# BUSINESS IMPACT OF EFFECTIVE TRAINING AND DEVELOPMENT PRACTICES OF BILLABLE RESOURCES IN PROFESSIONAL SERVICES ORGANISATIONS THAT BELONG TO SAAS COMPANIES

by

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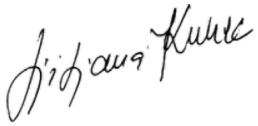

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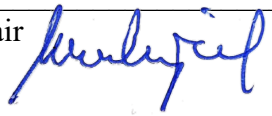

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## Dedication

To my beloved wife Maga for following me to end of the world and beyond and the light of my life, Fernando and Maria.

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To SSBM for giving me the opportunity to contribute to a better world and specially to my Thesis Director Anna, whose dedication to perfection has guided my work towards a level of excellence that I would have never been able to achieve with anybody else. And also, whose patience with me has been an example to follow and something I will be grateful with for the rest of my life.

To my last two companies and especially all the managers that I have had there, whose support gave me the space and time that I needed to complete this work while working full time, this is gift that few have and I feel grateful for it.

To my twins Maria and Fernando, the joy of my life; then ones that can turn a dark day into full colour with a simple smile; the ones that can energise me when everything seems heavy with their laughter.

And last and foremost, to my beautiful wife Maga, for leaving everything behind and live with me a life full of adventure, going with me to live through different continents on where we learnt to be just us, label-less. Thanks for enabling me in achieving my dreams and for your eternal patience.

ABSTRACT
BUSINESS IMPACT OF EFFECTIVE TRAINING AND DEVELOPMENT PRACTICES OF BILLABLE RESOURCES IN PROFESSIONAL SERVICES ORGANISATIONS BELONGING TO SAAS COMPANIES

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**Abstract:** Although retention of employees has been one of the most relevant topics in Human Resource Management, companies are still failing to address or even understand it effectively. Over the past years, numerous research pointed out to Training and Development ("T&D") policies as a mechanism for maximising motivation and retention. Specific research domain deals with the importance of this in Professional Services ("PS") in the Information Technology ("IT") sector.

However, the ability to set in place T&D practices that are meaningful to the business is not yet well known. There is also little known around what effective T&D looks like in these organisations.

The purpose of this research is understanding if T&D practices can be effective while at the same time respectful with their business targets, this work studied Professional Services in a major business unit of a worldwide leader networking multinational company that is part of NASDAQ 100 and Fortune 100; compromising

hundreds of employees, multiple regions and different T&D approaches across four fiscal years of data on where dramatic exceptional events, such as a Global Pandemic (COVID19) and BREXIT, occurred.

Two statistical methods have been used with the intention of identifying healthy or unhealthy business Key Performance Indicators ("KPIs"): Mean analysis has been used to understand how business KPIs averages have deviated from their business targets; Variance has been used to understand the predictability of the same business KPIs by looking at the dispersion of datapoints.

The results obtained by using Design Science Research ("DSR") and the mentioned statistical methods produced two things: The first one is an innovative marker-based model presented in this research that organisations can use to develop effective T&D policies; the second one is that effective T&D in SaaS PS organisations can exist without having to sacrifice business targets.

The impact on organisations that use the proposed marker-based model has the potential of not only improving retention, but also producing a higher quality of work, which ultimately enables companies to generate more revenue.

**Keywords**

Professional Services; PS; Consulting; Information Technology; IT; Software as a Service; SaaS; Motivation; Revenue; Retention; Training; Development; T&D; Performance

## List of Abbreviations

3L: Life-Long Learning

4DW: 4 Days a Week

ACV: Annual Contract Value

ANZ: Australia and New Zealand

APAC: Asia-Pacific

ARR: Annual Recurring Revenue

BU: Billable Utilisation

CEER: Central and Eastern Europe Region

CEO: Chief Executive Office

CIPD: Chartered Institute of Personnel and Development

CIS: The Commonwealth of Independent States

CMI: Chartered Management Institute

CPD: Continuing Professional Development

CSP: Certified Service Provider

EaaS: Expert as a Service

EULA: End User License Agreement

FQ: Fiscal Quarter

FTE: Full Time Employee

FY: Fiscal Year

HC: Headcount

IT: Information Technology

IWB: Innovative Work Behaviours

KPI: Key Performance Indicator

LATAM: Latin America

MDfT: Median Distance from Target

MEA: Middle East and Africa

NOR: Northern (European) Region

PDP: Personal Development Plan

PS: Professional Services

Q: Quarter

QBR: Quarterly Business Review

ROI: Return on Investment

SaaS: Software as a Service

DSR: Design Science Research

SER: Southern Europe

SHRM: Society for Human Resource Management

SKU: Stock Keeping Unit

SMART: Specific, Measurable, Achievable, Realistic, Time-bound

T&D: Training and Development

T&M: Time and Materials

TC: Timecard

TCT: Technology Cycle Time

TCV: Total Contract Value

TK: Technological Knowledge

UK: United Kingdom

UKI: United Kingdom and Ireland

UKIN: United Kingdom, Ireland and Northern Europe

USD: United States Dollars

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# CHAPTER I:

# INTRODUCTION

## 1.1 Introduction

The cost of not being able to retain highly skilled employees has been a major problem for many companies for a long time. Even nowadays, most of the companies are unaware of this cost; according to the CIPD (2021), only 30% of the CEOs had talent management as a key priority over the last 12 months and only one in five calculate the cost of labour turnover.

The Society for Human Resource Management ("SHRM") quantified the cost of losing an employee through different studies. In one of those studies, the SHRM discovered that the per-employee turnover cost was $3,500, which translated to $1 million for a turnover rate of 10 percent (Joinson, 2000). The SHRM reported that the cost of replacing an employee, on average, costs a company 6 to 9 months of the salary of an employee. For an employee making $60,000 per year, that translates into $30,000 - $45,000 in recruiting and training costs only, while the overall cost can be anything between 90% and 200% (Joinson, 2000). And those numbers are from 2000; According to the U.S. Bureau of Labour Statistics, the median annual wage for computer and information technology occupations was $97,430 in May 2021, which was more than double than the median annual wage for all occupations of $45,760 ("Computer and Information Technology Occupations", 2021). This figure indicates that losing an IT Consultant costs in average between $87,687 and $194,860. An attrition rate of 10 percent in a workforce of only 100 employees, means loses that range from $876,870 up to $1.94 million every year.

Professional Services ("PS") firms also face an additional challenge in the form of potential tacit knowledge loss. According to Maister (1993) for PS organisations, tacit

knowledge is essential for professional skills. Morris and Empson (1998) said that the most valuable knowledge is the tacit knowledge of Full-Time Employees ("FTEs") in PS organisations as it is based on experience acquired during a prolonged period of time and is hard to communicate in a codified language. Similarly, long-lasting relationships with clients are often based on close personal contacts among individuals making it complicated to reproduce (Alvesson, 2011). As per its un-codifiable nature, tacit knowledge is not protected by trade secrets laws (Liebeskind, 2009) making the retention of FTEs even more relevant.

Continuous Development of personnel has been proven to be effective for both increasing retention and impacting positively the business performance of organisations. Crnomat (2008) identified that companies in the IT industry must invest in continuous training and skill development as mechanism for increasing employee retention while Pržulj (2021) discovered the need of aligning strategic goals with training to maximise both motivation of employees and business performance; Pržulj (2021) also states that it is key to create an environment that favours and rewards employees who participate in training and motivate them before, during and after training. In this regard, Johnson (2005) also said that aligning career growth with company goals becomes key for maximising employee loyalty; career growth is not only about getting promotions within a company, but more about acquiring new competences. Bartel (2000) analysed various studies on the Return on Investment ("ROI") of Training and Development ("T&D") and estimated ROIs ranging from 7% to 50% per year depending on skills depreciation rates; although the study does not specify the range for the IT industry, it is safe to assume that it is on the higher end as skills in technology depreciate faster compared to other sectors; the study also points to the fact that few companies calculate ROI of employee training.

### 1.2 Research Problem

Firms having the main revenue stream coming from Professional Services have less financial flexibility as per the financial model under which they operate. This is the reason why the intention of this research is around firms having Professional Services as the non-main contributing factor to the revenue of such companies, being software licences the main contributing factor. Although SaaS companies display this model, there are other IT companies that still operate On-Prem but under the same financial model on where software-licenses is the main source of income meaning and this research is applicable to them too.

There is no question about the benefits that T&D brings to both organisations and individuals; what it is not clear is if T&D can be implemented effectively in Professional Services organisations in the IT and/or Software as a Service ("SaaS") industry.

This study pursues finding out a valid definition of effectiveness in the context of Training and Development in Professional Services organisations that belong to companies with a business model based mainly on software licenses. The focus is around looking at if Training and Development practices can exist in a way that they do not affect the ability to attain all business targets of those PS units.

Current research says also little about what does effective look like when it comes to training and development in this type of organisations. There has been little work around finding a definition of "effectiveness" that can be easily used by other organisations; This research proposes using the concept of "markers", making it easy for organisations to take advantage of the specific markers identified in this study.

Revealing effectiveness of these policies have to be tied to their influence on specific business KPIs. This research looks at identifying markers that protect business KPIs when present. One example would be having a Billable utilisation with low

Variance and a Mean that is on target as this allows for time to be invested in T&D, building resources that are better trained and prepared for their day-to-day jobs and also enabling more predictable businesses. Another example is the influence that certain markers identified in this study have on attrition and on the quality of the service, as these are directly linked with two of the three big Rs, Revenue and Retention.

### 1.3 Purpose of the Research

The main purpose of this research is to find a model for effective T&D, in the context of Professional Services organisations in the SaaS industry, that be used by other similar organisations worldwide. For this, this research aims to discover T&D markers, which when present, make a positive impact on the business and the people.

Different segments with different approaches to T&D have been analysed over a period of four fiscal years with the objective, in this research, to see these how these different T&D approaches impacted business KPIS: billable utilisation, services sales, recognised revenue (also known as delivered revenue), attrition, service quality and other relevant metrics derived from the previous ones such as Variance and Mean.

Crosschecking the different T&D Policies with the business performance of each of the segments gives an insight about potential markers that can have a positive impact in business KPIs and people.

### 1.4 Significance of the Study

The findings of this study will benefit all Professional Services organisations in the SaaS industry around the world and the employees working for them. The ability to produce an ecosystem on where individuals can experience continuous growth supported by the company, enables a new space that has never been developed to this extent before. The promotion of better prepared and more motivated individuals, that are also more

committed to the company, works in the benefit of the enterprise too; an example would be a reduction of costs related to attrition and the ability to protect and preserve tacit knowledge better.

But the impact does not stop there; the positive impact also affects Revenue, directly in the Professional Services unit as a way of selling PS days or packages to customers and also, indirectly in the bigger business goal of these companies: the revenue coming from software licenses.

Highly prepared and motivated personnel contribute to an increase in expands and renewals of software licenses, in monetary terms, which in the long run builds businesses that are more stable and resilient through time, and also even through highly challenging events out of the control of the organisation.

This research will unveil a model for effective T&D based on markers, this model can be used by PS organisations around the world to build Training and Development practices that have a positive impact not only on these Professional Services organisation main metrics and indicators such as services revenue, quality and retention but also in the bigger goal of SaaS companies in the form of increased licenses software revenue in renewals and expansions.

It will also be shown how effective T&D practices can be achieved without having to fail on attaining all of the business targets quarter after quarter and year after year, and the relationship between this and services sales.

### 1.5 Research Purpose and Questions

The purpose of this research is to define effective T&D by creating a model that can be reused by other PS SaaS/IT organisations to produce effective T&D policies that not only do not compromise achieving business targets but also have a positive impact on them.

The goal of this study is not to prove if T&D can be an effective method for motivation and retention in PS organisations in IT companies as this has already been proven (Crnomat, 2008; e Cunha, 2002; Fletcher et al, 2018; Johnson, 2005; Maslow, 1970; Pardee, 1990; Susomrith et al, 2019). The focus of this research is to understand if T&D can be achieved without impacting the ability to attain all business targets in PS organisations in the SaaS/IT industry and what does effective look like when it comes to T&D. Hence the three research questions of this paper:

1. What is effective Training and Development?
2. What metrics can be used to measure effective T&D?
3. What is a model for effective T&D that can be used by other Professional Services organisations in SaaS companies?

### 1.6 Research Hypotheses

The main objective of this research study is to determine whether Training and Development can exist in Professional Services organisations in software-licenses based companies in a manner that its costs are lower than the revenue that it generates while also benefits other key areas such as retention of personnel and protection of tacit knowledge.

This study has two hypotheses:

1. "Effective T&D" can be defined as the presence of certain markers. When these markers exist, the organisation has an "effective" T&D practice.
2. There is a model for T&D that can be used without impacting the ability to hit all business targets in Professional Services organisations that belong to companies with the main revenue stream coming from software licenses.

# CHAPTER II:

# REVIEW OF LITERATURE

## 2.1 Maslow's Hierarchy of Needs

Maslow (1970) postulated based on his observations that there is a general pattern of needs realisation that people tend to follow in the same order; for someone to start looking at satisfying needs from a higher section in the hierarchy, the ones below must be substantially or completely satisfied. McLeod (2007) highlighted the fact that Maslow clarified that satisfaction of needs is not an "all-or-none" phenomenon which means that a need does not need to be satisfied 100% before the next one emerges.

