (Hatton, 2021)

2021, and Burchill, 2016).

Moreover, nowadays we can create a distinction between MSP enterprises and the MSP model they use to bill their clientele. Indeed, enterprises that provide managed services use « package » to guarantee a fixed amount of revenue instead of one shot payment that occurs for reactive support without sustained supervision and support contract. This type of cases is part of a Break/fix model. As already mentioned, an MSP enterprise may use both Break/fix and MSP model depending on the services they offer.

Within the IT Managed Services market, a subdivision in smaller market is possible and would contain: telecom managed services, managed services software, managed security services and IoT managed services among others.

On the following figure, we can distinguish colours which indicate the regional growth rate. According Monitor Intelligence, it is expected the between 2021 and 2026,

North America and Europe will be the lowest regions to grow on this MSP market, in opposition to Pacific Asia and Africa which should be the fastest. Besides, as the report mentions, since Chinese and Indian role model places on the IT and IT-enabled services is undeniable, the Pacific Asian market is the expected fastest region. Considering the European market that is the centric region of our research, its expected growth rate is based on past decades evolution and a comparison with other region worldwide (Managed Services Market Growth & Trends| Industry Size (2021 to 2026) - Mordor Intelligence,

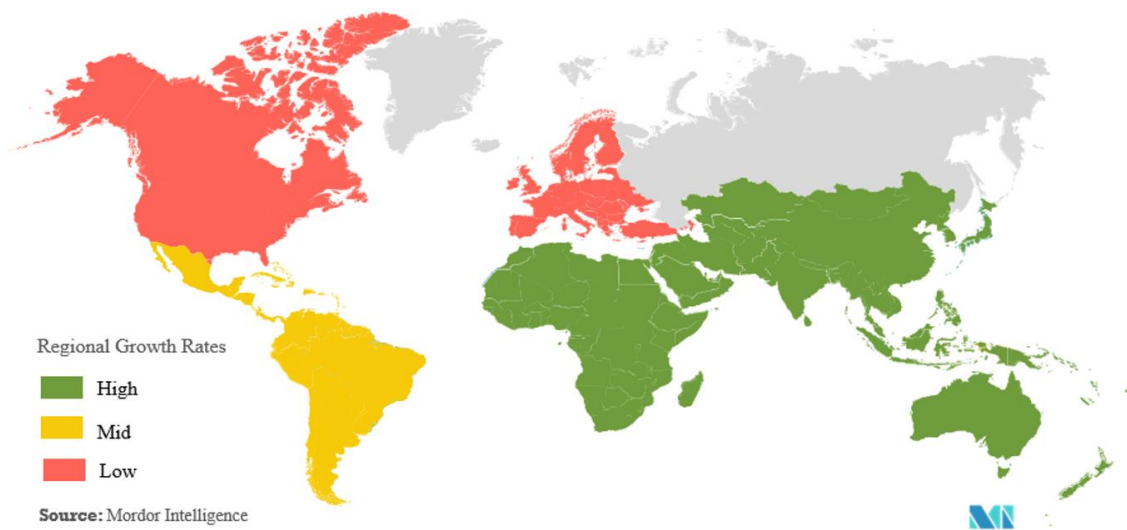


Figure 2 - Managed Services Market growth rate expected by region (2021 - 2026) from Mordor Intelligence (Managed Services Market Growth & Trends| Industry Size (2021 to 2026) - Mordor Intelligence, 2021)

2021).

In order to and because IT importance is no longer to be demonstrated, the European Commission has set various projects to increase knowledge on the field, blossom IT-enabled field for SMEs, especially for ICT, innovation and security (Funding opportunities for small businesses, 2021). Through its website, the European Union shares advices on SMEs strategy and digital transformation as well as articles about the different funding possible for SMEs that want digital transformation, innovate or improve their ICT pole.

2.2. Being an IT related Managed Service Provider

2.2.1. Criteria to be an MSP

First of all, there are two way to use the term « managed service provider or MSP». We can distinguish the enterprise that is considered as an MSP because it provides, sells *managed services*. This sense is the most used in literature and it is the most understood by professionals. Still, there is another way to use this term. While a company use service (support and maintenance) and products they provide, to create a package they sell on a regular basis. This specific way of functioning guarantee a certain fixed amount to the company. This gives information to forecast cash flows of the company and then provides assurance in future income.

To clearly make the distinction, we would refer as *MSP* or *managed service providers* when it is about the enterprise and then add *model* at the end of the abbreviation or the expression, when it is about the selling way of functioning.

Criteria to be considered as an MSP are quite floating. Some would consider an MSP simply being a « third-party company that manages and assumes the responsibility of a defined set of day-to-day management services to its customers » (Fournier, 2020). Some others would consider degrees in an enterprise's *way to be an MSP* and then it would depend on criteria. *Datto* defines seven criteria to be a successful MSP: 1. Services and solutions — tools used inside the enterprise and the one offered to the clientele —, 2. Pricing and packaging for profit, 3. Choosing the best vendor partner — of course they try to sell their products —, 4. Specialise for target markets, 5. Selling the value of managed services, 6. Marketing your business, and 7. The value of referrals — nurture good customer relationship. With this criteria list, a company that considers itself being an MSP may then judge its activity — on Datto's point of view — and then determine its degree of *being an MSP* as well as the aspects it should work on to be more efficient (How to be an MSP - Datto, 2021).

2.2.2. Outsourcing and MSP

When an enterprise uses IT related managed service provider to manage their IT department, fully or partially, one idea comes automatically to mind: outsourcing. Then, questioning the link, if there is one, between both: using outsourcing model and using MSP model, becomes relevant.

In fact, outsourcing is defined as: « a process of paying to have part of a company's work done by another company » by the Cambridge Dictionary (outsourcing, 2021). Because MSP, is the process thanks to which an organisation obtains « services, such as network, application, infrastructure and security, via ongoing and regular support and active administration on customers' premises » in accordance with the related definition's wording, we can thus considerate that MSP model is part of Outsourcing, considering definitions (Definition of Managed Service Provider (MSP) - Gartner Information Technology Glossary, 2021).

That said, according most articles and paper on the subject, there are still significant differences between outsourcing and managed services providers. In fact, the term « managed service provider » is way more specific for a reason: it really is mostly about support and advisory as services. An article written by Visionet, demonstrates quite good the differences. The core difference lies in « the degree of foresight they exhibit ». On one side, we have outsourcing which is mainly for handling practical tasks such as churning out invoices, transcripts or shipping manifests. They do sell their practical savoir-faire. On the other side, there is MSP which sell support, advice, accompaniment and backing. MSPs are more prone to encourage the best decisions for their clients. (Managed Services versus outsourcing: What's the difference? - Visionet, 2019).

This « service » is also an intangible product sold, like the « cloud ». Another article, from Avanade this time, deals with the difference between outsourcing and MSP. This one introduce the idea of evolution: the term outsourcing has been around since the late 1980s and refers to outsource operations. Then, with the increasing use of the term « outsourcing » for more and more activities and specifically for services as the « cloud », « outsourcing » has become an umbrella for any third part provider. Realising that, the term « managed service provider » gives more insights and precisions of what is meant (When Does Outsourcing Become Managed Services? | Avanade Insights Blog, 2013).

In both case, the term outsourcing is understood differently, yet the difference with MSP is mentioned by both point of view. For the rest of the paper, we will consider that outsourcing is an umbrella term that encompass MSP.

Eventually, the reasons that encourage outsourcing partly or fully IT infrastructure and tasks to « managed service provider » or any other provider may be strategically analysed as an IT outsourcing in all its complexity. The outsourcing strategy has a competitive and

financial undeniable decisions, still MSP may support SMEs to take these strategic decisions thanks to their expertise.¹

2.2.3. IT MSP and their customer

In this section, we will deal with IT MSP's customer profiles. Looking at Noland and McFarlane's IT Strategic Impact matrix, there are four modes on which a company may be referred to. For the literature we have reviewed so far, no information was set on the

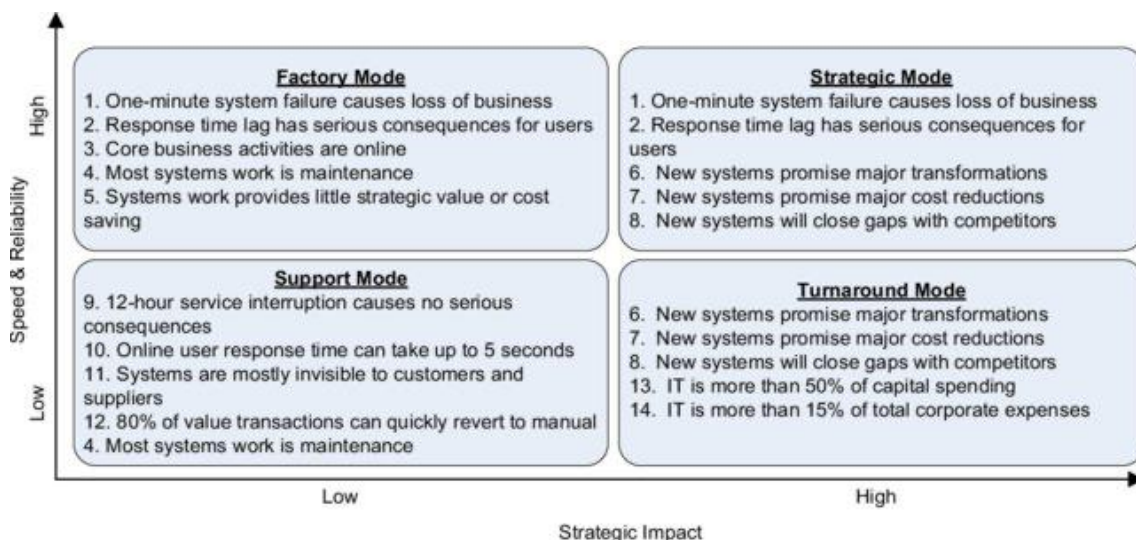


Figure 3 - Noland and McFarlane's IT Strategic Impact metric (Nolan and McFarlan, 2005)

particular mode that would tend to be MSP's customer.