These needs are grouped in 5 layers and represented in the form of a pyramid, these needs follow the following general rule: A need motivates an individual until this need is fully or significantly satisfied. However, there is an exception to this rule on the top of the pyramid; McLeod (2007) explains this with the figure below:

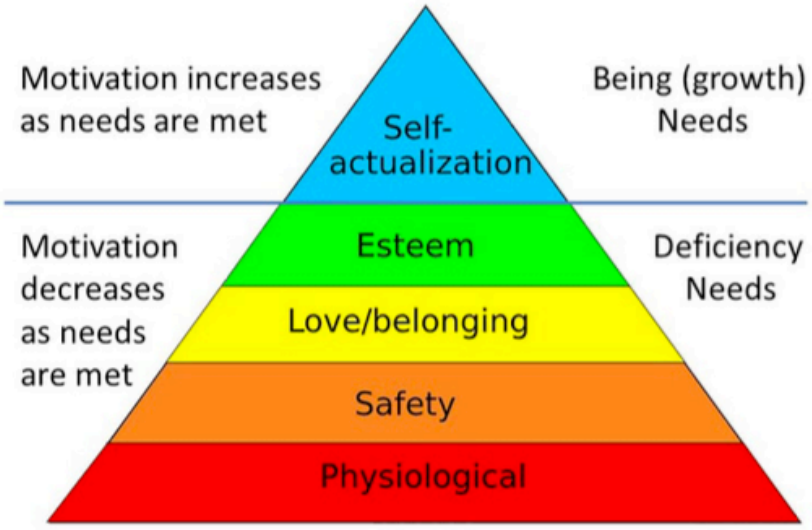


*Figure 1: Deficiency needs vs. growth needs (Source: McLeod 2007)*

As can be seen, Esteem, Love/Belonging, Safety and Phycological follow the general rule mentioned above (Motivation decreases as needs are fully or substantially realised). However, the top-end "Self-Actualisation" need follow the opposite pattern, motivation keeps increasing as this need is satisfied. Within the hierarchy of needs of Maslow, there is space for self-development in the self-actualisation part of the pyramid: "The need to realise one's potentialities for continued self-development and the desire to become more and more of what one is and what one is capable of becoming" Pardee (1990). This statement becomes relevant for this study as it is the one that can be exploited with T&D of personnel in IT/SaaS companies, as their Salaries and other working conditions are way over the average. As seen previously, the U.S. Bureau of Labour Statistics sets the median annual wage for computer and information technology occupations at $97,430 in May 2021, being this more than the double than the median annual wage for all occupations of $45,760 ("Computer and Information Technology Occupations", 2021). These working conditions enable workers to operate under a

context that offer a good coverage for the needs of the lower parts of the pyramid; thus, allowing companies that operate under those conditions to focus on professional growth of their employees (growth belongs to the Self-Actualisation part of the pyramid); by fulfilling growth needs of employees, companies can keep their personnel more motivated for a longer period of time according to this Maslow's model. This study will focus on exploiting this particular point by looking for answers for Effective Training and Development Practices, as a mechanism of professional growth, in Professional Services organisations that belong to the software industry.

The hierarchy of needs of Maslow has been both widely accepted and criticised; in any case, as Kaur (2013) said, this theory has contributed significantly to the field of organisational behaviour, especially in the area of employee motivation.

### 2.2 Herzberg's Two Factor Theory

The Two Factor Theory of Herzberg (Herzberg et al, 1959), or also known as Herzberg's motivation-hygiene theory and dual theory, tries to explain how different factors at work affect job satisfaction. Motivated by Maslow's Hierarchy of Needs, it describes two sets of factors that contribute to job satisfaction, series of Satisfiers and Dissatisfiers:

*Table 1 - Herzberg's Two Factors (Herzberg et al, 1959)*

| Satisfiers | Dissatisfiers |
|---|---|
| Achievement | Company Policy |
| Recognition | Supervision |
| Work itself | Working Conditions |
| Responsibility | Salary |
| Advancement | Status |
| Growth | Job Security |
| | Personal Life |

There are similarities on many elements that exist in the theories of Maslow and Herzberg. There are, however, differences.

Herzberg et al (1959) explained that it is not about working on one dimension only; work must be done on increasing satisfaction and decreasing dissatisfaction simultaneously and that while satisfaction factors exist in the job itself, dissatisfaction factors exist in the conditions that surround the job. Herzberg (1976) explicitly said "A deprivation in hygiene factors can lead to job dissatisfaction, but their amelioration does not lead to job satisfaction."

Herzberg uses the concept of hygiene in a "medical" sense removing hazards from the environment and stablishing what is known as the Dynamics of Hygiene and Dynamics of Motivation:

*Table 2 - Dynamics of Hygiene and Motivation (Herzberg, 1976)*

| Dynamics of Hygiene | Dynamics of Motivation |
|---|---|
| Avoidance of Pain from the environment | The psychological basis of motivation is the need for personal growth |
| Infinite Sources of Pain in the Environment | There are limited sources of motivator satisfaction |
| Hygiene improvement produce short-term effects | Motivator improvement have long term effects |
| Hygiene needs are cynical in nature | Motivators are additive in nature |
| Hygiene needs have an escalating zero point | Motivator needs have non-escalating zero point |
| There is no final answer to hygiene needs | There are answers to motivator needs |

Same as with Maslow, this theory has been and is both widely criticised and accepted at the same time; in any case, it has (and still is) contributed to the business management field significantly.

### 2.3 Professional Services in SaaS Companies

Professional Services mechanics is a field that has been studied deeply and the majority of the renowned authors agree on the following common metrics as mechanism to measure business performance (Maister, 1993):

- Billable Utilisation: This is the number of hours worked on customer paid for engagements divided by the number of available hours for a period of time.
- Bookings (Services Sales): This is the money that customers will pay (or have paid) for services.

- Recognised Revenue: Typically, the Professional Services organisation does not recognise the revenue from the bookings immediately. Recognising this revenue depends on the services contract. This can be, for example, a time and materials engagement on where the revenue is recognised for each worked and the materials required for the work; a fixed project recognises the revenue as specific milestones are achieved.

There are other metrics that can be used to understand the business performance of a Professional Services Organisation; however, these three should be common to all of them.

Maister (1993) also says: "Above all else, what I, the client, am looking for, is that rare professional who has both technical skill and a sincere desire to be helpful, to work with both me and my problem. The key is empathy—the ability to enter my world and see it through my eyes." Professional Services In SaaS companies work for customers that face technological challenges, the ability of Professional Services organisations to see problems from the customer perspective requires training their employees on technologies that are relevant for both the software that they implement and the technologies from the customer that go alongside that software; this enables PS personnel to understand the problem form the perspective of the customer.

Professional Services organisations in SaaS companies differ from the Professional Services firms mainly in the revenue streams. The first one (PS in SaaS companies) have two types of revenue streams, the one that comes with the software they sell which tends to be the main revenue stream and the one generated by PS itself. The second ones (PS firms) have only one revenue stream, the one that comes directly from selling services. This difference of these two offer the possibility to PS organisations that belong to SaaS companies to detach from the traditional way of looking at PS, as the

revenue contribution to the software sales can be, if done properly, bigger than the revenue that they could generate from selling services if they focused only in maximising the latter. This translates into the ability to develop strategies for maximising software revenue from PS (via training and development of personnel) to a bigger extent that the companies that exclusively do Professional Services. Unfortunately, there is little research done in this regard which makes this study a plausible starting point for other researchers in the future.

### 2.4 Revenue, Cost and Training and Development

Recruiting, Retention and Revenue are the big three Rs of successful group practice management (Allen, 2004). The research of Allen is the first one on where these three concepts (Rs) were combined as the key pillars for building a successful services ecosystem; Allen presents this idea in the area of the medicine; however, medicine is a subset of highly skilled Professional Services organisations. Professional Services in SaaS companies also share a similar pattern as their billable employees are highly skilled; this makes his research relevant to this study as it points to the importance of what does "effective" should look like when it comes to Training and Development in these type of organisations. The work of this research focuses mainly on the revenue and retention aspects of these three Rs.

Bartel (2000), studied the return on the investment in training, looking at the existing evidence in the literature and finding a different wide of ranges in terms of ROI, some estimates from 7 to 50 per cent while others from 100 to 200 percent. Although it is clear that many factors can alter the ROI, it is also clear that a valid definition of effectiveness should be one that contributes to maximising the Return on Investment. Bartel also points out to the fact that conclusions regarding the internal rate of return on company training programs depend on skill depreciation. Section 2.6 details how skill

depreciation affects Professional Services organisations in SaaS or Software companies and reveals that the software industry is the one with the highest level of knowledge depreciation (Park et al, 2006). This means that the software industry should be the one that could benefit the most, in terms of Return on Investment, from effective Training and Development Practices.

Calculating turnover costs can be done using industry estimates or doing the analysis in the company (Joinson, 2000).

As seen in before; the Society for Human Resource Management ("SHRM") quantified the cost of losing an employee through different studies. According the SHR, turnover can range 6 to 9 months of the salary of an employee; that would be only the cost of replacing this employee. The US Bureau of Labor Statistics sets the mean annual salary of software developer at $120,990 ("Occupational Employment and Wage Statistics Software Developers", 2021); this means that only the cost of replacing one employee in the software industry in 2021 was between $60,495 and $90,742. The SHR also said that the overall cost of losing one employee is between 90% and 200% of the yearly salary. For a Software developer, this cost in 2021 would be between $108,891 and $241,980. An organisation with an attrition rate of 10%, the yearly cost would sit in the range of millions, that goes from $1.08M and $2.41M every year; these figures are big enough to take the aspect of retention in the software industry seriously and consider that the definition of effective T&D should be one that contributes to better retention rates.

The figures presented above represent a scenario based on the median. The US Bureau of Labor Statistics establishes that annual wage for the 90% percentile at $168,570, this number is 40% more than the median annual wage. The most innovative and competitive companies in the Software industry face the highest costs of losing

highly qualified technical personnel, and a concerning aspect of this is that the majority of these companies do not even know about this (CIPD, 2021).

Expert knowledge is a key asset to Professional Services firms (Morris and Empson, 1998), while some knowledge can be transferred to the company and other employees in a programmatic manner, other knowledge cannot be transferred fully (Teece et al, 1997); this depends on the codifiable nature of the knowledge (Alvesson, 2011; Liebeskind, 2009).

Vaiman (2008) highlights the value of tacit knowledge in Professional Services Firms stating that intangible resources are more likely to give a bigger competitive advantage than tangible resources. Vaiman (2008) also offers different strategies to protect tacit knowledge, strategies such as Knowledge sharing among others.

Maister (1993) also points out to how essential tacit knowledge is for Professional Services organisations.

The loss of tacit knowledge is associated to soft-costs, Although it is true that it is difficult to measure with precision the cost of losing tacit knowledge, many specialists agree that in monetary terms, the loss of tacit knowledge would add up to at least the same amount as the 'hard' cost. In the end, the actual cost of replacement is about double than what many companies estimate (Vaiman, 2008).

### 2.5 Motivation, Retention and Training and Development

Motivation and T&D are a key factors to boost employee performance (Khan, 2012); In his study, Khan (2012) found that the two factors influencing the performance of an employee are training and motivation.

Fletcher et al (2018) pointed out that although many other studies, e.g. (Aguinis and Kraiger, 2009; Dysvik and Kuvaas, 2008), have found a positive impact of T&D on retention, the mediation space has not been fully explored theoretically or empirically;

which means that there is no conclusive evidence as to what extent T&D impacts retention. Fletcher et al (2018) started with this premise and researched the impact of T&D on retention including this mediation space and concluded that perceived T&D is positively associated with intention to stay.

T&D influences many elements of an organisation; Pržulj (2021) highlights profitability, efficacy, productivity, cost reduction, quality and quantity enhancement, employee fluctuation and reputation of the company among others. Pržulj (2021) also states that aligning T&D with organisational goals is key for this.

Even during challenging times, on where companies have to work on cost reduction policies executing layoffs as part of their strategies; after a downsizing stage, these companies panic about losing employees, especially when it comes to highly skilled employees and that one of the characteristics that help retain employees is to offer them opportunities for improving their learning (Logan, 2000).

Susomrith et al (2019) studied the impact that continuous T&D has on PS organisations of 50 or fewer employees, concluding that T&D promotes both commitment of the employees to the organisation and their propensity to display Innovative Work Behaviours ("IWB"). It is also relevant to understand the fact that employees working for small firms tend to find more difficult to access formal T&D than employees working for larger ones (Aguinis and Kraiger, 2009; Salas et al, 2012). This offers a promising scenario as if this study reveals a model that works for small organisations (<50 employees), there should be no reason why it should not work for bigger ones.

Professional Services organisations that operate in the IT industry see a great benefit from T&D in retention as IT Consultants value T&D higher than the industry

average; “Companies which want to retain their employees and be more attractive as an employer must invest in continuous training and skill development” (Crnomat, 2008).

In his study, Johnson (2005) presents what Joyce Goice from The Herman Group said “employees can give their employers 100 percent and provide great performance while furthering their own careers.” Johnson made clear that when a firm supports employees with acquiring new skills which enable their progress through their professional careers they tend to the commitment of those employees and also attract new loyal employees. Johnson said companies should aim to align the need for skills of a company with the need for skills of individuals; the skills that enable the growth of both the company and the employee is the best approach to take.

And when firms help workers acquire new skills that support their professional advancement, they often win the commitment of those workers — and attract loyal new employees. This gives rise to another relevant point: Employers can promote company loyalty by helping people grow out of their jobs — ideally, into new ones within the company.

Herzberg's Two Factor Theory stablishes that job satisfaction and dissatisfaction are independent from each other and that it is not about working on one dimension only but about increasing satisfaction and decreasing dissatisfaction simultaneously (Herzberg, 2017). While satisfaction factors exist in the job itself, dissatisfaction factors exist in the conditions that surround the job; T&D exists in both parts; in the motivators directly with the employee, and in the context as for example with the manager of the employee when displaying a continuous learning mindset. In fact, leaders displaying a Life-Long Learning (“3L”) mindset have the ability to influence motivation of their employees through inspiration (Caves, 2018). This point becomes relevant as leaders have the choice

between managing their employees by forcing compliance or by motivating and inspirating (Kotter, 2012).

Lifelong Learning ("3L") has been defined by the as: "All organised systematic education and training activities in which people take part in order to obtain knowledge and/or learn new skills for a current or a future job, to increase earning and to improve job and/or career opportunities in current or other fields."

Buckley and Caple (2009) cover the difference between the Reactive and the Proactive route to training. The reactive way is tactical and happens when a need arises while the proactive way becomes a more strategic approach (long-termed and intentional) helping algin training with the long-term goals of the organisation.

In their study, Shen and Tang (2018) cover how training is vital in improving quality of service: "it is key for organisations to provide training to employees and to help employees transfer new knowledge and skills" and also how relevant that is for training to be effective.

Literature studied either the motivational benefits of T&D in terms of retention and employee satisfaction or the business impact of T&D but no study has considered at the same time these two dimensions in the field of Professional Services in SaaS organisations.

There is also nothing specific known about what does "effective" look like when it comes to T&D in these companies.

Companies that develop T&D practices focusing on maximising the minimum skill set that aligns with the technical nature of the job of employees without looking at how effective these practices are lose opportunities not only to work more strategically but also on improving retention and revenue.

Continuing Professional Development ("CPD"), difficult to define when provided formally (Collin et al, 2012).

This study aims to join all of these dots in the context of Professional Services organisations that operate under the umbrella of firms on where the main revenue stream is software licenses, with a clear aim of giving a definition to effective T&D.

### 2.6 Depreciation of Technological Knowledge and Quality of Service

Ensuring quality control of service delivery is a key task for Professional Services firms (Stumpf et al, 2002). Stump provides a mechanism to measure quality for continuous improvement after each engagement with customers. The study, however, fails to address a critical aspect of quality-of-service delivery, this is the technical ability to the job to the required standard; for that, employees have to be up-to-date with their technological knowledge ("TK"). Software based companies face a complex issue, the pace at which knowledge becomes outdated.

In this regard, Park et al (2006) studied the rate at which knowledge is depreciated in technology. The study uses the Technology Cycle Time ("TCT") method in an empirical analysis to assess depreciation rate. The paper reveals that the industry that has the highest rate of depreciation is Software. Thus, making a clear strategic intention of creating an effective model for Training and Development in the Software and SaaS industries becomes key.

It is commonly accepted that training influences positively employee performance by offering better services quality. According to Buckley and Caple (2009) defined training as "a planned and systematic effort to modify or develop knowledge, skill, and attitude through learning experience, to achieve effective performance in an activity or range of activities."

Researches Scott and Meyer (1994) suggested that training contributes to productivity and also that this is the dominant view in the corporate world.

### 2.7 Illusory Superiority and Unrealistic Optimism

This study uses open-ended interviews as a mechanism to add context to the data gathered from IT Systems. Interviews can be counterproductive if not done appropriately; an example of this is what is known as Illusory Superiority; Buunk and Van Yperen (1991) studied perceptions with regard to superiority across 214 individuals in their study "Referential comparisons, relational comparisons, and exchange orientation: Their relation to marital satisfaction", the purpose of the study was to understand how individuals perceive themselves against others. The study revealed that more than half of the population researched perceived themselves as being positioned better than the others; something that is not mathematically possible. Illusory superiority is the tendency to believe that one has superior qualities and abilities compared to other people.

This phenomenon has been researched by multiple authors and was compiled by Hoorens (1993), Hoorens studied self-related biases; in his work, "Self-enhancement and Superiority Biases in Social Comparison", Hoorens covers multiple self-related biases including the Illusory Superiority. Hoorens explains that Illusory Superiority is seen in diverse domains; for example, in the domain of personality traits (Alicke, 1985) or in the domain of personal abilities (Dunning et al, 1989) and as has been seen before in the domain of relationships between individuals (Buunk and Van Yperen, 1991). This phenomenon has also being studied in the field of the well-being by Headey and Wearing (1988) observing similar results as the other researchers.

The Illusory Superiority has to be considered when interviewing as individuals will tend naturally to think that they are better than the rest; therefore, follow-up questions combined with SMART challenging is required.

Another self-related bias reviewed by Hoorens is the Unrealistic Optimism. While Illusory Superiority focuses on the present and past, the Unrealistic Optimism focuses on the future. Weinstein (1980) studied how most than half of the studied group expect to be in a better position than the rest of the group in the future, something that is also mathematically not possible.

These two effects combined are to be considered when interviewing individuals and the right counter techniques must be used to reveal the truth behind the first answer.

### 2.8 Novelty of this Research

Professional Services has been approached from a classic and traditional perspective on where these organisations are being seen in isolation. Authors like Maister (1993) devise professional services firms as a whole even when the main the revenue stream does not lie in Professional Services itself but in other areas of the company, as happens in SaaS companies; in this research this gap is exploited, this research proposes using the main revenue stream that comes from Software as an advantage to understand Professional Services as a contributing factor to that stream. The new idea proposed here is avoiding maximising profit in Professional Services in a way that once targets have been met, instead of focusing on overachieving, the path should be about using all possible resources to invest into Training and Development as a mechanism to improve Revenue (not only from Professional Services itself but from Software too) and Retention.

Research on the benefits that bring Training and Development exists in good measure and even authors such as Bartel (2000) compiled these benefits from other research offering Return On Investment approximations. The gap that is not addressed in the existing literature is the definition of an effective T&D model that can be used by other organisations; building a model for all types of organisations seems unrealistic and

this is the reason why this work focuses on a model for Professional Services firms in SaaS (or Software) companies.

This study reveals the Bronet Model of effective T&D, a list of markers that give definition to effectives on Training and Development and two additional Professional Services derivative KPIs that companies around the world can use as a way of building effective T&D practices that maximise both the main software revenue stream of those organisations and the revenue stream of Professional Services while at the same time protects Retention and Tacit Knowledge.

# CHAPTER III:

# METHODOLOGY

## 3.1 Overview of the Research Problem

While it is understood that T&D policies benefit different areas of an organisation, it is not yet known if by exercising these policies business targets are compromised. This question is broad and it cannot be answered globally for all sectors or industries; Therefore, it is necessary to be specific about if T&D can be achieved sustainably on a particular sector. This research aims to answer to this question in Professional Services organisations that generate revenue mainly from selling software licenses.

These types of organisations have the benefit of aiming for being cost-neutral as their main objective should be contributing to maximising software-licenses renewals and expansions; these days this is measured in the form Annual Recurring Revenue or ARR.

The problem is now simplified as understanding different T&D policies vs. the business performance of each segment; in the business unit of the company studied in this research, business performance is about understanding the achievement against the targets set by the company as Management By Objectives ("MBOs"), which in this instance are the following:

1. Billable Utilisation
2. Delivered Revenue
3. Services Sales

## 3.2 Research Design

The research method selected for this study is Design Science Research or DSR. DSR is a relatively new research method with a clear objective of producing artefacts to

solve a problem or problems. Originally DSR was introduced for Information Systems although lately has been used in other areas such as business management as its applicability is quite broad.

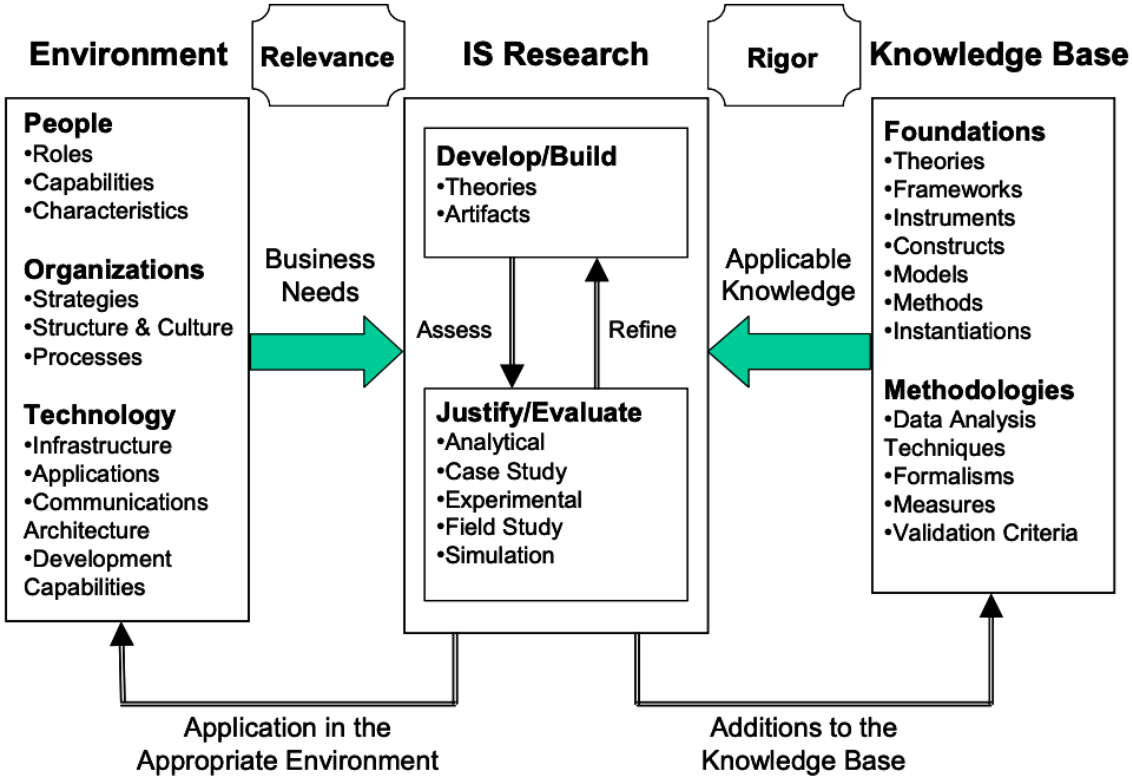


*Figure 2: Information Systems Research Framework (Source: Hevner et al 2004)*

As can be seen above, DSR focuses on understanding the context (environment) and discovering business needs to then apply knowledge with the aim to produce artefacts or theories (including models, frameworks) to solve one or more problems. The fact that this starts at the business needs enables this framework for use in the business management field.

According to Hevner et al (2004), the result of design-science research is creating a purposeful IT artefact (or a series of) to address a key organizational problem. It is crucial to understand the definition of an IT artefact in the context of DSR: "IT artefacts are broadly defined as constructs (vocabulary and symbols), models (abstractions and

representations), methods (algorithms and practices), and instantiations (implemented and prototype systems)" (Hevner et al, 2004, p. 77).

The DSR algorithm for this research is as follows:

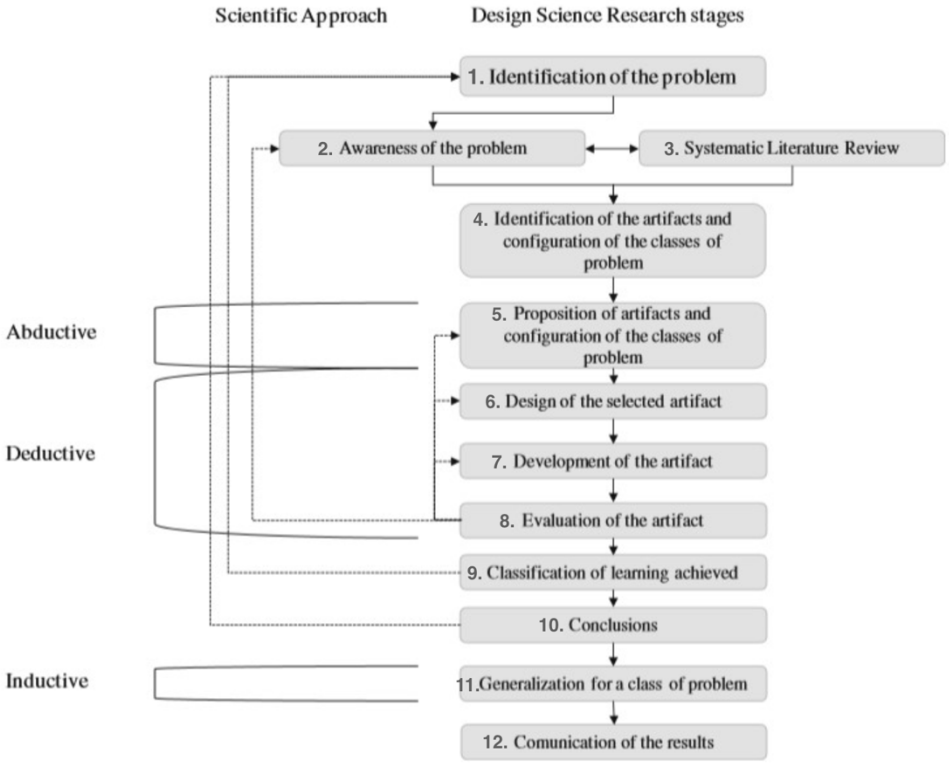


*Figure 3: Main steps to conduct a design science research (Source: Dresch et al 2015)*

The first three steps are all about defining the problem and its relevance. Chapter 1 of this paper constitutes steps 1 and 2 according to DSR while the literature review in Chapter 2 is step 3 in DSR.

After DSR step 3, artefacts are proposed, designed, developed and evaluated. Finally learning and conclusions are produced to move ultimately into conducting a class of problem generalisation and communicating the results.

The methodology for this step has different components:

- Segmentation (this will be per Region).

- Defining variables for measuring business goals as per the MBOs defined by the company.
- Identifying T&D policies for each segment. Including written and unwritten policies:
    - Reviewing of the internal collateral containing all official (written) policies.
    - Interviews with all PS Regional Directors for discovering unwritten policies.
- Compilation of data for all defined variables for each segment.
- Analysing compiled data for business results achievement.
    - Achievements of each segment (with variances), putting emphasis on targets met or not (green/red)
    - Exceptional External Factors ("EEFs") affecting each segment (for example COVID19 and BREXIT)
    - Validate effective T&D policies against business performance for each region.

### 3.3 Operationalization of Theoretical Constructs

Measuring Business Health in Professional Services firms is done by metrics and KPIs well known, such as:

- Billable Utilisation, measured in percentage terms.
- Delivered Revenue. Measure in US Dollars (USD).
- Services Sales Signings (or Bookings). Measured in USD combining Total Contract Value ("TCV") and Annual Contract Value ("ACV").

The business unit of this research is no different and it has these metrics defined PS MBOs. As a multinational, it is segmented into Geos and Regions, being the latter the

lowest level for setting; for this reason, the "Region" has been used for defining the different segments and for each of the segments reviewed the numbers to try to find a region (if any) that achieved the 3 components listed above year after year for the past 4 Fiscal Years ("FY").