Focusing on MSPs that are themselves considered as SMEs, it has been reported that many MSP find it very challenging and complicated to work with *200+ employees clients*. Indeed, difference of sizes between the client and the provider may cause an excessive workload for the provider. For instance, if employees of the same big enterprise contact at the same time the Helpdesk, the volume of support inquiries would exceed the number of IT professional available in the MSP. In this case, it is possible that this volume exceed 200 demand and it would be enough to make other clients but also the Helpdesk support, suffer from the overwhelming (Hatton, 2021).

¹ In this paper, we place the SMEs as customers to MSP that will provide IT support and/or management. Still, our interest lies in these MSPs that are also SMEs — IT related MSP and SME at the same time.

In Datto’s seven criteria to be an MSP, exploited on 2.2.1, the fourth criteria deals with target market specialisation. This criterion encompasses specialisation to stand out from the competition. According their article, specialisation to certain sector based on the localisation of the MSP activity, would provide competitive advance on this specific sector and would help the support to client, because their core activity is well understood and the IT related activity is mastered (How to be an MSP - Datto, 2021).

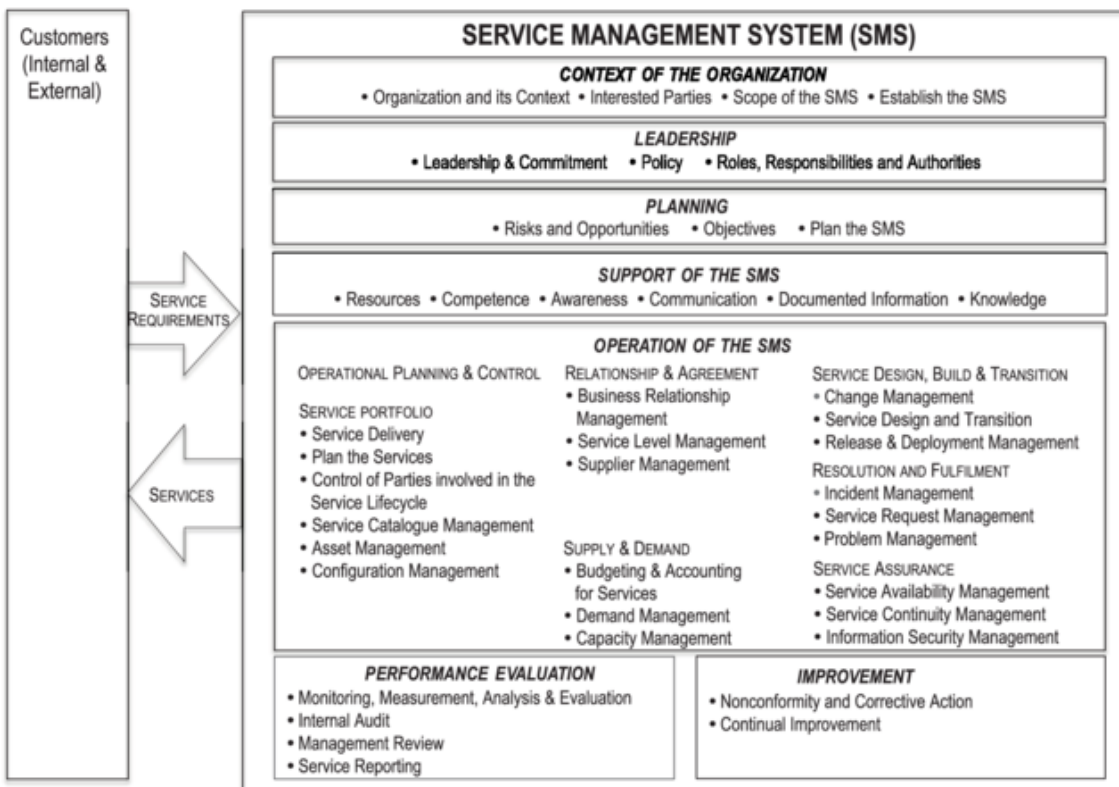


Figure 4 - ISO 20000-1:2018 Service Management System Scope (International Organization for Standardization, 2021)

2.3. Standards and library

Information technology managed services organisational structure becomes sometimes complex and obscure which leads to confusion on business process general management and consequently on decision making towards the best practices to adopt. In order to have common models and terminologies, some international standardisation and other library have been created and have link to IT service providers process management. The

most famous one are ISO, ITIL and COBIT which will be explored in this section. Then, we will deal with IT service management model and framework.

2.3.1. ISO 20000

International Organisation for Standardisation (ISO) develops and publish international standards, agreed by experts, on many sectors such as: construction, healthcare, transport, logistics, IT and telecoms and engineering. These standards aims to help these sectors by giving them basis on which they can stand to found stable and viable projects. Among ISO certifications, ISO 20000 certifications family is focusing on information technology service management. It provides requirements, for an organisation to establish, implement, maintain and continually improve a service management system. The last version is the 20000-1:2018. This standard encompasses various aspects of service management system from planning to performance evaluation passing by the massive operational aspect, as can be seen on figure 4. Based on this figure which is also a scope of the ISO 20000, business processes implementation and optimisation is handled by the standard. Indeed, through the *Operational, planning and control* par of the *Operation of the SMS* section, the implementation of new business processes and tools used for the activity should be encompasses from the decision-making process to adopt it to its final integration (International Organization for Standardization, 2021). Nevertheless, ISO implementation is possibly challenging for SMEs in particular, for three main reasons. SMEs do not always have enough resources for the implementation: the money and time to invest but also qualified people dedicated to the implementation and the running. For the implementation and running, some specific ISO 20000 specific knowledge is required to guarantee the best practices. Finally, the importance of such a standard and the changes it cill outcome within the organisation have to be understood by the whole team. Information sharing and communications are key to stabilise the change within the company and illustrates the good impact the implementation will have. Thus, as ISO 20000, like other ISO certifications, has requirements to be applied and due to its high cost, its implementation would not fit every enterprises especially those who are not ready for change or do not have the resources (Valentic, 2017). To conclude on this standard, ISO 20000 provides a framework and expect requirement to be casted in the mould.

2.3.2. ITIL by Axelos

AXELOS famous for their certifications such as PRINCE 2 and PRINCE 2 Agile, offers an Information Technology Infrastructure Library (ITIL) certification. ITIL and ISO 20000 are compatible and both aims to support enterprises by giving them experts' best practices on different aspects they encounter. Still, the main differences between both is their way to function. While ISO 20000 provides a framework and exige requirement to fit this framework, ITIL offers guideline based on recognised best practice framework hence its library denomination. Indeed, with ITIL, management teams can choose the best practice they want to implement according to their business case. In this way, no particular requirements, only a bunch of ideas and choices to be made. ITIL service strategy is divided in three main part: service transition, service operation and service design and five separate processes: Service Portfolio Management, Financial Management, Strategy Management for IT Services, Demand Management, and Business Relationship Management (Greene, 2021). Nevertheless, with the lack of standard, it is not possible to evaluate the implementation as good as it is possible with ISO standards. Still, as mentioned before, both ISO 20000, in our case, and ITIL are compatible but the three challenges mentioned earlier for ISO 20000 are valid also for ITIL implementation, probably on a lesser degree based on the change management choices and the enterprise's organisation structure, still a combination with both ITIL and ISO would increase difficulty and complexity in these challenges management (ITIL Certifications | AXELOS, 2021 and Shiff, 2021).

2.3.3. COBIT

The previous framework and guideline are supporting enterprise in their whole organisation structure which have an influence on its core activity. When it comes to MSPs, the core activity being managed services, support and Helpdesk — among other product and services offered —are based on marketing choice to build the catalogue. To help this catalogue creation or optimisation, in addition to ITIL or ISO influences, Control Objectives for Information and related Technology (COBIT) referential provide support to evaluate and thus optimise end-to-end services. COBIT has been established from ISACA. Indeed, as Pearce argued « COBIT provides users with a reference point for considering the impact and requirements needed to build and implement a working IT solution » (Pearce, 2015). With its various layers, COBIT covers implementation process as well as the alignment, planning and organisation to govern and manage IT for an enterprise. IT

MSPs have the choice to use COBIT to draw near their client needs, expectation on an international expert agreement level and alignment. Additionally, COBIT provides IT governance roles and responsibilities acknowledge and guidelines which give IT MSPs knowledge on how it would be handled within an enterprise and thus gain in proximity with and improve their customer relationship. COBIT, as ITIL, is considered as a framework and not as a standard in view of its content, its objective and its modus operandi.