The data for all metrics described above was stored in FinancialForce, a subsystem of Salesforce ("SF"). Accessing this data was done through SF reports and queries which are detailed in section 3.5. The raw data of these reports was put into excel sheets for data analysis which are described in section 3.6.

Giving answer to the question of defining what effective looks like in the context of T&D in PS organisations in the Software/SaaS world requires:

1. Calculating the attainment of Services Sales against each target of each region.
2. Calculating the attainment of Delivered Revenue against each target of each region.
3. Calculating the attainment of Billable Utilisation against each target of each region.
4. Calculating number of hours of training per billable Consultant Full Time Employee ("FTE").
5. Reviewing Services Warranty.
6. Reviewing attrition numbers.
7. Reviewing written T&D policies.
8. Interviewing Regional Leaders to unveil potential T&D unwritten policies and practices.

This identification of the artefacts and configuration required is step 4 (Figure 4) in Design Science Research.

A T&D policy can be only effective if it happens on a Region that has achieved all targets consistently year after year, this study covers the four consecutive fiscal years, starting from the first day of the fiscal year 2019 (29th July 2018) until the last day of the fiscal year 2022 (29th July 2022).

### 3.4 Population and Sample

The following data, compromising 192 Full-Time Employees ("FTEs") across four fiscal years (FY19 to FY22), has been compiled and analysed:

- Billable Utilisation.
- Delivered Revenue.
- T&D time.
- Attrition. This metrics shows employee fluctuation, finding segments of low attrition is a positive marker of effective T&D policies (Pržulj, 2021).

These 192 FTEs are distributed across the following 9 segments (Regions), each segment code is accompanied by its definition in the list below:

- ANZ (APAC): Australia and New Zealand.
- APAC Singapore (APAC): Singapore.
- INDIA (APAC): India.
- CEER-CIS (EMEA): Central Europe and Commonwealth of Independent States.
- SER-MEA (EMEA): Southern Europe and Middle East.
- UKI-NOR (EMEA): United Kingdom, Republic of Ireland and Northern Europe.
- Central (US): Central United States.
- East (US): East Coast of the United States.
- West (US): West Coast of the United States.

In the list above, the Geo of each region is indicated between parentheses.

Data on achievements and targets for each Region for the past 4 FY for:

- Billable Utilisation.
- Delivered Revenue.
- Services Sales.

Services Warranty is also a relevant KPI that has been compiled for the same fiscal periods (FY19 to FY22) as it is an indicator of Services Quality. It does show how much time has been given back to customers in lieu of a bad executed engagement. Better trained teams make fewer mistakes as they work more effectively, with more quality and with a higher performance (Pržulj, 2021). This has been used as another positive marker of effective T&D policies.

### 3.5 Data Collection Procedures

This section of the methodology is what DSR defines as Identification of the artifacts and configuration of the classes of the problem, this represents points 5, 6 and 7 on Figure 2 (Hevner et al, 2004).

This study works mainly with Primary Data from two sources: Salesforce and Interviews.

To produce the data required for the analysis, several Salesforce Reports are required. Each of those reports have a type, logic, parameters and variables.

The report type defines the objects that can be queried, some types allow to query multiple objects that interlinked by key attributes.

The logic is a Boolean filter that defines how to filter out elements from the report with the variables given.

Variables and Parameters are similar in nature in Salesforce, the main difference is that parameters cannot be grouped used in the logic, only variables can be used in the logic.

### 3.5.1 Parameters

This section defines all parameters used in this study.

Master Start Date. A Date type. It sets the start date used for the master utilization data set

Approved Date. A Date type. It sets the filtering criteria on the approved date of the record.

Last Update Date. A Date type. It sets the filtering criteria on the last update date of the record.

Effective Date. A Date type. It sets the filtering criteria on the effective date of the record

Close Date. A Date type. It sets the filtering criteria on the approved close of the record, an example of this is used for opportunities in services sales.

Enablement Expiration Date. A Date type. It sets the filtering criteria on the expiration date of a project. When a project expires, all remaining revenue that has not been delivered is recognised, this is as per the EULA between the business unit of the company studied in this research and its customers.

All Territories. It is a Constant (either exists or not exist). When present, sets the filtering criteria on all regions and all territories.

Opportunity Status: Defines the status of an opportunity. It can be closed, blackholed (abandoned), or other meaningful sales tags. This study focused on “won” opportunities.

Probability. A numeric value that defines the probability of an opportunity to be won, when an opportunity is won the probability is 100%.

Milestone. This parameter applies to timecards and it is of a String nature, it can have multiple values. It can be used, for example, to return timecards for Services Warranty.

Resource: Resource Role A String applicable to timecards, it defines what is the resource roles of the individual that delivered the work for that particular timecard. The most relevant to this study values are Consultant, Sr. Consultant, Associate Consultant, Architect and Project Manager.

Billable. This is of Boolean in nature, and it defines whether an object (an example of this is a timecard) is billable or not.

Project: Project Level. A String tag that describes the type of the project, it is bound to a number as follows:

- Level 0 – Customer Success.
- Level 1 – Managed by a Project Manager.
- Level 2 – SKU Prescribed by internal methodology.
- Level 3 – Staff Augmentation.
- Level 4 – Education.
- Level 5 – Strategic Staff Augmentation.
- Level 6 – Special Event Support.
- Level 7 – Subscription Project.

Project: Stage. A String that defines what stage a project is at, examples can be Active, Cancelled or Resource Planning.

Practice. A String determining the practice of a particular timecard or assignment. It can be Consultancy, Architecture, Project Management or Customer Success among others.

Billing Type. The billing type of a project can be of three types:

- Fixed Price. This is based in milestones and billed proportionally on completion of each milestone.
- Subscription. Billed in equal amounts on a monthly basis.
- Time and Materials. Billed to customer at the end of each day as per the number of hours worked on that day.

At-Risk Project. This can be either True or False (Boolean). An at-risk project is work done in advance; it is linked to an opportunity. When the opportunity closes the billable work and the revenue is recognised.

Billings. A numeric value representing the amount of dollars billed in a timecard .

Time Period Type. A string that can contain the following options: Daily, Weekly, Monthly, Quarterly or Yearly.

Time Period: This is two dates, being the first date the oldest of the two.

Project: Project Name. A string containing the name of the project. It is common that comes with the name of the opportunity or account and tag indicating its nature. For example, if it is a subscription the names contains the subscription type and if it is at-risk, it does contain the. “at-risk” tag.

Stage. A string value that indicates the stage of a project. It can be Active, On Hold, Cancelled or Completed.

Total Remaining Revenue. A numeric value that reflects the amount of revenue pending recognition.

Status A String type. It applies to different objects and it has different values. The most common will be Approved, Reject and Closed.

Billable. A Boolean value which indicates weather the timecard is billable or not. Examples or billable timecards are Subscriptions, Time and Materials, Fixed and At-Risk. Example of non-billable timecards are Warranty, Pre-Sales support, Training and Development, Admin.

Total Billable Amount A numeric value that indicates the billable amount of a timecard.

Project: Expense Billing Type. A String indicating the nature of the delivered revenue of a timecard.

### 3.5.2 Variables

Variables are similar in nature to parameters. The only difference is that they can be used in the logic filter. Variables are defined in the reports with a number that precedes their name, that number will be used in the logic filter.

This section describes the variables used in the configuration of each of the reports of this study.

Time Period is a String that defines the size of the period for the report. It can be daily, weekly, monthly, quarterly and yearly. For the purpose of this research a weekly has been chosen.

Utilization Calculation String type. It is used to define what master table to use. In the current implementation of Salesforce there is only one master table available, the Master Utilization.

Milestone. A String that defines what activity has been performed. It can be only of certain predefined types. The most common one used in this study is Personal Training.

Resource: Practice. A String that shows the practice name. Consulting, Architecture or Project Management are the most common ones.

Monday Notes. A String that describes the nature of the work done in a particular timecard for this day of the week.

Tuesday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Wednesday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Thursday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Friday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Saturday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Sunday Notes A String that describes the nature of the work done in a particular timecard for this day of the week.

Resource Type. A String that defines the type of the resource. This can be FTE or CSP. In this study the focus has been on Full Time Employees ("FTE").

Title. A String that defines the role of the resource. The most common values are Consultant, Project Manager and Architect.

Practice: Practice Name. A String determining the practice of a particular timecard or assignment. It can be Consultancy, Architecture or Project Management as the main Professional Services options; however, it can contain other non-billable roles from other non-billable practices such as Customer Success, Education, Management or Support.

### 3.5.3 Logic

The logic defines how to group variables (not parameters) in a Boolean expression that will determine what elements to include or exclude in the output resulting from running a particular report. In the Logic filter each variable is referenced by a number. Each variable is assigned a unique number on each report. An example of a Logic filter could be:

1 AND (2 OR 3)

Being 1, 2 and 3 Variables defined in a particular report.

### 3.5.4 Reports

This section describes the configuration for each of the reports used to produce the raw data for this study.

*Table 3 – Billable Utilisation Data Collection Procedure*

| Field | Value |
|---|---|
| Report Type | PSA Utilization Calculations with Details |
| Param 1 | Master Start Date: 30th July 2018 – 31st July 2022 |
| Logic | (1 AND 2 AND 3 AND (4 OR 5)) AND 6 |
| Variables | 1 Time Period Type equals Week<br>2 Utilization Calculation Name contains Master Utilization<br>3 Resource: Full Name not equal to ""<br>4 Historical Utilization Target greater than 0%<br>5 Scheduled Utilization Target greater than 0%<br>6 Resource: Resource Role equals Architect, Consultant, Project Manager, Sr Consultant |

The report above collects all billable utilisation for all FTEs, Param1 is used to set the date for all billable calculation to be the first day of FY19 and the last day of FY22.

It does consolidate data per week (variable 1) based on the master calculation (variable 2). It excludes all resources without name (variable 3) and with both historical (past) and scheduled (future) utilisation with values higher than 0 (variables 4 and 5 respectively). Variable 6, filters out by role, getting only consultants (both regular and Senior), architects and project managers.

*Table 4 – Training Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Timecards with Resource |
| Param 1 | Approved Date: 30th July 2018 – 31st July 2022 |
| Logic | 1 AND (2 OR 3) AND 4 AND 5 AND 6 AND 7 AND 8 AND 9 AND 10 AND 11 AND 12 AND 13 AND 14 AND 15 AND 16 AND 17 AND 18 |
| Variables | 1 Milestone equals Personal Training<br>2 Resource: Practice equals Consulting<br>3 Resource: Practice equals Architecture<br>4 Monday Notes does not contain qbr<br>5 Tuesday Notes does not contain qbr<br>6 Wednesday Notes does not contain qbr<br>7 Thursday Notes does not contain qbr<br>8 Friday Notes does not contain qbr<br>9 Saturday Notes does not contain qbr<br>10 Sunday Notes does not contain qbr<br>11 Monday Notes does not contain boarding<br>12 Tuesday Notes does not contain boarding<br>13 Wednesday Notes does not contain boarding<br>14 Thursday Notes does not contain boarding<br>15 Friday Notes does not contain boarding<br>16 Saturday Notes does not contain boarding<br>17 Sunday Notes does not contain boarding |

18 Resource: Resource Role equals Architect, Consultant, Sr Consultant

In the report above, the intention is to collect all timecards that contain any reference to training. Timecards contain a milestone that is used to understand the nature of the activity, and number of hours performed.

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

Variable 1 is used to obtain only training related timecards. Variables 2 and 3 are required to obtain training performed by either consultants or architects.

The intention of variables 4 to 18 is to filter out activities that are either not specifically T&D (for example a QBR does not have training on it, it is a Quarterly Business Review) or mandatory training activities.

Excluding mandatory training activities has to be considered as they add a false reading in regions with high attrition. In this case study, the technical on-boarding of a consultant can take up to 6 six weeks and has a full-time dedication (240 hours). Not excluding these mandatory initial T&D activities will make regions with high attrition to have a high reading; so that regions having low attrition are penalised. The relevance of effective T&D happens beyond mandatory initial activities and as shown in the literature, it has to be aligned with low attrition.

This reports also filters resources focusing only on Architects and Consultants, the technical billable resources of the organisation.

*Table 5 – Historical Users Data Collection Procedure*

| Field | Value |
|---|---|
| Report Type | PSA Resources with Salesforce Users |
| Param 1 | Last update date: All Time |
| Logic | 1 AND (2 OR 3) AND 4 |
| Variables | 1 Resource Type equals FTE<br>2 Title contains Consultant<br>3 Title contains Architect<br>4 Practice: Practice Name not equal to Remote Delivery Centre |

The report above aims to obtain the list of resources that are Full Time Employees (variable 1); this is because the company has in the system also external resources (sub-contractors) named CSPs. It also focuses on Consultants and Architects (variables 2 and 3) and excludes a practice that has been recently created (Remote Delivery Centre) which does not have enough data to produce any meaningful result.

*Table 6 – Services Sales Data Collection Procedure*

| Field | Value |
|---|---|
| Report Type | Opportunities with Products |
| Param 1 | Close date: 30th July 2018 – 31st July 2022 |
| Param 2 | All Territories |
| Param 3 | Opportunity Status: Closed Won |
| Param 4 | Probability: All |
| Logic | 1 AND 2 |
| Variables | 1 Opportunity Name does not contain $0<br>2 Product Family equals Service, Other |

The report above aims to obtain all services products sold for the past fur fiscal years. In order to achieve this, the filter excludes all opportunities that have had a revenue over zero dollars (Variable 1) and focusing only on services sales and not licenses (Variable 2), in the current implementation of the system, the value "Other" represents Travel and Expenses related to Services sold which also represents income for Services Sales.

*Table 7 – Warranty Timecards Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Timecards with Resource |
| Param 1 | Approved date: 30th July 2018 – 31st July 2022 |
| Param 2 | Milestone contains Services Warranty |

The report above returns all approved timecards that contain services warranty work (Param 2).

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

*Table 8 – Consultant Billable Utilisation Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Timecards with Resource |
| Param 1 | Approved date: 30th July 2018 – 31st July 2022 |
| Param 2 | Billable equals true |
| Param 3 | Resource: Resource Role equals Consultant, Principal Consultant, Sr Consultant |

The report above returns all approved timecards that contain billable work (Param 2) performed by all type of consultants (Param 3).

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

*Table 9 – Non-Consultant Billable Utilisation Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Timecards with Resource |
| Param 1 | Approved date: 30th July 2018 – 31st July 2022 |
| Param 2 | Billable equals true |
| Param 3 | Resource: Resource Role not equal to Consultant, Principal Consultant, Sr Consultant |

The report above returns all approved timecards that contain billable work (Param 2) performed by all other types of billable personnel (Param 3).

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

The amount of data for all billable FTEs in Table 8 and Table 9 was so big that it had to be split into two, a first report return all consultancy work and then a second report to return non-consultancy work (architects and project managers).

Below, Table 10, Table 11, Table 12 and Table 13 represent all reports required to calculate the amount of Delivered Revenue of all billable personnel.

*Table 10 – Subscriptions Delivered Revenue Data Collection Procedure*

| Field | Value |
|---|---|
| Report Type | Report Type: Miscellaneous Adjustments with Project |
| Param 1 | Effective Date: 30 Jul 2018 - 31 Jul 2022 |
| Param 2 | Milestone not equal to "" |
| Param 3 | Project: Project Level equals Level 7 |
| Param 4 | Project: Stage not equal to Cancelled, Resource Planning |

The report above returns the Delivered Revenue of all Subscription type projects (Param 3) that have not been cancelled or are still in planning stage (Param 4). It also excludes projects without any milestone assigned (Param 2).

*Table 11 – Implementation Projects Delivered Revenue Data Collection Procedure*

| Field | Value |
|---|---|
| Report Type | Report Type: Projects with Project Actuals Converted and Time Periods |
| Param 1 | Time Period: 30 Jul 2018 - 31 Jul 2022 |
| Param 2 | Time Period Type equals Week |
| Param 3 | Billings greater than US$0.00 |
| Param 4 | At-Risk Project not equal to True |
| Param 5 | Practice does not contain customer success |
| Param 6 | Project Level not equal to Level 0, Level 4, Level 6 |
| Param 7 | Billing Type not equal to Fixed Price |

The report above returns the Delivered Revenue of all Implementation type projects (Param 6), with the revenue summarised weekly (Param 2), billings over zero dollars (Param 3) and excluding projects that are at-risk (Param 4). At-Risk projects are projects that start before the contract is signed and they cannot be account for until signature, when the contract is signed, they are converted into regular projects; this is the reason why in this Financial Force implementation have to be excluded.

The practice "Customer Success" has to be excluded as it is not a billable practice (Param 5).

Projects that are of fixed price nature have to be excluded too (Param 7), they are analysed using a different report (Table 13).

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

*Table 12 – Expired Revenue Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Report Type: Projects |
| Param 1 | Enablement Expiration Date 30 Jul 2018 - 31 Jul 2022 |
| Param 2 | At-Risk Project not equal to True |
| Param 3 | Project: Project Name not equal to APAC Renewals Support FY17 - Q2, Americas Renewals Support FY17 - Q2/Q3, EMEAR Renewals Support FY17 - Q2 |
| Param 4 | Billable equals True |
| Param 5 | Billing Type equals Prepaid |
| Param 6 | Total Remaining Revenue greater than US$0.00 |
| Param 7 | Project Level not equal to Level 4 |

| | |
|---|---|
| Param 8 | Stage not equal to Cancelled |

The report above returns all Expired Revenue (Params 6). Expired revenue occurs on Implementation Projects when all or part of the acquired days are not used before expiration date. Typically, the expiration of an Implementation type project is 12 months, although in some cases can be co-termed with licenses going up to 3 years.

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

At-Risk projects (Param 2) are excluded as per the same reason given in Table 11.

This report also needs to exclude all cancelled projects (Param 8) .

Expired revenue affects only implementation projects that are of time and materials nature, this is the reason it is required to match only Prepaid Projects (Param 5).

Certain projects have been created to support renewals; these have to be excluded as they have not been paid by customers yet (Param 3).

*Table 13 – Fixed Fee Projects Revenue Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Report Type: Milestones with Projects |
| Param 1 | Actual Date 30 Jul 2018 - 31 Jul 2022 |
| Param 2 | Milestone Type equals Billing |
| Param 3 | Project: Project Level equals Level 1, Level 2, Level 3, Level |
| Param 4 | Project: Project Type equals Customer Project |
| Param 5 | Project: At-Risk Project equals False |
| Param 6 | Status equals Approved, Closed |
| Param 7 | Project: Stage not equal to Cancelled |

Fixed fee projects are the opposite to time and materials, they are bound to milestones. In the current implantation of Financial Force these are represented by Params 2, 3 and 4. As required previously, At Risk projects need to be excluded (Param 5). These types of projects can only be accounted for if and only if there are either approved or closed (Param 6) and not cancelled (Param 7).

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

*Table 14 – Pass-Through Expenses Revenue Data Collection Procedure*

| **Field** | **Value** |
|---|---|
| Report Type | Report Type: Expenses Reports with Projects |
| Param 1 | Approved Date: 30 Jul 2018 - 31 Jul 2021 |
| Param 2 | Project: Expense Billing Type equals Pass Through Expenses |
| Param 3 | Total Billable Amount greater than US$0.00 |
| Param 4 | Billable equals True |
| Param 5 | Project: Practice Name not equal to Training |

Pass-through expenses (T&E) are revenue too (Param 2). Customers but T&E and when used they are recognised.

Param1 is used to limit the time of the data so that it goes from the first day of FY19 to the last day of FY22 (30th of July 2018 to 31st July 2022).

The training practice (Param 5) is excluded as in the current structure, in the business unit of the company studied, it does not belong to professional services, it is considered a different entity with its own P&L.

Only billable projects (Param 4) with amounts different than zero (Param 3) are gathered.

Each of the reports above is exported in XLS data in raw format and analysed with the help of Microsoft Excel. Data collection for discovering what effective looks like for T&D policies has been done using structured interviews.

### 3.6 Data Analysis

The analysis of each region against its business targets has been done using the following algorithm:

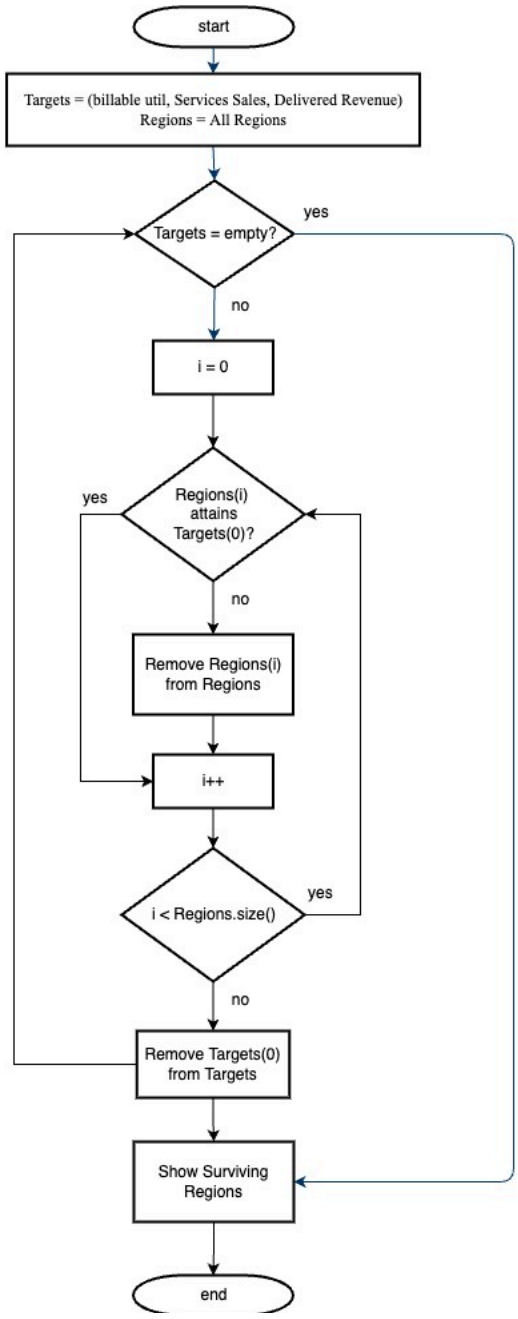


*Figure 4: Algorithm for Region analysis against Targets*

The algorithm above indicates a staged approach on where each stage represents one of the three business targets in this order: Billable Utilisation, Services Sales and

Delivered Revenue. On each of the stages, each Region is analysed in terms of target achievement; if it did not attain its target, then it is removed from further analysis. The expectation is that at the end of each stage, there are fewer 'surviving' Regions, something that will simplify the analysis. At the end of the process, the regions that have not been removed are the (surviving) regions that achieved all business targets.

### 3.6.1 Delivered Revenue

In order to calculate the total delivered revenue for a particular region, the csv raw data exports from the following procedures are required:

- Table 10 – Subscriptions Delivered Revenue Data Collection Procedure
- Table 11 – Implementation Projects Delivered Revenue Data Collection Procedure.
- Table 12 – Expired Revenue Data Collection Procedure.
- Table 13 – Fixed Fee Projects Revenue Data Collection Procedure.
- Table 14 – Pass-Through Expenses Revenue Data Collection Procedure

This processing requires two configuration elements: Fiscal Year information, detailing fiscal year and fiscal quarter periods and Delivered Revenue targets by FY and FQ.

*Table 15 – Fiscal Periods*

| Start | End | FY | FQ | FYQ |
|---|---|---|---|---|
| 30/07/2018 | 28/10/2018 | 2019 | Q1 | 2019-Q1 |
| 29/10/2018 | 27/01/2019 | 2019 | Q2 | 2019-Q2 |
| 28/01/2019 | 28/04/2019 | 2019 | Q3 | 2019-Q3 |
| 29/04/2019 | 28/07/2019 | 2019 | Q4 | 2019-Q4 |
| 29/07/2019 | 27/10/2019 | 2020 | Q1 | 2020-Q1 |
| 28/10/2019 | 26/01/2020 | 2020 | Q2 | 2020-Q2 |
| 27/01/2020 | 27/04/2020 | 2020 | Q3 | 2020-Q3 |
| 28/04/2020 | 27/07/2020 | 2020 | Q4 | 2020-Q4 |
| 28/07/2020 | 26/10/2020 | 2021 | Q1 | 2021-Q1 |
| 27/10/2020 | 25/01/2021 | 2021 | Q2 | 2021-Q2 |
| 26/01/2021 | 25/04/2021 | 2021 | Q3 | 2021-Q3 |
| 26/04/2021 | 25/07/2021 | 2021 | Q4 | 2021-Q4 |
| 26/07/2021 | 24/10/2021 | 2022 | Q1 | 2022-Q1 |
| 25/10/2021 | 23/01/2022 | 2022 | Q2 | 2022-Q2 |
| 24/01/2022 | 01/08/2022 | 2022 | Q3 | 2022-Q3 |
| 02/08/2022 | 31/07/2022 | 2022 | Q4 | 2022-Q4 |

*FY = Fiscal Year*
*FQ = Fiscal Quarter*
*FYQ = Fiscal Year and Fiscal Quarter concatenated with a hyphen*

Below, the Delivered Revenue targets for the Region UKI-NOR for the 4 FY of the study. No other targets have been compiled for processing as the only region that survived after analysing billable utilisation and warranty has been UKI-NOR.

*Table 16 – UKI-NOR Delivered Revenue Targets*

| FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|
| $7,792,758.90 | $11,781,558.90 | $11,797,482.22 | $12,850,549.00 |

The processing and logic required to calculate the Delivered Revenue attainment against target described is done in a single Microsoft Excel with the following tabs:

- Summary. This contains the logic that produces Table 27 – Delivered Revenue Achievement vs. Target for the Region UKI-NOR. It uses data rata from all other tabs.
- Targets. This contains the raw data from Table 16 – UKI-NOR Delivered Revenue Targets.
- FYQCalendarDates. This contains the raw data from Table 15 – Fiscal Periods.
- UKI-NOR PMO Subscriptions. This contains the raw data coming from output produced by running the report with the configuration described in Table 10 – Subscriptions Delivered Revenue Data Collection Procedure.
- UKI-NOR Expiring Revenue. This contains the raw data coming from output produced by running the report with the configuration described in Table 12 – Expired Revenue Data Collection Procedure.
- UKI-NOR Delivered Revenue. This contains the raw data coming from output produced by running the report with the configuration described in Table 11 – Implementation Projects Delivered Revenue Data Collection Procedure.

- Delivered Revenue Fixed Fee. This contains the raw data coming from output produced by running the report with the configuration described in Table 13 – Fixed Fee Projects Revenue Data Collection Procedure.
- T&E Pass-through Expenses. This contains the raw data coming from output produced by running the report with the configuration described in Table 14 – Pass-Through Expenses Revenue Data Collection Procedure.