Figure 5 is a comparison table for ITIL, ISO 20000 and COBIT which summarises highlighted points in this section. These three are compatible with each other yet they are mostly complementary, for instance COBIT is seen as an umbrella framework which would facilitate ITIL integration. Therefore, the management teams and other governance actors have to mature their decisions based on the analysis of the actual state of their business, their resources and what tools or combination would help them the most.

ITIL, ISO 20000, and COBIT compared			
Parameter	ITIL	ISO 20000	COBIT
Ownership	A service management framework owned by Axelos	A service management standard from ISO (Geneva)	An IT governance framework from ISACA
Implementation	As a framework, it can be adopted and adapted to suit IT organizations' needs.	As a standard, it has to be implemented in spirit and principles by IT organizations.	As a framework, it can be adopted and adapted to suit IT organizations' needs.
Certificate	ITIL certificate awarded to individuals only; can't be awarded to an organization	ISO 20000 certificate awarded to organizations and individuals as assessor, implementor, etc.	COBIT certificate awarded to individuals only; can't be awarded to an organization
Scope/Coverage	ITIL is a framework of best practices for service management and is complementary to ISO 20000.	The ISO 20000 standard is complementary to ITIL.	The COBIT framework has more scope coverage compared to ITIL.
Flexibility	ITIL is flexible; only required practices for an organization can be implemented.	In order to prove compliance with ISO 20000, organizations must implement all standard requirements.	COBIT is flexible; only IT governance needed for an organization can be implemented.
Benefits of Certification	The certificate helps individuals as a knowledgebase in service management and, eventually, the organization for efficient management of IT services.	The certificate helps an organization to improve its services, demonstrates reliability and high quality of service.	The certificate helps individuals in their careers for performing IT governance roles and, eventually, the organization for increased customer satisfaction.
Validity Period	The individual certificate is valid for life for the specified version in the certificate.	The organization's certificate must be renewed every 3 years, with surveillance audits to be conducted on a yearly basis.	The individual certificate is valid for life for the specified version in the certificate.
Synergy	Adopting the ITIL framework helps an organization comply with the ISO 20000 standard.	An organization that has ISO 20000 can easily adopt ITIL practices.	As a framework with more scope, it helps an organization to adopt ISO 20000 or ITIL practices with reduced efforts.
Miscellaneous	ITIL is widely implemented by organizations selling IT services, system integrators, etc. for their clients' business having IT as a backbone.	ISO 20000 is widely adopted by organizations that are in the IT consultancy business, or equivalent, for their own organization.	COBIT is widely implemented by organizations that have an IT department, but that are NOT in the IT consultancy business, e.g., banking, insurance, etc.

Figure 5 - ITIL, ISO 20000 and COBIT comparison table from Advisera (Chaphekar, 2019)

2.3.4. Business Process Management

Going deeper into integration/implementation and optimisation of business processes including adoption of new tools, these previous standards and framework provide partial support. Nonetheless, complementary information may be necessary to facilitate these actions.

« Business Process Management (BPM) is a structured method of understanding, documenting, modelling, analysing, simulating, executing and continuously changing end-to-end business processes and all relevant resources in relation to an organisation's ability to add value to the business » (Chong, 2007). In extension to the challenges summoned

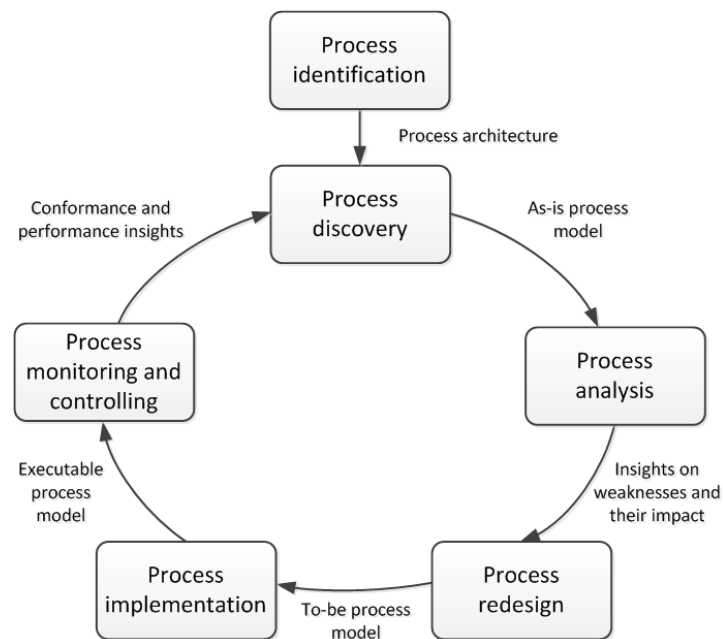


Figure 6 - BPM Lifecycle model from vom Brocke and Mendling, 2018

by previous standard and frameworks mentioned, Chong's study shows that the lack of resources and knowledge of BPM are the major factor to retain SMEs to implement BPM. The six core element for BPM are strategic alignment, governance, methods, information technology, culture and people, as defined by Rosemann and vom Brocke (vom Brocke and Mendling, 2018). The lifecycle described in vom Brocke and Mendling's article begin with process identification which leads to process discovery, process analysis, process redesign, process implementation then process monitoring and controlling which ideally close the cycle by going back to process discovery, as can be seen on figure 6. Yet, the authors precise that the circle is not necessarily closed and this ideal sequential way to process is not always followed due to the gap between theories and practices. A framework comes along composed of four dimensions: goal dimension, process dimension, organisation dimension and environment dimensions. These dimensions depict the context in which the project evolves and its setting support the establishment of an appropriate scheduling for the enterprise to guarantee BPM-related actions. The BPM model noted along with the BPM framework demonstrate a more business process centred and specific way to manage compared to COBIT, ITIL and ISO which are more enterprise activity and organisational focused. Both business processes integration and optimisation may follow the BPM Model depicted by vom Brocke and Mendling.

2.3.5. IT services management

IT services management is defined as a subset of service science which is focusing on IT operations. According to Conger et al, IT services management draw its foundations on ITIL, ISO 20000 and other influences such as COBIT (Conger et al., 2009). IT services management seems to be the most relatable field to encompass the subject of this paper: business processes integration and optimisation such as PSA implementation and optimisation for IT MSPs.

In Cotemar's case, Lucio-Nieto et al. use the Service Management Office (SMO) mechanism based on ITIL framework. This mechanism aims to provide quality IT services to users at both tactical and strategic levels. After determining current operational process state of the organisation, Lucio-Nieto et al. have identified objectives the project aims to support decision-making: standard establishment for processes and service management design and implementation, internal and external communication continuity, assurance of having trained employees and workers following the standards, constant promotion and improvement execution of services, managers, tools, processes and the service model. Then they have identified main issues to revise which are: design, approving, implementing, closing and recording. When it comes to method implementation, five step have been identified: identification of expectations from SMO, identifications of IT service management weaknesses, establishment of SMO definition, goals and mission, definitions of standards for design, process implementation and service design for the enterprise organisational culture, and setting of committees on executive, tactic, operational and improvement levels. Benefits from this SMO mechanism identification created an emphasis on the importance of interrelationships processes, technology and people composing IT service management. Main benefits are about improvements in communication and information flow (committees, share and process efficiency), tools and methods used and in general processes.(Lucio-Nieto et al., 2012).

On another way, McNaughton et al.'s have opted for design research « to design a holistic evolution framework for ITIL and then assess, test, and validate it to determine its usefulness ». Their work provides insight from experts which may be useful to IT related organisation on ITIL implementation, ITSM improvements efforts and IT services. This specific paper is not meant to provide exact method to follow yet it participates to research on IT service management framework, methods or even standards establishment. Their

research included four evolution perspectives: management perspective, technology perspective, IT users perspective and IT employees' perspective. To evaluate their framework proposition in a more detailed, process specific and objective way, *effectiveness*, *capability* and *efficiency* are the metrics they used, these coming from ITIL processes (McNaughton, Ray and Lewis, 2009).

2.4. IT governance and enterprise architecture

IT governance and enterprise architecture are part of the main aspects for strategic sourcing choices, for both SMEs as clients and MSP as provider/reseller enterprises. The customer side is not our interest in this paper thus it will not be treated here. However, many interesting studies and papers are available online, to help SMEs to make the best strategic choice for sourcing based on their enterprise identity and activity.

For IT-outsourcing to deliver its expected value, a major aspect have to be considered: the relationship between the client and the IT provider. Information has to be shared on both side to determine a strategic business plan to follow. Indeed, as N. Hamlett describes in his article, because IT-outsourcing significantly impact its client organisation, aligning the client business, technical and operational units is a non-trivial alignment. Still, such alignment is the basis of a stable and healthy enterprise architecture (EA) for the client. Additionally, operational reliability and competitiveness IT-enabled have been identified as two characteristic issues for IT impact on an organisation's EA. Starting from this assumption, strategic modes have been determined to identify these organisations' main issues and characteristics, in figure 3. There, we read support mode, factory mode, strategic mode and the turnover mode (IT Outsourcing Impacts on Enterprise Architecture, 2007). This strategic matrix illustrates the current activity of an organisation and influence an organisation's EA planning which will be mostly executed by IT governance (ITG). In fact, ITG is considered as an important part of enterprise architecture. This primary component that is essentially focussing on daily IT activity, on the EA plan execution. On figure 7, six ITG styles are identified. Each one correspond to an particular approach, providing insight on the governance framework — concerned actors to take decision — on distinct IT components which are: IT architecture, IT principles, IT infrastructure, business application and IT capital planning. In our particular case, IT go-

vernance should also handle the fact that IT is outsourced. In order to optimise the collaboration, the client organisation and its IT provider have to establish an explicit contract encompassing the complexity of their relationship (IT Outsourcing Impacts on Enterprise

Style	Who Has Decision or Input Rights?
Business Monarchy	A group of business executives or individual executives (CxOs). Includes committees of senior business executives (may include CIO). Excludes IT executives acting independently.
IT Monarchy	Individuals or groups of IT executives
Feudal	Business unit leaders, key process owners or their delegates
Federal	C-level executives and business groups (e.g., business units or processes); may also include IT executives as additional participants. Equivalent of the central and state governments working together.
IT Duopoly	IT executives and one other group (e.g., CxO or business unit or process leaders)
Anarchy	Each individual user

Figure 7 - IT Governance style table from IT Governance and Strategic Sources Carole Ou and Andreas Alexiou's course (Ou and Alexiou, 2020)

Architecture, 2007).

2.5. Professional Service Automation — PSA

In order to increase its profitability and efficiency a company may need efficient tools. In the manufacturing sector, Enterprise Resource Planning (ERP) has been developed and adopted. Service oriented companies do not have the same needs to be fulfilled, then a more specific tool has been deployed: Professional Service Automation. These PSA encompasses aspects — billable hours, project design brief and deadline and administrative paperwork for intervention among others —that were not needed for manufacturing companies and then not programmed in ERP. The Aberdeen Group has been the first to identified the particular PSA market on the threshold of the new millennium. PSA solution aims to provide visibility, control and thus profitability to the organisation. Still, PSA is not meant to be the ultime solution to every issue the organisation may encounter. In fact, twelve module have been distinguished yet three are highlighted as the core: resource, time management and project. For the rest, enterprises are free to chose the PSA

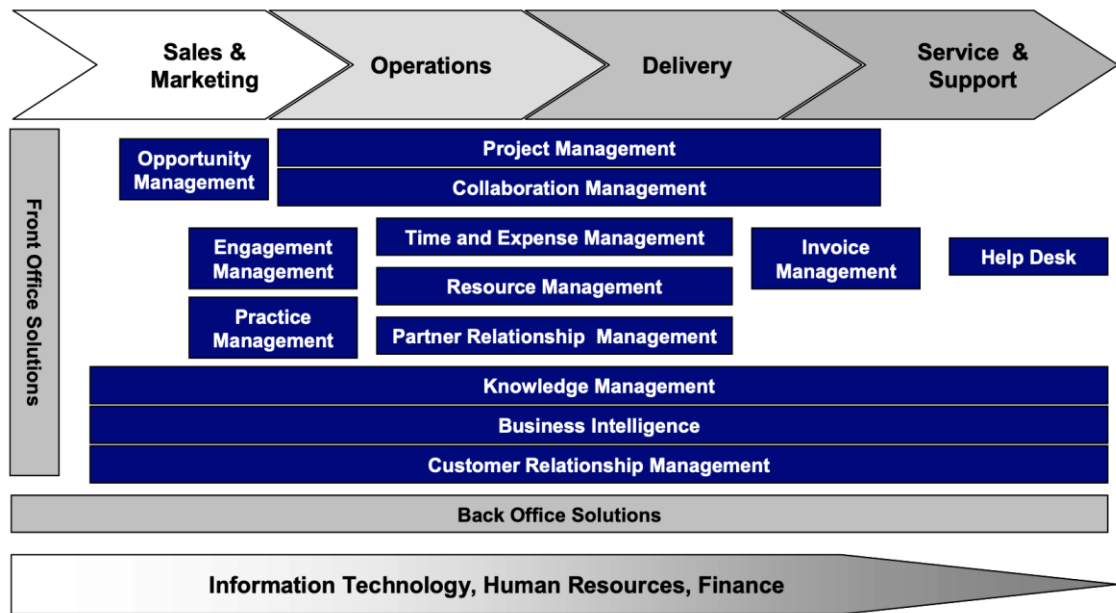


Figure 8 - Matousova's map of PSA modules into the value chain (Matousova, 2002)

that fits their needs the most, based on what is available on the market. To illustrate the importance of each of the twelve modules, figure 8 shows these in a service-oriented organization value chain (Matousova, 2002).

For service-oriented enterprises comprising IT MSPs, customer relationship management (CRM) is a fundamental aspect of their activity. Indeed, services are intangible and immaterial, which means that, for the customer, the service incorporates the experience in its entirety, from end-to-end. Hence the importance of a well-thought and managed customer relationship, and this is the reason why one of the modules mentioned earlier is CRM (Matousova, 2002).

In the early 2000s, R. Matousova categorized aspiring PSA market leaders of her time into three categories: ERP-based solutions which are built on a part of ERP functionalities and mostly by ERP vendors, solutions that are developed from complementary solutions such as CRM, and *from scratch* solutions. This categorization affords Matousova a weakness and strength table creation, in figure 9.

To have an idea of the market value, the professional services automation market worth USD 716.5 million in 2017 and is expected to grow to USD 1244.8 million by 2022, at a Compound Annual Growth Rate (CAGR) of 11.7% during the forecast period according to Markets and Markets (Market, 2017). Some international PSA and other solutions to IT MSP issues are Datto with their Autotask PSA, Cisco with their Umbrella and Kaseya with their Business Management Solutions (BMS).

In addition to PSA, complementary and more specific solutions are integrable for IT MSPs. Remote monitoring and management agent (RMM), system backup and even CRM solutions. Some PSA may include part of these solutions yet, it is up to the enterprise to decide to integrate complement in order to have more choice and possibilities since these specifications are not necessarily the main focus and thus the most developed featured of the PSA. Divide and rule to conquer, is an interesting path, still scattering is a risk that have to be managed to not fall into a jungle of solution: not mastered, risky and

	ERP based	Partial / complementary solution based	Developed from scratch
Strengths	<ul style="list-style-type: none"> • Established brand • Some ERP functionality might be recycled • Capital strength • Reference customers 	<ul style="list-style-type: none"> • Installed base of customers • Partial functionality already proven • Capital strength • Established brand 	<ul style="list-style-type: none"> • Understanding of the service organization needs • Originally designed for PSA functionality • Drive to succeed and please the customers • Full attention devoted to the product
Weaknesses	<ul style="list-style-type: none"> • Installed base are not the right customers • Might be too much ERP - like • Low understanding of the service based organizations 	<ul style="list-style-type: none"> • Might be "too heavy" in the original functionality • Missing pieces are added without deeper integration • Hard to balance to sell both partial and full PSA solution 	<ul style="list-style-type: none"> • Not established brand • No customer base • Limited funding

Figure 9 - Matousova's strength and weaknesses table representing PSA solutions based on their developing origin

very tough for the enterprise.

Currently, no academic paper have been found on PSA optimisation with complementary tools and solutions IT MSP have to use for their activity.

3. RESEARCH METHODOLOGY

Research made on IT SMEs working on the MSP model and providing their services to SMEs, accessible to anyone without paying these reports, are minor compared to those made on the MSP enterprise and model, on one side and those made about IT and IT-enabled services for SMEs, on the other side. This appearing gap made interesting the exploration of this particular field. Thus, taking information from these related fields to create a paper dealing with this particular area is the aim of this paper.

3.1. Research method

In this paper, we have chosen to work with a qualitative research method that intertwined one-to-one interviews and literature, encouraging a narrative model. This particular method has been chosen, for the purpose of highlighting subjective experience of the businesses interviewed. The subjectivity of the interviewers mixed with the subjectivity of the writer, as it is the case for most research using these methods, have to be noticed. Then, we have to be aware and keep in mind that the objectivity of the results found validity may be altered by those subjectivity (Hayashi Junior, Abib and Hoppen, 2019). Nevertheless, no universal criteria do exist to transcript completely objectively experiences of each one. Moreover, the qualitative research, opposed to the quantitative one, bring light to « richness and complexity of daily life in its interpretation and presentation » (Thompson, 2013). Eventually, by experience the IT MSP market, during an internship in parallel to this paper writing, contextual inquiry method is also use to decrypt data collected from participatory observations (Kip, Beerlage-de Jong and Wentzel, 2018). Using observations/field research method is an interesting way to obtain reliable data which can be compared to self-reports obtained in parallel with interviews.

3.2. Study design

Choosing qualitative methods instead of quantitative, has been motivated by the purpose of gathering data about businesses' experience, their motivation to do some choices over others and the possibility to get their opinion as deep and detailed as possible. Ad-

ditionally, one-to-one semi structure interview have been orchestrated to give the possibility to the interviewee to develop and then have the chance to bounce back on something the interviewee has said.

Particularly about integration and optimisation of adapted tools and methods for information technology managed services providers, there is seldom specific guidance and reference established by academical paper. Internationally, ITIL and COBIT framework as ISO standards are the most known. Still, specifically for IT MSPs and its French related market, little or no related academic paper exist.

Firstly, crossing found information in the already existing literature, reports and statistics with the one found via the interviews and exchange, made possible determination of a global frame to help IT related SMEs to integrate the MSP model. Secondly, an integration framework for tools particularly used by IT MSPs to run their activity has been established, resulting from data collection and analysis.