The logic of the summary tab (producing Table 27 in the Results section) is as follows:

- 2019
    - Achievement = SUM(D9:D13)
    - Deliv Revenue = SUMIFS('UKI-NOR Delivered Revenue'!$C:$C,'UKI-NOR Delivered Revenue'!$M:$M,Summary!D$6)
    - Deliv Revenue Fixed Fee = SUMIFS('Delivered Fixed Fee'!$F:$F,'Delivered Fixed Fee'!$L:$L,Summary!D6)
    - Subsc = SUMIFS('UKI-NOR PMO Subscriptions'!$D:$D,'UKI-NOR PMO Subscriptions'!$H:$H,Summary!D$6)
    - T&E = SUMIFS('T&E Pass-Through'!$B:$B,'T&E Pass-Through'!$G:$G,Summary!D6)
    - Expiry = SUMIFS('UKI-NOR Expiring Revenue'!$K:$K,'UKI-NOR Expiring Revenue'!$P:$P,Summary!D$6)
- 2020
    - Achievement = SUM(E9:E13)

    - Deliv Revenue = SUMIFS('UKI-NOR Delivered Revenue'!$C:$C,'UKI-NOR Delivered Revenue'!$M:$M,Summary!E$6)
    - Deliv Revenue Fixed Fee = SUMIFS('Delivered Fixed Fee'!$F:$F,'Delivered Fixed Fee'!$L:$L,Summary!E6)
    - Subsc = SUMIFS('UKI-NOR PMO Subscriptions'!$D:$D,'UKI-NOR PMO Subscriptions'!$H:$H,Summary!E$6)
    - T&E = SUMIFS('T&E Pass-Through'!$B:$B,'T&E Pass-Through'!$G:$G,Summary!E6)
    - Expiry = SUMIFS('UKI-NOR Expiring Revenue'!$K:$K,'UKI-NOR Expiring Revenue'!$P:$P,Summary!E$6)
- 2021
    - Achievement = SUM(F9:F13)
    - Deliv Revenue = SUMIFS('UKI-NOR Delivered Revenue'!$C:$C,'UKI-NOR Delivered Revenue'!$M:$M,Summary!F$6)
    - Deliv Revenue Fixed Fee = SUMIFS('Delivered Fixed Fee'!$F:$F,'Delivered Fixed Fee'!$L:$L,Summary!F6)
    - Subsc = SUMIFS('UKI-NOR PMO Subscriptions'!$D:$D,'UKI-NOR PMO Subscriptions'!$H:$H,Summary!F$6)
    - T&E = SUMIFS('T&E Pass-Through'!$B:$B,'T&E Pass-Through'!$G:$G,Summary!F6)
    - Expiry = SUMIFS('UKI-NOR Expiring Revenue'!$K:$K,'UKI-NOR Expiring Revenue'!$P:$P,Summary!F$6)
- 2022

- Achievement = SUM(G9:G13)
- Deliv Revenue = SUMIFS('UKI-NOR Delivered Revenue'!$C:$C,'UKI-NOR Delivered Revenue'!$M:$M,Summary!G$6)
- Deliv Revenue Fixed Fee = SUMIFS('Delivered Fixed Fee'!$F:$F,'Delivered Fixed Fee'!$L:$L,Summary!G6)
- Subsc = SUMIFS('UKI-NOR PMO Subscriptions'!$D:$D,'UKI-NOR PMO Subscriptions'!$H:$H,Summary!G$6)
- T&E = SUMIFS('T&E Pass-Through'!$B:$B,'T&E Pass-Through'!$G:$G,Summary!G6)
- Expiry = SUMIFS('UKI-NOR Expiring Revenue'!$K:$K,'UKI-NOR Expiring Revenue'!$P:$P,Summary!G$6)

The tabs UKI-NOR PMO Subscriptions, UKI-NOR Expiring Revenue, UKI-NOR Delivered Revenue, Delivered Revenue Fixed Fee and T&E Pass-through Expenses required adding a new column for automatically calculating the Fiscal Year as follows:

=LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$17<=DATEVALUE($G2))/(FYQCalendarDates!$B$2:$B$17>=DATEVALUE($G2)),FYQCalendarDates!$C$2:$C$17)

### 3.6.2 Service Sales

In order to calculate the total sales for services on a particular region, the csv raw data export from the following procedure is required:

- Table 6 – Services Sales Data Collection Procedure

This processing requires two configuration elements: Fiscal Year information, detailing fiscal year and fiscal quarter periods and Service Sales targets by FY and FQ.

The information with regard to the Fiscal Year and Quarter is the same as in Table 15.

Below there are the Services Sales targets for the Region UKI-NOR for the 4 FY of the study. No other targets have been compiled for processing as the only region that survived after billable utilisation and warranty has been UKI-NOR.

*Table 17 – UKI-NOR Services Sales Targets*

| FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|
| $8,191,467.90 | $11,756,914.20 | $13,042,021.07 | $11,018,904.00 |

The calculation of the attainment per Fiscal Year and Quarter for the UKI-NOR region has been done using the Microsoft Excel function SUMIFS (), filtering by period (FY and FQ) and name of the region. The attainment is compared against the target to produce Table 29.

The processing and logic required to calculate the Services Sales (bookings) attainment against target described is done in a single Microsoft Excel with the following tabs:

- Summary. This contains the logic that produces Table 29 – Services Sales Achievement vs. Target in $s for the Region UKI-NOR.
- FYQCalendarDates. This contains the raw data from Table 15 – Fiscal Periods.
- Targets. This contains the raw data from Table 17 – UKI-NOR Services Sales Targets.
- PS Won Opportunities WW. This contains the raw data coming from output produced by running the report with the configuration described in Table 6 – Services Sales Data Collection Procedure.

Calculating Table 29 requires a pre-processing that also is done in the Summary tab in two separate tables:

- Table one: Cells B20 to G52. This contains attainments for each region as per Salesforce region definition.
- Table two: Cells B4 to G17. This aggregates Table 1 (above) by merging regions. This is required as the technical name of the region, in some cases, changed from year to year. An example would be CER, that later was called CEER; both labels represent the same region.

Table one is the first one to be calculated. Column B (rows 23 to 52) represents the names of the regions as they have existed on each of the years. Attainments go cell C23 to F52. Being column C Fiscal Year 2019, column D Fiscal Year 2020, column E Fiscal Year 2021 and column G Fiscal Year 2022. Calculation of attainment is done by using the SUMIF function filtering by year and region name.

Examples of attainment calculations:

- B23 = ANZ, C22 = 2019 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!C$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B23,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B23 = ANZ, D22 = 2020 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!D$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B23,'PS Won Opportunities WW'!$V:$V,"Professional Services")

- B23 = ANZ, E22 = 2021 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!E$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B23,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B23 = ANZ, G22 = 2022 -> =SUMIFS('PS Won Opportunities WW'!$AA:$AA,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!F$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B23,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B24 = MEA, C22 = 2019 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!C$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B24,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B24 = MEA, D22 = 2020 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!D$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B24,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B24 = MEA, E22 = 2021 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!E$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B24,'PS Won Opportunities WW'!$V:$V,"Professional Services")

- B24 = MEA, G22 = 2022 -> =SUMIFS('PS Won Opportunities WW'!$AA:$AA,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!F$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B24,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B52 = APAC, C22 = 2019 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!C$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B52,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B52 = APAC, D22 = 2020 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!D$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B52,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B52 = APAC, E22 = 2021 -> =SUMIFS('PS Won Opportunities WW'!$Z:$Z,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!E$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B52,'PS Won Opportunities WW'!$V:$V,"Professional Services")
- B52 = APAC, G22 = 2022 -> =SUMIFS('PS Won Opportunities WW'!$AA:$AA,'PS Won Opportunities WW'!$W:$W,'Services Sales Summary'!F$22,'PS Won Opportunities WW'!$B:$B,'Services Sales Summary'!$B52,'PS Won Opportunities WW'!$V:$V,"Professional Services")

Note that Year the calculation for 2022 uses a different column (column AA) for the calculation than the other three years, which use column Z. This is because targets for Fiscal Years 2019 to 2021 have been set in terms of Total Contract Value ("TCV") while Fiscal Year 2022 was set in terms of Annual Contract Value ("ACV").

Table two merges manually the regions that changed names over time by adding the value of the different names of the same region for a particular year:

- SER-MEA 2019: =C24+C36+C46+C51+C50+C37
- UKI-NOR: =C30+C41+C33
- West: =C32+C34+C42
- East: =C43+C26
- Central: =C31+C25+C45+C38+C39
- APAC (Singapore): =C52+C48
- INDIA: =C49+C40
- CEER-CIS: =C28+C29+C35+C47

Calculating years 2020, 2021 and 2022 required changing the letter C for D, E and F respectively.

The final calculation logic required to produce Table 29 – Services Sales Achievement vs. Target in $s for the Region UKI-NOR is done as follows:

- Achievement 2019: =C8
- Achievement 2020 =D8
- Achievement 2021: =E8
- Achievement 2022: F8
- Target 2019: =Targets!B6
- Target 2020: =Targets!C6
- Target 2021: =Targets!D6

- Target 2022: =Targets!E6

Row 8 is where attainments for the four fiscal years reside for the region UKI-NOR.

The tab PS Won Opportunities WW required adding six new columns for automatically calculating the following fields:

- Fiscal Year
  =LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$17<=DATEVALUE(F2))/(FYQCalendarDates!$B$2:$B$17>=DATEVALUE(F2)),FYQCalendarDates!$C$2:$C$17)
- Overall Services Carve (converted) =IF(R2="",S2*I2*0.9,R2)
- Services Carve ACV (converted) =IF(T2="",S2*I2*0.9,T2)
- Adjusted Carve TCV (converted) =IF(OR(P2="ENB-PRE-T&E-01",P2="ENB-PRE-T&E-TRNG"),S2*I2*0.9,X2)
- Adjusted Carve ACV (converted) =IF(OR(P2="ENB-PRE-T&E-01",P2="ENB-PRE-T&E-TRNG"),S2*I2*0.9,Y2)
- Net $ ACV =IF(D2<>"",M2*12/D2,"")

The above represents the formulas required for the first entry, which exists in row 2. The following entries have references to their own row.

### 3.6.3 Services Warranty

In order to calculate the Services Warranty for all regions, the csv raw data exports from the following procedures are required:

- Table 7 – Warranty Timecards
- Table 8 – Consultant Billable Utilisation Data Collection Procedure
- Table 9 – Non-Consultant Billable Utilisation Data Collection Procedure

The reason why Table 8 and Table 9 have not been combined is related to the high volume of records returned, which were over the maximum allowed by Microsoft Excel per single tab.

The processing of the Services Warranty also requires one additional configuration element: Fiscal Year information, detailing fiscal year and fiscal quarter periods.

The information with regard to the Fiscal Year and Quarter is the same as in Table 15.

Processing Warranty in percentage terms requires dividing the number of hours in all billable timecards for a particular region and fiscal period by the number of warranty hours for that same region on that same fiscal period.

To calculate the number of hours for both billable and warranty work on each region and fiscal period, the Microsoft Excel function SUMIFS () has been used.

The processing and logic required to calculate the Warranty time delivered per fiscal Year and Region is done in a single Microsoft Excel with the following tabs:

- **Summary**. This contains the logic that produces Table 25 – Services Warranty % per Region.
- **FYQCalendarDates.** This contains the raw data from Table 15 – Fiscal Periods.
- **Targets**. This contains the raw data from Table 17 – UKI-NOR Services Sales Targets.
- **!Consultant Billable TCs**. This contains the raw data coming from output produced by running the report with the configuration described in Table 9 – Non-Consultant Billable Utilisation Data Collection Procedure.

- **Consultant Billable TCs.** This contains the raw data coming from output produced by running the report with the configuration described in Table 8 – Consultant Billable Utilisation Data Collection Procedure.
- **Services Warranty WW.** This contains the raw data coming from output produced by running the report with the configuration described in Table 7 – Warranty Timecards Collection Procedure.

The Summary reads all billable timecards from tabs !Consultant Billable TCs and Consultant Billable TCs and also all warranty timecards in tab Services Warranty WW. The calculation for the UKI-NOR Region (row 15) is done as follows:

- Billable Hours 2019: =SUMIFS('Consultant Billable TCs'!$I:$I,'Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'Consultant Billable TCs'!$J:$J,'Warranty Summary'!D$6)+SUMIFS('!Consultant Billable TCs'!$I:$I,'!Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'!Consultant Billable TCs'!$J:$J,'Warranty Summary'!D$6)
- Warranty Hours 2019: =SUMIFS('Services Warranty WW'!$I:$I,'Services Warranty WW'!$C:$C,'Warranty Summary'!$C15,'Services Warranty WW'!$J:$J,'Warranty Summary'!E$6)
- Warranty % 2019: =E15/D15
- Billable Hours 2020: =SUMIFS('Consultant Billable TCs'!$I:$I,'Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'Consultant Billable TCs'!$J:$J,'Warranty Summary'!G$6)+SUMIFS('!Consultant Billable TCs'!$I:$I,'!Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'!Consultant Billable TCs'!$J:$J,'Warranty Summary'!G$6)

- Warranty Hours 2020: =SUMIFS('Services Warranty WW'!$I:$I,'Services Warranty WW'!$C:$C,'Warranty Summary'!$C15,'Services Warranty WW'!$J:$J,'Warranty Summary'!H$6)
- Warranty % 2020: =H15/G15
- Billable Hours 2021: =SUMIFS('Consultant Billable TCs'!$I:$I,'Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'Consultant Billable TCs'!$J:$J,'Warranty Summary'!J$6)+SUMIFS('!Consultant Billable TCs'!$I:$I,'!Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'!Consultant Billable TCs'!$J:$J,'Warranty Summary'!J$6)
- Warranty Hours 2021: =SUMIFS('Services Warranty WW'!$I:$I,'Services Warranty WW'!$C:$C,'Warranty Summary'!$C15,'Services Warranty WW'!$J:$J,'Warranty Summary'!K$6)
- Warranty % 2021: =K15/J15
- Billable Hours 2022: =SUMIFS('Consultant Billable TCs'!$I:$I,'Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'Consultant Billable TCs'!$J:$J,'Warranty Summary'!M$6)+SUMIFS('!Consultant Billable TCs'!$I:$I,'!Consultant Billable TCs'!$A:$A,'Warranty Summary'!$C15,'!Consultant Billable TCs'!$J:$J,'Warranty Summary'!M$6)
- Warranty Hours 2022: =SUMIFS('Services Warranty WW'!$I:$I,'Services Warranty WW'!$C:$C,'Warranty Summary'!$C15,'Services Warranty WW'!$J:$J,'Warranty Summary'!N$6)
- Warranty % 2022: =N15/M15
- Average (2019 to 2022): =(E15+H15+K15+N15)/(D15+G15+J15+M15)

Ultimately, the Services Warranty % from the previous calculation is added to the table that has been used to produce Table 25 – Services Warranty % per Region.