As this paper's particular subject is the intersection of multiple fields, it has been theoretically reflected and practically demonstrated, yet not enough sealed with on its own, this paper is trying to contribute to fill the gap by creating an extension of what is currently existing. Thus, this paper is inspired by IT service management framework which is drawn on ITIL, COBIT and ISO influence, and business process optimisation and integration. Combination of concepts and theories from selected background disciplines and collected data, is made based on an epistemologic constructivist positioning. Nevertheless positivist approach core objectivity is an important envioning aspect considered, to draw near a multi paradigm approach (Velmuradova, 2004).

For interviews, notes have been taking notes during the interview and shortly after while the informations and the discussion were still *fresh in mind*. When it was possible and authorised by the interviewee, it has also been recorded. Thus, it gave the possibility to listen the record again and again to have data the most accurate possible. These interviews have started after related literature has been reviewed, in order to first have a theoretical point of view mature enough to have the necessary objectivity to start confronting professionals, their experience and the choice their made. Construction of semi-structured interviews and other exchange with professionals, has been inspired from McNaughton et al.'s framework (McNaughton, Ray and Lewis, 2009).

Afterwards, analysis required dedicated time. First reflection on these, then, in order to sort out, select relevant information and classify them if necessary, to facilitate further redaction. After writing up empirical results, redaction has been based on existing related literature (Eriksson and Kovalainen, n.d.).

3.3. Data collection and analysis

In addition to data collection and analysis methods, cases and interviews (in qualitative research) or sample (in quantitative research) description are accompanying the process. As an extension to qualitative research method choice explanation, choosing triangulation as data collection was a way to enhance interpretation potential of general data found (Thurmond, 2001). In the previous paragraph, as mentioned the interview which are part of the data collection, were semi-structured and one-to-one interviews. Additionally, textual and virtual data collection were used which complete the triangulated data collection (Eriksson and Kovalainen, n.d.).

The interviews were conducted with 6 IT professionals in a time period of four weeks and have lasted between 25 and 60 minutes. The interviewees were assured of total confidentiality, due to information linked to their enterprise's private experience and strategic choices. For this reason and because it has been settled as this, with each of them, their identity and their enterprise name also remained confidential. The interviewees were told the purpose of the research and asked to confirm their consent to participate.

4. FINDINGS AND ANALYSIS

4.1. Interviewees and companies' profile

Interviewees' company profile spectre spreads from MSPs to their supplier. Four interviewees are from different MSP enterprises, including one from an MSP reseller to MSP, and the last interviewee is from a large enterprise supplier to MSPs. Except from this last interviewee, every interviewees and their enterprise are located in France. One is in the south of France, in Marseille, which is the second biggest city in France, another is in the North-West, in Nantes and the third basic MSP is from the East, near Dijon, in a city named Dole. To facilitate comprehension, each companies is named with a letter. These three-first companies are respectively A, B and C - respectively . Company D is the MSP reseller to MSP and company E is the large enterprise supplier. Company D is located, near Lyon, in the East which is also near company C. Eventually, company E is an international company which have a subsidiary company for South Europe. Our interviewee from company E is located in Spain. To represent company A, B, C and D, interviewees are co-founder of their enterprise. Companies A, B and C's clientele is composed of very small enterprises (VSE), small and medium enterprises (SMEs), and small and medium industries (SMIs). Company D works with IT related MSPs which are also considered as SMEs. Moreover, it was found that the three MSPs (companies A, B and C) collaborated with company D and uses company E's tools and solutions.

For company A, the interviewee is a sales professional with background in telephony, as he worked for one of the leader of French market. During his career, a sensitisation to telecommunication, services and information technology (IT) has increased and has created a motivation to found a business related to these specific market. The localisation has been motivated by the need to be near his relatives. The desire to make a convergence between telecommunications, IT and services leaded, from one side, and the meeting with the MSP model through company D, motivated our interviewee and his business partner to invest into IT MSP. Thus, company A has been created onto the MSP model from its beginning, in 2014. Nowadays, company A hires 13 professionals including two apprentices during the first semester of 2021. The team is composed by two sales professionals, two in charge of administrative, management and human resources and the rest of team is made of IT professionals. Due to its localisation, most of their clients are located in the

region Sud, still their intervention on site are possible everywhere in France. They count more than 200 customers and their turnover is approximately 1.5 million €. In its organisation, company A is mainly flat, still head of activity are distinguishable: one for sales, one for the technique and a last one for the more administrative parts. Their role is to take strategical and transversal decisions since they should manage their hub. When it comes to decision making process within a division, every team member is concerned. Information sharing goes through tools such as teams and e-mail, as well as weekly meeting to follow project advancement. In this company, communication channels are various and can be divided as: 1. Formal internal communication goes through e-mail, phone call, verbal/oral communication and formal document shared on the cloud, 2. For informal internal communication, the use of apps such as Microsoft Teams, WhatsApp but also e-mail, phone call, verbal/oral communication, 3. Formal communication with external parts are made through e-mail, phone calls and communication apps such as Microsoft Teams or Zoom. Additionally, occasional meeting about specific subject may be scheduled and every four months, a meeting is organised to discuss about turnover, strategies and decision-making.

Company B has been created in 2016 in French countryside. Today, it employs 13 people including 3 technical apprentices. With a turnover of 1.348 million € and between 130 and 150 clients, they have decided to work with clients that are in a limit of two hours by car, to facilitate action on-site. This company has been founded by two persons both passionate by IT. This passion has motivated them to create their own company to work with the innovative potential of information technology. This interest in innovation led them to adopt the MSP model on an early stage. Moreover, integrating the MSP model has been triggered by a willing to work with ticketing, support and service offering combined to a meeting with company D. The enterprise architecture is flat, yet evolving because of the company growing — for now, 30% of growth per year — and a willing to always be prepared on both strategic — enterprise architecture —, tactical and operational level — with IT governance. For now, these two founders are defined as chief executive and president and have different roles and responsibilities for specific activities. While the chief executive handles operational and technical activities, the president deals with management, sales and human resources. When it comes to strategic decisions, both actors are requested. As mentioned in the. Beginning of this paragraph, both chief executive and president are passionate about IT and have technical acknowledgement, according to our interviewee — which is the chief executive — the fact that the directive board have

this amount of knowledge and are masters the tools and solutions implemented, is a benefit when it come to decision-making. In fact, he has attested that «to be efficient, we have to be pernickety because even a sand grain may be a hurdle in the activity and process chain. Then understanding and knowing the functioning of these tools and solutions, make decision making process easier and faster, since we do not have to wait for expertise or include other actors into this process. No delegation needed and then we avoid a lot of validation steps.» Within company B, every Monday a meeting is planned to discuss about ongoing projects, scheduling and projects programmation, as mentioned for company A. Information sharing goes through teams for internal exchange and through the PSA — tickets — to exchange with clients; emails are avoided for both internal and external exchanges. Eventually, company B has started a to work with ISO 9001 since 2017 and after two years of preparation to the certification, they have been certified in 2019. This certification has lead company B to organise strategical meeting every four months. Besides, ISO 9001 assimilation is understood by every professional working in company B and is responsible to deliver quality within their work, for both the client and the MSP. For now, other certifications, frameworks and methods are not planned to be integrated, still an interest into ISO 27000 has been notified. Generally company B deplores a lack of practical case study within the MSP literature, especially in France, at the expense of theories and framework. An interest for papers reporting case study for MSP has been shown. According to company B, understanding practices that are the most efficient for the company based on its characteristics — localisation in the world and within a country from countryside to big cities, type of client, size of the enterprise, country economical model etc...— would be appreciated.

Since its creation in 2018, company C has worked under the MSP model. With 8 employees, 120 customers and a turnover of 800 thousands €, support, assistance and advisory are their main motivation. The motivation to work on this model comes from the founder's background since they had been historically confronted to it. In addition, their meeting with company D lead them to an early adoption. According to interviewee from company C, adopting the model from the beginning of the enterprise creation, is an advantage since it creates more agility and control over the activity. On their organisation, three main figures are distinguished: the chief executive, the president and a production manager. The two-first are the leaders and co-founders of the enterprise and are respectively in charge of sales, operations and human resources, and enterprise management and strategical analyses. Yet, every professional of the organisation is self-contained, have

responsibilities and is able to take decisions on its work to work faster and to feel involved in the enterprise's overall work. According to the interviewee from this enterprise, this self-implication from end to end participates to increase self-implication and thus avoid human tensions and frustrations. To share informations, company C uses only one channel: Microsoft Teams. This way, internal communication — personal and professional — is structured based on subject, customer and project. Moreover, their communication with their clients is also managed on this app: summary of projects, operations and even ticket update and random questions. With the use of only one channel — even e-mails tend to be completely not used for internal and with client exchanges — information loss is avoided and every actors of the organisation is able to be informed of a subject they haven't worked on. Additionally, for strategic and general decision making for the company, three to four meetings are organised in the year to discuss.