- CEER-CIS
    - Warranty % 2019: =F8
    - Warranty % 2020: =I8
    - Warranty % 2021: =L8
    - Warranty % 2022: =O8
    - Average: =P8
    - Variance: =VAR.P(N21:Q21)
- ANZ
    - Warranty % 2019: =F9
    - Warranty % 2020: =I9
    - Warranty % 2021: =L9
    - Warranty % 2022: =O9
    - Average: =P9
    - Variance: =VAR.P(N22:Q22)
- SER-MEA
    - Warranty % 2019: =F10
    - Warranty % 2020: =I10
    - Warranty % 2021: =L10
    - Warranty % 2022: =O10
    - Average: =P10
    - Variance: =VAR.P(N23:Q23)
- APAC (Singapore)
    - Warranty % 2019: =F11

    - Warranty % 2020: =I11
    - Warranty % 2021: =L11
    - Warranty % 2022: =O11
    - Average: =P11
    - Variance: =VAR.P(N24:Q24)
- INDIA
    - Warranty % 2019: =F12
    - Warranty % 2020: =I12
    - Warranty % 2021: =L12
    - Warranty % 2022: =O12
    - Average: =P12
    - Variance: =VAR.P(N25:Q25)
- East
    - Warranty % 2019: =F13
    - Warranty % 2020: =I13
    - Warranty % 2021: =L13
    - Warranty % 2022: =O13
    - Average: =P13
    - Variance: =VAR.P(N26:Q26)
- West
    - Warranty % 2019: =F14
    - Warranty % 2020: =I14
    - Warranty % 2021: =L14
    - Warranty % 2022: =O14
    - Average: =P14

    - Variance: =VAR.P(N27:Q27)
- UKI-NOR
    - Warranty % 2019: =F15
    - Warranty % 2020: =I15
    - Warranty % 2021: =L15
    - Warranty % 2022: =O15
    - Average: =P15
    - Variance: =VAR.P(N28:Q28)
- Central
    - Warranty % 2019: =F16
    - Warranty % 2020: =I16
    - Warranty % 2021: =L16
    - Warranty % 2022: =O16
    - Average: =P16
    - Variance: =VAR.P(N29:Q29)

The tabs !Consultant Billable TCs, Consultant Billable TCs and Services Warranty WW required adding a new column for automatically calculating the Fiscal Year as follows:

=LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$17<=DATEVALUE($G2))/(FYQCalendarDates!$B$2:$B$17>=DATEVALUE($G2)),FYQCalendarDates!$C$2:$C$17)

### 3.6.4 Billable Utilisation, Training and Attrition

In order to calculate the Utilisation, Warranty and Attrition for all regions, the csv raw data exports from the following procedures are required:

- Table 3 – Billable Utilisation Data Collection Procedure
- Table 4 – Training Data Collection Procedure

- Table 5 – Historical Users Data Collection Procedure

The information with regard to the Fiscal Year and Quarter is the same as in Table 15. Below there are the Worldwide Billable Utilisation targets for the 4 FY of the study.

*Table 18 – Global Billable Utilisation Targets*

| FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|
| 70.25% | 71% | 71% | 71% |

Each of the bullet points above is processed on a different tab. The tab used for billable utilisation attainment calculation uses the Microsoft Excel function SUMIFS() on the raw data from Table 3 filtering by Region and Fiscal Year.

For calculating training, the same process is applied on the raw data from Table 4. The output is what is called “unfiltered” training. There is an additional step required to filter out timecards that are not related to training and the ones that have mandatory training. This is done automatically by looking at the notes of each timecard looking at specific text matching patterns; timecards without anything in the notes than can help identify what specific training has been done are also excluded, this produces a “filtered” output (Table 6) called non-mandatory training hours per FTE.

Calculating attrition requires the raw data from Table 5 and the output is computed using the Microsoft Excel function SUMIFS (), filtering out by Region and Fiscal Year. There is also an additional filtering processing required for excluding individuals that have been dismissed, promoted or deceased. The output produces the voluntary attrition data present on Table 23.

The processing and logic required to calculate the Billable Utilisation attainment, Training Attrition per fiscal Year and Region is done in a single Microsoft Excel with the following tabs:

- **Headcount & Attrition Summary**. This contains the logic that produces Table 23 – Voluntary Attrition per Region.
- **Training Summary**. This contains the logic that produces Table 22 – Non-mandatory training hours per FTE per Region.
- **Util Summary**. This contains the logic that produces Table 26 – Consultant Billable Utilisation Attainment per Region.
- **FYQCalendarDates.** This contains the raw data from Table 15 – Fiscal Periods.
- **Billable Util WW Detail**. This contains the raw data coming from output produced by running the report with the configuration described in Table 3 – Billable Utilisation Data Collection Procedure.
- **Training TCs**. This contains the raw data coming from output produced by running the report with the configuration described in Table 4 – Training Data Collection Procedure.
- **PSA - ALL historical users**. This contains the raw data coming from output produced by running the report with the configuration described in Table 5 – Historical Users Data Collection Procedure.
- **Attrition Exceptions**. This contains the names of all individual billable contributors that fell into the following categories: Dismissal, Decease, Internal Promotion. These categories are used to exclude individuals from the calculation of voluntary attrition.

The Headcount & Attrition Summary tab contains two tables. The first table (Table one) is used to automatically calculate the headcount ("HC") for a particular Fiscal Year and Region. The other one (Table two) calculates the total attrition and the voluntary attrition (total subtracting the exceptions from the Attrition Exceptions tab).

Table one has in the first column (B) the names of all regions studied; the following columns contain the headcount for each of the four Fiscal Years. The below shows how this calculation has been done:

- B4 = CEER-CIS
    - HC 2019: =COUNTIFS('PSA - ALL historical users'!$F:$F,'Headcount & Attrition Summary'!$B4,'PSA - ALL historical users'!K:K,TRUE)-K4
    - HC 2020: =COUNTIFS('PSA - ALL historical users'!$F:$F,'Headcount & Attrition Summary'!$B4,'PSA - ALL historical users'!L:L,TRUE)-L4
    - =COUNTIFS('PSA - ALL historical users'!$F:$F,'Headcount & Attrition Summary'!$B4,'PSA - ALL historical users'!M:M,TRUE)-M4
    - =COUNTIFS('PSA - ALL historical users'!$F:$F,'Headcount & Attrition Summary'!$B4,'PSA - ALL historical users'!N:N,TRUE)-N4
    - HC Average (This is the average HC for the four Fiscal Years studied and it lives it ): =SUM(C4:F4)/COUNTA(C4:F4)

The formulas above reference the region with cell B4, calculation for the rest of the regions (B5 to B15) only required changing the reference of the cell B3 to BX (being X a number from 5 to 15).

Having the headcount is only one part, now attrition can be calculated looking at the PSA - ALL historical users tab at the attrition control fields. Below the calculation for the region CEER-CIS.

- J4 = CEER-CIS
    - All Attrition 2019: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!P:P,TRUE)
    - Voluntary Attrition 2019: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!P:P,TRUE,'PSA - ALL historical users'!$U:$U,"<>TRUE")
    - All Attrition 2020: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!Q:Q,TRUE)
    - Voluntary Attrition 2020: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!Q:Q,TRUE,'PSA - ALL historical users'!$U:$U,"<>TRUE")
    - All Attrition 2021: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!R:R,TRUE)
    - Voluntary Attrition 2021: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!R:R,TRUE,'PSA - ALL historical users'!$U:$U,"<>TRUE")
    - All Attrition 2022: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!S:S,TRUE)
    - Voluntary Attrition 2022: =COUNTIFS('PSA - ALL historical users'!$F:$F,$J4,'PSA - ALL historical users'!S:S,TRUE,'PSA - ALL historical users'!$U:$U,"<>TRUE")

- Average (This is the average of the attrition levels across the 4 Fiscal years and it is expressed as a natural number): =SUM(K4:N4)/COUNTA(K4:N4)
- Attrition Average (This is the average of the attrition compared to the average of HC across the 4 Fiscal Years and it is expressed in percentage terms): =P4/H4

The calculation for the other regions names only required changing the reference to cell J4 for JX, being X a number from 5 to 15.

Calculating investment in training was a complex exercise. This section describes high level how this has been done. There is no need to explain this in deep detail because, unfortunately, the data gathered revealed many inconsistencies in the timecards submitted when reviewed them manually.

Training time investment logic was done in two tables. Table one does calculate the raw time invested per Full Time Employee ("FTE") while table two filtered out the raw data from table one by using the individuals listed in the Attrition Exceptions tab.

Util Summary tab contains only one table. This table the billable utilisation ("BU") attainment calculates per Regin and Fiscal Year. Regions are in column B from in rows 5 to 13. The calculation has been done as follows:

- B5 = SER-MEA
  - BU 2019: =SUMIFS('Billable Util WW Detail'!$H:$H,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!C$4,'Billable Util WW Detail'!$C:$C,"*Consultant")/SUMIFS('Billable Util WW Detail'!$I:$I,'Billable Util WW Detail'!$B:$B,'Util

Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!C$4,'Billable Util WW Detail'!$C:$C,"*Consultant")

- BU 2020: =SUMIFS('Billable Util WW Detail'!$H:$H,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!D$4,'Billable Util WW Detail'!$C:$C,"*Consultant")/SUMIFS('Billable Util WW Detail'!$I:$I,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!D$4,'Billable Util WW Detail'!$C:$C,"*Consultant")
- BU 2021: =SUMIFS('Billable Util WW Detail'!$H:$H,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!E$4,'Billable Util WW Detail'!$C:$C,"*Consultant")/SUMIFS('Billable Util WW Detail'!$I:$I,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!E$4,'Billable Util WW Detail'!$C:$C,"*Consultant")
- BU 2022: =SUMIFS('Billable Util WW Detail'!$H:$H,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!F$4,'Billable Util WW Detail'!$C:$C,"*Consultant")/SUMIFS('Billable Util WW Detail'!$I:$I,'Billable Util WW Detail'!$B:$B,'Util Summary'!$B5,'Billable Util WW Detail'!$O:$O,'Util Summary'!F$4,'Billable Util WW Detail'!$C:$C,"*Consultant")
- Variance: =VAR.P(C5:F5)
- MDfT: =(SUM(C5:F5)-SUM(I5:L5))/4

Calculating BU, Variance and MDfT for all other regions only required changing the reference B5 to BX, being X a natural number from 6 to 13.

The tab Billable Util WW Detail required adding a new column for automatically calculating the Fiscal Year as follows:

=LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$17<=DATEVALUE($G2))/(FYQCalendarDates!$B$2:$B$17>=DATEVALUE($G2)),FYQCalendarDates!$C$2:$C$17)

For each FTE in the tab PSA - ALL historical users tab, a control logic for detecting headcount and attrition was applied.

- HC Control 2019:

  =IF(AND(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($D3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($D3)),FYQCalendarDates!$C$2:$C$18)<=K$2,OR($E3="",IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)>=K$2)),TRUE,FALSE)
- HC Control 2020:

  =IF(AND(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($D3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($D3)),FYQCalendarDates!$C$2:$C$18)<=L$2,OR($E3="",IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)>=L$2)),TRUE,FALSE)
- HC Control 2021:

  =IF(AND(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($D3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($D3)),FY

QCalendarDates!$C$2:$C$18)<=M$2,OR($E3="",IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)>=M$2)),TRUE,FALSE)

- HC Control 2022:
  =IF(AND(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($D3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($D3)),FYQCalendarDates!$C$2:$C$18)<=N$2,OR($E3="",IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)>=N$2)),TRUE,FALSE)
- Attrition Control 2019:
  =IF(IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)=P$2,TRUE,FALSE)
- Attrition Control 2020:
  =IF(IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)=Q$2,TRUE,FALSE)
- Attrition Control 2021:
  =IF(IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATEVALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)),FYQCalendarDates!$C$2:$C$18),2050)=R$2,TRUE,FALSE)
- Attrition Control 2022:
  =IF(IFERROR(LOOKUP(2,1/(FYQCalendarDates!$A$2:$A$18<=DATE

VALUE($E3))/(FYQCalendarDates!$B$2:$B$18>=DATEVALUE($E3)), FYQCalendarDates!$C$2:$C$18),2050)=S$2,TRUE,FALSE)

- Non-Voluntary Attrition: =IF(COUNTIFS('Attrition Exceptions'!A:A,'PSA - ALL historical users'!A3)>0,TRUE,FALSE)

The above logic was applied for each Full Time Employee ("FTE") identified; as each FTE is in a different row, the calculation of each FTE only required changing the reference of the employee (column A) from A3 to AX being X a natural number from 4 to 199.

Timecards data in tab Training TCs required adding calculated fields on order to process this information more effectively, the notes for each of the days of the week were concatenated into the first field (Concat Notes) using the following formula:

=CONCAT($AH3:$AN3)

Fields 3 (BLANKS) to 21 (CX) specific texts that indicate that the trained performed is not related to a non-mandatory T&D activity. When a non-mandatory activity is identified, a +1 is set in place while when it is not a -1 is been given; the -1 value indicates that the text has not been found; this is performed using the following formula for each of the fields:

=IFERROR(SEARCH(E$2,CONCAT($AH3:$AN3)),-1)

The formula MAX is used across the fields 3 to 21; when MAX (<field 3>...<field 21>) = 1 then ALL NOTES EXCLUDE = TRUE, else the value is set to FALSE. If the value is set to FALSE, it means that the Timecard can be accounted for:

=IFERROR(SEARCH(E$2,CONCAT($AH3:$AN3)),-1)

The field with name "90" is used to identify if the Timecard refers to training that happened within the first 90 days of a new hire; if this is the case, it is assumed that the activity is mandatory and related to the initial Technical Onboarding:

=IFERROR(IF(AC3-VLOOKUP(Z3,'PSA - ALL historical users'!A:E,4,FALSE)>W$2,FALSE,TRUE),TRUE)

The training time spent per FTE data was thoroughly analysed and eventually discarded as per the numerous limitations and inconsistencies found in the timecards.