The fourth company named D has been created in 2014 by two partners: one of them being more IT professionals and the other closer to sales. As mentioned at the beginning of this chapter, company D works in few countries which differs from companies A, B and C. One of the main important motivation to company D is to develop the MSP model in French-speaking European countries which leads this company to be recognised for their work. In this active and emerging field which is constituted by Managed Services Providers, implications and informations sharing within the market is an important tools for organisations to grow, as discussed with the interviewee from this company: MSP market will grow with the general knowledge of its existence spread. According to the interviewee, today, this model and even the term MSP is not understood by every IT professionals and even less to those considered to be potential clients. Still, in France, these past years, there is an undeniable growth. With approximately 300 clients and a 3 million € turnover, company D has developed its own support program based on good practices which have been highlighted in other countries such as United States of America. These good practices on the MSP markets does not require international standards, framework and methods. As the interviewee said: « there is no specific access or requirement to begin into IT, because everyone can learn from scratch, via internet, for instance there is everything. Hence, certifications with ISO may be interesting for MSPs to show a recognised label and then make a strategic difference with the concurrence. Anyway, for now, we have not noticed the need to integrate these in our business. » Company A and C have dealt with ISO 9001 for respectively 3 and 1 year. Their motivations were to organise and structure processes and information flow and then globally facilitate the

business activities. Company C base its activity on a root matrix which define the enterprise organisation and governance, then the subsidiary principle as mentioned in the previous paragraph and eventually ISO 9001 to consolidate overall. For both A and C, ISO 9001 was the natural choice since this 9001 standard is a generic one that encompasses most SME's aspects. From company A to D, no one heard from ISO 20000 which has been considered as the most related to IT MSPs by literature research. Moreover, companies A, C and D do not intend to integrate ITIL, COBIT or ITSM. All of them mentioned a non-recognition of their importance into their specific enterprise. After the interview, only company A seemed interested to investigate the ISO 20000 path, companies A and C seemed opened to learn more about ISO 27000 — which deals with information security management system and is closer to security services than 20000 and 9001 are. Additionally, ISO 27000 which is more oriented towards security services, has been mentioned by companies A, C and D. And both companies A and C have shown interest in a future certification. According to interviewee from D, good practices that are mentioned and put forwarded during events, professional blog/articles and exchange with other professionals of the market are what their activity is based on, since it is « practices that have proven themselves before, yet no particular certifications frame them. » This particular opinion is shared by companies A, B and C, which depicts firstly, French delay on this particular field and secondly, a lack of interest for academical paper and research on the subject due to « too much theory and not practical enough » according interviewee C. This interviewee mentioned that To share information, company D has adopted a daily exchange from 7 to 15 minutes with every member of the work team. These are meant to share information on every in progress subject with every worker.

Company E is one of the market leader to provide MSPs with tools to support their activities. These tools include PSA, Remote Monitoring and Management (RMM), Backup and Restore, IT documentation software. Company E is present world wide, still its subsidiary company for South Europe is handling particularly European countries which are consider to be working somehow different. From observations and interview made, observe is that Company has not the same way of handling France as other countries such as UK or Scandinavian countries. Two reasons given from the interviewee, are the fact that France is less fluent in English and then the need for international company to sell through French reseller. This reseller is in fact company D which is company E reseller for MSP in France and French speaking European countries such as Luxembourg,

Belgium and Switzerland but also in North Africa. Based on the interview with the professional from this company, « There are a lot of enterprise which think they are MSPs but only few are really full MSPs. Tools they are using are not used on 100% of their possibility which is a possible loss to the enterprise. » According to him, one of the main differences lies in their understanding of managed services providing: tool's use and the customer relationship management. Moreover, according to interviewee from company C, « Tools are important. Yet, most of confrere are focused on new technical solutions and tools they are going to use next: new tools on the market, new interesting technical and innovative feature release, when we are more focused on satisfying, supporting and thus creating a loyal and true relationship with our client. Clients and our relationship with them are the core of our work: they have to be satisfied. »

One of the main IT MSP's objective is to support and help the IT activities of its client to support their own activities. This specific outsourcing area emphasises the fact that the IT MSP is a whole part of their customer's activity. Indeed, by managing or co-managing their client's IT operations, the IT MSP is somehow involved in strategic decision of their customer and it also influences or impacts the client's tactical and operational activities. This particular implication is an important aspect to take into account for both side: the customer which have to choose the MSP they should work with, and the IT professionals from the MSP that have to handle a client, specifically according to their needs, their infrastructure and the relationship. Based on observations, information gathered during the interviews and research literature on the subject, it seems that the kind of SMEs that are considered as clients, states mainly as Support Mode or Factory Mode, while the MSP are represented as Strategic or Turnaround mode, depending on their status: the amount of support, maintenance and management services sold compared to the amount of products: licences and other antivirus, anti spam, among others. MSPs customers do not always have knowledge in IT and this is the reason why they trust IT MSPs with their IT system. As the interviewee from company B has mentioned, one of the MSP roles is to ensure trust and transparency, since by establishing an honest relation with the customer, fidelity is reinforced and give the possibility to both the MSP and its client to grow their activity side by side. Company D, as a reseller to MSP, has understood the importance of this aspect and to share their knowledge on this topic, they have a program to accompany their MSP clients to handle this particular relationship with their clientele, based on the best practices they have experimented and worked on. Interviewees

from companies A, B and C have testified that this aspect of their activity is understood and taken into consideration for strategic, tactical and operational decisions. Still, with observations made, it has appeared that some professional of structure has not completely understood this major MSP's aspect. While some professionals have shown customer relationship based on regular contact, proximity and customers needs understanding, some others have illustrated a complete opposition by dissociating actions, operations and actions made and instead of creating a personalised assistance and advisory from end to end. This behaviour being not aligned to generic MSPs' objectives, may therefore be or become an obstacle to the enterprise global expansion. Indeed, the MSP activity lies in recurring contract with their client, to which they may provide Helpdesk, support, advisory and other products and services. Due to these recurring contract — long term relationship —, customer relationship is an important factor to guarantee customer satisfaction, continuity and even possibly more contracts thanks to satisfaction and loyalty. On the other side, a disorganised and sloppy customer relationship has the possibility to leads to customer dissatisfaction and departure.

Eventually, companies A, B and C are using mostly the same tools to support their activity: a Professional Service Automation, a Remote Monitoring and Management agent, software automation, IT documentation software and APIs connections with other provided services such as anti-spam, antivirus and office apps used, for instance to create text document, presentations, tables and cloud storage. For these common basis tools, these MSPs use the same brand/editor and the same supplier which is company D. In France, on the IT related MSP market, company D is a national reference considered to be a market leader. Nevertheless, even if companies A, B and C use the same tools, their utilisation are not exactly the same. Indeed, based on their enterprise strategy and combinations with other tools and solutions, an influence on the use of these common basis has been noticed. For instance, the PSA encompasses features to manage customer relationship (CRM), still the main activity of the PSA is not to be a CRM but to handle more easily customers' information system and support with ticket management. As mentioned in a previous paragraph, company C's strategy emphasis on CRM which have lead this MSP to integrate a specific tool to handle this. Based on the discussion with our interviewee, with the use of an individual CRM solution, marketing is well handled: from portfolio creation and alteration to commercial campaign. As for communication, multiplication of channels may be complexed and heavy to handle properly and deeply. An

MSP has to allocate time and resources to properly manage a tool or a solution in its entirety — or most of it — to be able to use it in an optimal way that fits the best the needs. Thus, multiplication of tools and solutions means allocating more resources which is not always possible depending on the intensity in the activity and solicitation level. Moreover, to optimise the uses of these tools and solutions, connections between them are possible and commonly used. There are various ways to handle this, yet the technique met the most is *API connection*. With API connections, no need for the tools and solutions to be designed to work with each other, these connectors are akin to information translator or convertor from one API to another. Still, there are various techniques to make these connections possible — using key APIs or public IP addresses, for example — and may require development / programmatic knowledge to create a solid and efficient connection.

4.2. Observations and analysis

This part is dedicated to observations made during the attempt to optimise and automatise existing processes. At first, current state of the structure and globally the environment has been identified. Then, because this specific project needed to involve tools, software and other solutions already used by the company, a familiarisation with these gained a foothold. This specific step is the beginning of the limitations met. Indeed, some basic features were not available yet needed. For instance, some tools are managed through their interface, still no export of licences or equipped devices quantity per customer was possible even if these informations were seeable on the interface. Another example is the impossibility to create automatically charges, which is an important feature to MSP that is a telecommunication reseller. Trying to find a way to avoid limitations encountered on the way to achieve the aim of the mission, new limitations appeared. At the end of the mission, no successful outcome has been found since the main problematic was not lying into the processed used into the company but unavailable feature from used tools.

Thanks to this experience, one specific point is on the spotlight: editor — of tools dedicated to MSP — focuses on technical features and neglect administrative needed functionalities. Indeed, as explained in this paper, the MSP model combined both the providing of managed services and recurring all-inclusive or package contract established between the provider and its client. While the managed services and support is the main

focus of the tools, the second part on the packages and the billing is not handled from end to end. MSP needs to work on their marketing to have a clear portfolio compatible with the tools it internally uses. Indeed, the choice to adopt one tool or another has to be based on the needs generated by the services, products and packages from the portfolio, technical features required such as ticket creation, API connection or smart quantity calculation for each items based on an imported table — .CSV or else. Yet, the tools adoption may fulfil needs and requirements today and not tomorrow, because of strategic or tactic change or simply natural business evolution. In order to give users the possibility to make the tool, PSA for instance, some customisation through development and programatic is possible. Still, as discussed with IT professionals from supplier and editor companies, there is a possibility that tool's new update may lead to a crash into these customised part and even be a complex hurdle to properly use the new update.

Between companies A, B, C and D, two have the motivation to get ISO — 9001 specifically — certifications to optimise internal organisations and business processes management. None of the interviewee had knowledge about ISO 20000, which has been identified as the most related to IT MSP by the literature. For now, one of the companies plan to integrate ITIL, COBIT or ITSM. Moreover, theories, academic papers and study cases are not examined regularly since the interest to allocate resources for this tasks, is not seen. Still, with the apprentices companies A, B and C have hired, there is a direct link to actual practices taught in schools and the actual practices used on the field work. While adopting ISO, a dedicated person has been dedicated to quality management framed by the certification and ensure processes quality and management, as discussed with company A and C.

Within a company, information is a valuable resource that has to be transmitted and shared with efficiency, effectiveness and accuracy. Information sharing and transmission depends on the organisation of the enterprise, the channel used to share it and a clear process thanks to which, an actor is able to easily find an information he/she/it was seeking. Since companies A, B, C and D are considered to be MSP and use PSA, ticketing/ticket creation is a tool that shares informations through the client and the support team on a specific subject. To centralise the access to information, company C has chosen to use one specific channel to communicate with their client and internally, making ticket referencing under the appropriate group — client, project and subject — under the same channel. This is an interesting choice, since the information have to be found on this channel, by both the client and the IT workers from the MSP. Discussing this particular

communication channels method with IT MSP professionals, it has been noticed that the redundancy of information between the communication software and the ticketing tool, may represent a heavy and unnecessary work for IT professionals. Moreover, it has been observed that, as any process changes, support and management are highly appreciated when the enterprise has a desire to change their communication landscape: software, methods, organisation. Otherwise, company A affirmed that habits are not taken correctly, every workers may not understand the importance lying in these changes and then the adoption of new processes is compromised.

Every interviewer agrees on the fact that MSPs in France, as in some other South European countries, are not having enough consideration and the model is not enough known by potential clients and IT professionals. According to them, this is an obstacle to the market growth in these countries and regret lack of information sharing to potential clients and other IT professionals. Indeed, interviewee from company B said that « the main difficulty I have met was to explain what is the MSP model to potential clients, and make them understand that even if it is not the regular model — break and fix — used in the IT outsourcing market, it is an interesting one, probably even better, since the customer satisfaction is the most important for the MSP and our interest is to fit the customers' needs. We are paid on a regular basis so we do not have interest in taking time to resolve a problem or make a task. We do not have interest in not doing our job correctly. Customer satisfaction will make him stay and make him spread good information on our work. This is how we work. » Every interviewer reports that France is approximately 5 to 10 years behind the USA's MSP market and most of them think it will stay the same, unless a big change occurs. Besides, every interviewee agrees on the idea considering that being MSP lies in the understanding of the principles and values it brings. Being an MSP is supporting its client side by side and honouring the trust the clients give. Eventually, communication is undeniably important for every company from A to E. Every one of them has admitted that scatter-gun between various communication channels is time consuming and may have impact on workers' mood, since they may not find information they need and this may create human tensions.

When it comes to the MSP title used by large enterprises such as IBM — mentioned in the introduction —, companies A to D, attest that these large companies using this three letters abbreviation do not refer to the same activities these MSPs are doing.

4.3. Practical case

In the practice phase to optimise process management, these steps have been followed under IT, information system project and project management professionals. Based on observations and the interviews made, altering processes by integration, implementing or optimising a tool or solution may engender issues in the activity if this is not correctly handled. In this particular practical case, the department affected by the subject was the administrative hub — invoicing, contract and data management from supplier's interfaces to the MSO in question, are involved. Then, integrating or optimising the used tools is a delicate task since it may influence informations that are archived and used to manage customer relationship and comparing rate of return inside the tool. To avoid any issues, an upstream work has to be set. Familiarisation and accustoming to tools, solutions and processes used as well as collecting information from editors, suppliers and resellers is necessary to have a global idea of the situation and then establish possible paths to explore. While these paths have been determined, more investigations, more practical this time, are critical to determine whether, or not, this path is fulfilling every criteria and objectives that have been set in the specification note from the enterprise at the beginning of the mission. When enough informations have been gathered, a presentation of the project advancement has been realised. During this meeting, by discussing, more interesting and related informations have emerged from different point of view — different field: administrative, operational and sales — and from confronting ideas and thus debate and questioning on the particular subject.

Another way to avoid issues into already existing settings and data in tools and solutions, the use of sandbox — to not alter the PSA in activity — and link it to other tools and solutions, for the sandbox to only receive data and not altering data presents on these tools and solutions — half of them was used and have sensitive data, the other half was only on trial period. With these set, it was possible to play with settings, mappings, creation of fake customers, contracts and services and trying to modify already existing customers, contracts and services. Thanks to this, issues and limitations on some features have been found making some paths impossible to be applicable to solve the mission's objective. Additionally, internal process weaknesses have been identified. Most of these identified weaknesses have been solved by investing each Application Programming Interface (API) and enquiring good practices and modus operandi to adopt to actors invol-

ved in their use which are mainly administrative people that have to get customers' information on their consumptions, subscriptions and other product and services bought, technical people that set and trigger products and services bought — licences and phone bundle, for instance—, and sales people that need to understand which services and product can or cannot be use — based on the company politic and the complexity of some particular services and products when it comes to invoice. To illustrate this, here is an example. A supplier offers two phone bundle which seems to contain one same feature — for instance 50 GO Data —, except that one is an unlimited package — for texts and calls — and the other only offers this feature. The price of the package is 2 euros more than the other. Instinctively it seems that the only-one-feature is more advantageous to both the client and the reseller. Yet, the unlimited package contains mobile subscription fee — paid on a monthly basis — and the possibility to use internet even after the data limitation set, only it is on lower internet debit. Thus, the only-one-feature service price has to be added to the mobile subscription fee — which is more than 2 euros — and this service does not lock extra internet navigation, so the extra consumption has to be paid. To conclude, the unlimited package is less risky for both the client and the MSP and is less expensive. This particular case has been highlighted thanks to a meticulous unravelling information obtained from the supplier. Eventually, decision to resell some type of product is based on the company politic and marketing decision making, on which good practices have been settled to avoid bad surprises.

The project had multiple objective, the main one was to automatise as much as possible the invoice process from the supplier to the client. This objective has not been fulfilled due to features limitations from editors, for multiple reasons — this is more detailed in the next section. Thus, to compensate to this objective failure added to already existing processes' weaknesses — the first issue making impossible a complete automatisisation —, a semi-automatisation objective has been set. Taking into account both issues encountered, it has been advised to optimise already existing process to give more organisation in specific area to facilitate invoicing, reduce errors and give easier access to information required to invoice. This being set, further possibilities and advice have been communicated to the enterprise since according editors solicited to conclude this project, part of the missing features needed will be launched in few months.

When it comes to literature, opinion are divided on the use of these paper based on the same idea: there is a lack of literature about IT MSP, in Europe and especially in France and too much theories and not enough real cases. Company A and C expresses the feeling

of non interest in this literature, for now, since they are in touch with students who learn good practices of the moment at school, contrarily to company B who testified that they have made research on subject and are still interested in. Still the three of them are interested in specific IT MSP on European and especially in France, practical study cases.

About certifications, framework and methods, companies A, B and C are certified or on their way to be certified ISO 9001 and are satisfied, even if it has been reported that there is many procedures which is constraining. Before the interviews, none of them have heard about ISO 20000 — which, according to literature, in fitting IT MSP better than ISO 9001. Every one of them showed an interest for ISO 27000 — which deals more with security services. None of them has shown interest into ITIL or COBIT integration and only company C have heard about ITSM.

4.4. Recommendations

In this part, recommendations on process adoptions based on results and observations highlighted in the previous section. Some ideas that are mentioned in this part may seem natural and logically inducted, yet it seemed necessary to be properly and clearly stated, since common sense may be variable from a person to another.

Managed Services Providers is a specific term that appointed a whole manner to handle the outsourced management activity from end-to-end. In France, the MSP term is still on the rise and the whole idea underlying has to be understood by IT professionals and IT enterprises on the same way.

Firstly, the enterprise architecture has to be understood, roles has to be clearly defined and then governance may be settled correctly based on these. As enterprise architecture defines the beginning of the chain with strategic objectives, this basis have to be clear and understood by every member of the team work. These being the foundation for the rest — tactical and operational elements — belabouring and insisting on it is important. If the foundation is not solid, the structure cannot be solid, additionally strategy points the desired gape and direction towards which the enterprise heads for. Thus, clear definitions and frames, in addition to clear understanding of these principles may positively influence individual implication of every team members. Similarly, MSP principles has

to be understood by every worker, since their actions should head them. Figure 10 is a table of three MSP's main principles based on this paper results analysis.

Principle 1	MSP is a win-win model for both IT professionals and their clients.
Principle 2	Customer relationship has to be worshipped.
Principle 3	Select communication channel(s), tool(s) and process(es) with attention and optimise their use as much as possible.

Table 11 - MSPs' three-first principles table.

Principle 1 refers to the idea according which the MSP support, accompany and provide advices based on their acknowledgement in order to upgrade and add value to its clients' activities. With MSP model, providing valuable overall work to the client should have a positive impact on the client's activity — more income or enterprise growth, for instance — thus the client would need more services, products and assistance, which creates a virtuous circle involving the MSP and its customers. This first principle leads to realise the crucial value, customer relationship is. Managing well this relationship, paying attention to the clients needs and objectives, as well as showing presence, is the key to this second principle. Eventually, principle 3 refers more to tools and processes used. Scattering between multiple channels, tools and processes, may increase resource consumption, information loss and global inefficiency. Choosing very few communication channels with precise use criteria is recommended. For instance, favouriting one direct communication channel to share projects informations and immediate messages may fits some MSPs such as company C. For other companies, such as company A, precisely defining the role of each communication channel and selection only essential one is a first step to decrease channels quantity and complexity.

When it comes to practical processes used within the enterprise, standards, certifications, framework and other methods and mechanisms exist. As discussed in previous sections, professional literature on the subject and results from interviews diverge slightly. From one perspective, the use of ISO 20000, ITIL and ITSM are the main trends, while the other perspective have illustrated a general resistance to ITIL, COBIT and ITSM integration at the expense of ISO 9001. According to Advisera — the connector of ISO standards —, ISO 20000 and 9001 are overlapping on each other on multiple parts, still

20000 seems more specific to IT services while 9001 is more generic and can be used onto many sectors. Adopting standard and other framework and methods requires allocation of time, workers and money. To illustrate this, company A shared an interesting experience. Once they have decided to adopt ISO 9001, company A dedicated three professionals with one leading the quality management process. This particular leader has left the company few months later which has driven company A to reallocate another professional to this mission. Implementing and integrating standards certifications and other methods and frameworks have an important cost, especially when specialised consultant and support are needed, which is not affordable for every SMEs, even if these integration have the strength to help SMEs and thus MSPs, evolve fast and with good practices. For those who may not have the resource required for these implementations or to work with consultants and experts, some internal management processes may help. To continue with the three first principles already stated, information flow management is undeniably important. To work effectively and efficiently with reliable information, information management is key. Moreover, with increasing interest for security services in the IT sector, information management, cybersecurity and information and communication technology tend to save place into the MSP business in near future.

Globally, visualisation of intersected links between every hub of the organisation is important to on strategical, tactical and operational level. Thus, in MSPs, governance being an intersecting field, should ally transversal and unilateral decisions between every hub, division and department present in the organisation.

Based on data collected from interviews, observations and analysis, eight business process steps have been identified and approved during the practical case:

1. Observation, current situation schema, and needs and requirement identifications,
2. Searching for information on related subject: study cases, methods, practices and other related theory and process,
3. Discussion with other actors of the enterprise and other professionals to collect opinion, advices and cautionary statement,
4. Identification of interesting paths, respecting exchange from step 3.
5. Experimentation phase, if possible: this particular phase gives more practical insights and informations,

6. Integration, implementation and/or optimisation of tool, solution or process selected to fulfil the organisation needs identified in step one,
7. Initialisation and familiarisation of the new practices and processes to use
8. Internal information to spread best practices and general information about the set up, and
9. General adoption of these new practices within the organisation.

Firstly, the initial step aims to schematise the initial state of the situation from the tools used to the processes passing through actors roles and activity to generally have an deeply objective idea of the activities before any changes. This step is important since it is the basis of strengths, weaknesses, opportunities and threats (SWOT) identifications and analysis. Based on that, to stay in an objective perspective, informations on the related project subject: from practical study cases and practices to theories and methods, to have an idea of the actual market states on this subject. These are interesting to be collected before discussions with the enterprise professionals, in order to have no subjective opinion and then no biases. Step two, is mostly for project manager who are not familiar with the subject their dealing with. When it comes to working with an MSP, in France, since MSPs are not a famous model for now, in this case step two is an important one, even if most of the gathered informations are from other countries and enterprise profile — due to the localisation, the customer profile target, etc. Third step is the intersection point of objective information collected through step one — inside the enterprise — and step two — from literature —, with professionals from the enterprise which already have an idea on required changes. Moreover, step three is the first discussion which is the starting point to reflect on the best practices to adopt. During this step, discussion with external actors may be interesting to collect as much opinion and perspective as possible — in the practical case this paper deals with, as the project was handled for company A, B or C, collecting informations from company D (reseller) and E (editor and supplier) is rich and interesting. When discussion is finished, some path have to be identified to be explore in further steps, this is step four. These identifications should be resulting from step 3. With the fifth step, practical experimentations begin with possible experimental tools such as sandboxes, trial period and other trial and developing environment which are not altering already existing data and general work of the company. Using these, guarantee security in case a wrong manipulation is made and has an impact that may be very annoying — cybersecurity breaches or risks, loss of informations, alterations of information, etc. In

addition to start the experimentation, step five has an informative role. Indeed, it provides informations that are only accessible from practices and experiments. Step five is also a chance to explore every possibility the tools, solutions or processes offers. Step six is an extension to its precursor since its the integration, implementation and/or optimisation of processes, tool and solutions selected. This step encompasses setting and first integrations that may needs more attention and settings than the next ones. In fact, during the practical case, this particular step is an important one to create API connections and first mapping which are the basis of a good functioning. Then, step seven and eight are closed to each other. Both of these steps aims to make every workers of the enterprise, understand the needs to change, the change and believe in these new processes and practices. Step seven handles establishment and initialisation of new good practices and processes to integrate within the company to facilitate work and obtain reliable information on an efficient and effective manner. The eighth is a medium to long term step which deals with making these new good practices and processes habits for every involved actors. Finally, the last step, is the objective reached: these practices and processes are no longer new ones but habits.

On an other side, to optimise an enterprise activity, during step one, it is important to determine whether the change should be in practices and processes used, in tools and solutions that are not acknowledged as good as thought or do not respond the company's strategy, tactics and operations, or other level within the company. Identifying the source of the issue(s) is an important aspect on which reflection is based and is then orienting the solution. For instance, one of the limitation mentioned in the practical case is a limitation coming from editors who are not launching some features. This particular issue is supposed to be temporary and according to the importance of this particular feature in the activity process, it may be decided to wait for its launching and do not do any other action to counterbalance, or it might to critical and need a temporary solution.

Since no company has been certified ISO 20000, then no comparison with ISO 9001 is possible and no recommendation can be made on this subject. It may be the interest of further research.

4.5. Practical limitations

During the practical case some limitations have occur, and for what have been reported through the interviews and observations, other limitations have been identified. Since the practical case — as the interviews — concerns French MSPs on the French market, these limitations have to be considered on this localisation conditions.

Based on the practical case, a confrontation to the localisation barrier. Indeed, when discussed to with interviewee from company E, the fact that France is not considered as a fluent-in-English country, the supplier have chosen to sell their products through resellers. This decision made, an important aspects has been forgotten: the supplier has not handled correctly every inch of the reseller aspect when it comes to managing the MSPs' clients on the API. Indeed, passing through reseller to provide some products makes impossible some features such as: creating a client, removing a client or exporting data files. Considering the importance of these features and the international activity of company E, it seems surprising to interviewed companies to face this type of issues. According to interviewee from company E, it is a matter of time to have access to these feature. Yet company A has reported this issue for more than three years.

Based on the previous arisen issue and observations, the administrative part — invoicing, archive and other data management on administrative perspective — is not the main focus of MSPs' tools such as PSA. Since IT MSPs work as IT professional IT technical features have to be efficient, still the MSP model advocates managed services packages including support and Helpdesk, for example. These package are meant to be a set of multiple services, still it is possible to provide some of these services individually. An example to illustrate this. Package P1 includes 5 services: S1, S2, S3, S4 and S5. A client contracts for 10 package P1 and adds 7 extra S3 and 5 extra S5. In this case, there are two types of S3 and S5, the ones that are part of the package and then not individually billed and the extra ones which are billed individually. In the context of automatisisation, an API connection has been set between the supplier API and the PSA. While checking the client contract in the PSA, for no, there is no possibility to discharge the service type dichotomy for the same service, even with service bundle into the PSA, which may be considered as the package mentioned before, there is no possibility to make the PSA understand the dichotomy between services included in the service bundle and the extra services. This MSP model particularity is not available on the tools used in the practical case which is a big limitations taking into account the main characteristics of an MSP.

5. CONCLUSION

MSPs values and principles are ruled by the customer relationship and its satisfaction, which is agreed by every subject of this research. The MSP model is an internationally growing model which is bringing renewal to IT professionals activity coming from *break and fix* model to an hybrid mixing *break and fix to manage service providers* subscriptions. In France, as in many other countries, it seems that MSP model needs to be introduced to broader public to touch both potential customers and IT professionals that may be motivated to adopt this new model.

This paper gives insights from MSPs processing and preferences in using this or that certifications, framework or methods. Based on information collected and observations made, eight steps to integrate, implement or optimise a tool or solution have been identified. These have been tested and approved. Besides, some MSPs' principles have been identified to clearly understand motivation behind this model. Eventually, communication with the MSP, whether it is with the customer, inside the MSP or with other actors, has to be framed and canalised. This means that communication is information sharing and when the information is not shared following rules it may be lost, then communication channels have to be correctly decided according to the needs and habits of the professionals working in the MSP.

However, some limitations to this paper have to be highlighted. Only three MSPs have been in the centre of this research, to have a more accurate comparison, further research can add other companies' opinion to this paper, even using a bigger and wider sample following quantitative method research would be interesting. Moreover, as the companies used in this paper are not familiar to ISO 20000, it would be interesting to compare activities between companies certified ISO 9001 and ISO 20000 — this may also include ISO 27000. On the other side, since this IT MSP field is still mainly unexplored in European countries, it may be interesting to focus on MSPs' clients to gather information about their point of view in the relationship and their motivation to work with MSPs. More generally, comparing MSP activity between various European countries could also be an interesting subject related to this paper.

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