### 3.7 Interview Methodology

Interviews were designed to discover the meaning of the term "effectiveness" in the context of this Training and Development of Professional Services Organisations in the software industry. The goal was discovering the presence of a set of markers that could reveal an effective T&D policy. During these interviews, the following markers have been identified (see the Discussion section for more details on the reason why of these markers):

*Table 19 – Markers of effective T&D*

| **Positive Marker** |
|---|
| Common regular space for T&D |
| Frequent regular space for T&D |
| Conscious T&D |
| Intentional T&D |
| Strategic T&D |
| 3L mindset of a leader |
| Billable utilisation with low positive MDfT and low Variance |
| Low Services Warranty with Low Variance |
| 4DW |

A common regular space for T&D refers to a day (or a time range) that is common to all FTEs, so that they can use this common timeframe to work in groups in a way that knowledge sharing and collaboration is maximised.

A frequent regular space for T&D would be something that happens every week or every other week. Monthly or quarterly spaces are not frequent enough.

Conscious T&D points out to reviewing what has been specifically achieved by each FTE with regard to the time invested to T&D. For example, John Doe attained ITLv4 Foundations and spent a total of 45 hours studying it. In the frame of this research, Conscious T&D focuses on knowing the past.

Intentional T&D means that leaders work with their teams at the beginning of a period (in our case, a fiscal quarter) reviewing specific T&D objectives of each billable FTE; this would be for example a specific certification to be achieved by X date in one quarter, needing Y number of hours. In the frame of this research, Intentional T&D focuses on planning the future.

Strategic T&D means that leaders work with FTEs on multi-year plans containing multiple elements for T&D instead of being opportunistic deciding what to do after each achievement.

Low positive MDfT for billable utilisation means that leaders understand that overachieving is as bad as underachieving and that the objective is to hit target, making use of the extra productive time for T&D. A low variance means that it is consistent and predictable.

Low Services Warranty means less time fixing errors as a consequence of lacking the ability to deliver. A low number with low variance means a robust, consistent and predictable high quality of delivery.

3L mindset of a leader is all about a leader practicing continuous development to motivate billable FTEs through inspiration (Caves, 2018).

4DW stands for 4-Day-a-Week; It has been found that the best performing regions in terms of ability to deliver against targets, attrition and services warranty are sustained under a model that makes Consultants and Architects work 4 days a week for customer billable work, leaving the 5$^{th}$ day (in our case, on Fridays) for T&D and Admin tasks.

In order to add context to the data compiled from internal systems (Salesforce), interviews have been defined as mechanism to understand the context behind the data.

These interviews have been used with the regional leaders using an open-ended approach directed by a list of structured questions. These questions, and the intention for each of the questions, are listed below.

*Table 20 – Interview Questions*

| **Question objective** | **Question** |
|---|---|
| Conscious approach | How do you measure how many hours each FTE has invested in T&D?<br>The intention is to see if there is a cadence set in place for reviewing this regularly so that leaders are consciously aware of this investment. |
| SMART approach | How do you measure the outcomes of that investment?<br>SMART challenging is a method used to understand if previous questions are giving a true answer to avoid falling into the Illusory Superiority (Buunk and Van Yperen, 1991) trap. |
| Strategic approach<br>Conscious approach<br>Intentional approach | What types of regular (quarterly) reviews do you have with your management team to cross-check the amount of time invested in T&D with the outcomes achieved? |

| | |
|---|---|
| | This expands the first question by identifying if leaders not only review this point themselves but do it with other leaders. |
| SMART approach | Does your team (direct and indirect members) have PDPs?<br>This expands the first question (which looks at the past) by identifying if leaders plan T&D consciously and intentionally for the future.<br>Can I see them? Or at least few examples of them?<br>SMART challenging is a method used to understand if previous questions are giving a true answer to avoid falling into the Illusory Superiority (Buunk and Van Yperen, 1991) trap. |
| Conscious approach<br>Intentional approach | How do you review with your management team the PDP plans for each individual (i.e. during QBRs, maybe yearly)?<br>This expands this topic by looking at a conscious strategic approach on where leaders plan and review T&D with other leaders proactively.<br>If so, do you set expectations around clear well-defined outcomes for the planned T&D per individual with your management team? (i.e. employee X is going to study Y, which should be taking Z number of hours and the commitment is to get certification A by -DD-MM-YYY? |

| | |
|---|---|
| | This is a SMART challenge designed to avoid the previously mentioned Illusory Superiority trap. |
| Common and Frequent spaces for T&D | What T&D spaces do you have for your team? (i.e. all Fridays 4 hours, every other Monday 2 hours)?<br>The objective is to see if there is a formal cadence in place for T&D instead of relying on an opportunistic approach that comes when time is available. Is T&D prioritised or is T&D happening as a consequence of low volume of work? |
| 3L mindset of a leader | Do you practice T&D yourself (as per Caves and Kotter)?<br>Direct 3L Mindset check question<br>If so,<br>What are your goals for the next 3 years?<br>What have you attained in the past 5 years?<br>SMART challenge on the question to identify to what extent the answer given is true. |

The intention has been to pair specific behavioural traits with each question for marker identification. The goal of the interview using the questionnaire was to reveal what specific markers were present on each regions.

### 3.7.1 SMART Challenging vs. Illusory Superiority and Unrealistic Optimism

The approach proposed here has the risk of not getting reliable results. Not only because leaders could lie consciously but mainly because it is in the nature of the human being to do so unconsciously.

In the Literature Review section, it has been already covered two phenomena that are relevant to the practice and execution. Illusory superiority is the tendency to believe that one has superior qualities and abilities compared to other people (Buunk and Van Yperen, 1991). This phenomenon indicates that it is probable that when leaders assess themselves how they have performed in the past, they would possibly believe that they have done better than they have done. When it comes to ability of those leaders to assess their future, this affects questions around Strategy and Intentionality, they could fall into the Unrealistic Optimism trap assessing their future better than it could be. The Unrealistic Optimism would reveal in this instance as thinking that their teams have robust PDPs that enable their teams with skills that cover for the future demand when the reality could be different.

A mechanism that can help prevent getting answers that differ from the reality is using SMART Challenging. SMART is an acronym that stands for Specific, Measurable, Achievable, Realistic and Time-bound. When leaders give answers to the questions of this questionnaire, it is required to follow with questions that cover each of the letters of the acronym.

Example 1: does your team have PDPs?

- Answer: yes
- Follow-Up Questions:
    - Can I see three examples?
    - How many others like this do you have? All your team?

- Can I see another 2 examples?

Example 2:

- Question: Do you practice 3L yourself?
- Answer yes.
- Follow-Up Question: What specific trainings have you completed over the past 3 years.

The questionnaire is already designed to include SMART challenging; however, it is necessary for the interviewer to be open to ask as many follow-up questions as necessary beyond the ones that are already in the questionnaire which are in line with the SMART challenging technique.

In the context of this research, it is key not to confuse "SMART approach" with "SMART Challenge." A SMART approach applies to the leader; while a SMART Challenge is a technique used by the interviewer to get reliable answers.

### 3.8 Derivative Indicators

In Professional Services it is common to use and measure classic metrics such as Billable Utilisation, Delivered Revenue, Services Sales or Services Warranty among others. What is innovative in this research is using derivatives to understand effectiveness. The two derivatives used in this research are Variance and Mean Distance from Target ("MDft").

#### 3.8.1 Variance

Studying the dispersion of the population in Professional Services is key, especially when the volume of FTEs is high and going one by one through the FTEs becomes tedious and even ineffective as it would consume too much time. Knowing if

some FTEs are over-utilised while others are underutilised is needed to maintain a healthy business.

It is not uncommon to have a team attainting its billable utilisation target while at the same time having some FTEs over-utilised and some others underutilised. A metric that helps identify this situation with a single eye inspection is Variance.

Over-utilised team members can burn-out or they can eventually fall short of knowledge as per not having enough time to train on new technologies. Underutilised employees can reflect low performers, that are not allocated by Project Managers for lack of trust or other problems that have to be addressed. Part of effective T&D could be found the most consistent regions in terms of billable variance and to be those the ones that invest the most in training.

In this study the dispersion of the population is measured using Variance; in Excel this is built-in as VARPA and internally implemented in Microsoft Excel as $\frac{\sum(x-\bar{x})^2}{n}$

The dispersion of the population for business attainments of targets helps understand how consistent a particular attainment is; consistent metrics are better to predict and that helps run a healthier businesses as low-volatile businesses are easier to plan ahead and hence take safer and better calculated risks on.

An alternative to Variance would have been using Standard Deviation, which also helps measure the dispersion of a population and tends to be easier understand.

### 3.8.2 MDfT

MDft stands for Mean Distance from Target. In the pursuit to find a definition for effectiveness in terms of Training and Development, this study proposes a new derivative metric for assessing how on-point achievements vs. targets has been across the time periods (in our case fiscal years) for a particular metric.

MDfT is applicable to all key classic PS targets such as Billable Utilisation, Delivered Revenue, Warranty and Services Sales.

In this research MDft has been used to see measure attainment versus business targets for each fiscal year.

The formula for MDfT is $\frac{\sum Achivement - \sum Target}{number\ of\ years\ with\ data}$

MDft has to be always positive, as when it is positive it means that the target has been attained. It has also to be as much as possible in-line with the target. Over-achieving targets can be detrimental for the long-term business performance, especially for billable utilisation.

Something that has not been done in this study is using Variance on MDfT, an option that could be used to give a good insight of consistency and in this regard and hence, predictability of business performance.

### 3.9 Research Design Limitations

The main limitation of this study is related to sample and size of the population when it comes to assessing attrition. This metric is calculated as per the following formula:

$$Attrition = \frac{leavers}{size\ of\ the\ team}$$

The size of the team for each region is small, the range goes 2 to 30 meaning that the Standard Error is as high. For this reason, in this study, looking at attrition has to be done with caution and more in relative terms when comparing to others rather than in absolute terms.

The size of the population limitation found when calculating Attrition is, however, not affecting other KPIs; for example, for Services Warranty there are populations of hundreds of thousands of data points for each Region.

Another constraint of this this research is that it is not intended to discover as of why this has happened, it only aims to prove or disprove if effective T&D can be done without compromising business performance even under an adverse and volatile context.

The extent to which effective T&D practices influence a positive outcome for key essential metrics such as billable utilisation, revenue, quality of service or retention rates cannot be determined. This study cannot focus on understanding this aspect; as opposed to that, the only viable way to look at effectiveness has to start with the ability of one particular segment (a region) to attain all business targets through a long period of time, which in our case is four fiscal years.

The definition of effectives is determined by the Bronet Model, looking at the presence of certain markers that can be used to discover the presence (or absence) of effective T&D practices in a particular Professional Services Organisation. However, and as said before, there is no indication whereas to what extent each of the markers influences effectiveness nor how they individually could affect the business health of Professional Services organisations; additionally, given the nature of this case study there might have been other markers that could exist and contribute to ever more effective T&D practices which simply have not been seen as per not being present. Looking at potential additional markers that can define effective T&D practices could be another line of research for future work. It is also not known how much weight each marker represents in terms of contribution to T&D effectiveness; this could be another potential future research.

An additional limitation appeared when trying to extrapolate a minimum number of hours of T&D per week. When looking at the details of each of the thousands of timecards, not only it was discovered that the analysed timecards were flooded by inconsistencies but also, it has been observed that population of timecards for some

regions is too small to extrapolate any meaningful number. For this reason, it has been decided not to include any indication whatsoever about the number of hours of T&D investment for a T&D practice to be considered effective; the alternative to that has been looking at the 4DW (and 4DW+) marker as it is a billable utilisation target enabler; and from there understanding the remaining available time for a week and prioritise that time towards Training and Development.

# CHAPTER IV:

# RESULTS

This chapter covers steps 8 and 9 in Design Science Research. The results of this research, looking at the research questions and reviewing the different segments and how each of those segments performed against the metrics defined.

## 4.1 Research Question One – What is Effective Training and Development?

Effective T&D in the context of Professional Services organisations in SaaS companies is defined as the ability to produce a positive business outcome.

This study reveals that effectiveness in T&D is specifically the presence of markers from Table 19.

Below is the summary of the presence (or not presence) of each of the nine effective T&D markers.

*Table 21 – Presence of effective T&D markers per Region*

| **Region** | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** | **(9)** |
|---|---|---|---|---|---|---|---|---|---|
| SER-MEA | P | P | P | NP | NP | P | P | NP | P |
| UKI-NOR | P | P | P | P | *P** | P | P | P | P |
| ANZ | P | NP | P | NP | NP | NP | NP | NP | NP |
| West | NP | NP | NP | NP | NP | NP | NP | P | NP |
| East | P | P | P | NP | NP | NP | NP | P | NP |
| Central | P | NP | NP | NP | NP | NP | NP | P | NP |
| APAC (Singapore) | P | NP | P | NP | NP | NP | NP | NP | NP |
| INDIA | P | NP | P | NP | NP | NP | NP | NP | NP |
| CEER-CIS | P | P | P | NP | *P** | P | NP | P | P |

*(1) = Common regular space for T&D*

*(2) = Frequent regular space for T&D*
*(3) = Conscious T&D*
*(4) = Intentional T&D*
*(5) = Strategic T&D (Need to be SMART to qualify)*
*(6) = 3L mindset of a leader*
*(7) = Billable utilisation with low positive MDfT and low Variance*
*(8) = Low Services Warranty with Low Variance*
*(9) = 4DW*
*P = Present ; NP = Not Present; P* = Present at a low scale and limited to one element per PDP*

With regard to marker (5), it has been found few individuals with PDPs containing a single multi-year element, which has been always a master's degree. There has been no evidence of multiyear plans containing multiple smaller training elements, something that could be explored in future research as per its high potential.

### 4.2 Research Question Two – What metrics can be used to measure effective T&D?

In order to give answer to this question the following metrics have been used in this research, which are also the common metrics used traditionally in Professional Services Organisations (Maister, 1993):

- Billable Utilisation. This is measured in percentage terms and it is defined as the number of hours that am employee in relationship to the available hours of that same employee.
- Services Sales. In is the income coming from selling Professional Services SKUs to customers.
- Delivered Revenue. Once the income is sold (Services Sales), it has to be recognised. Recognising revenue happens when delivering work to customers. It can be fixed or based on Time and Materials ("T&M").
- Services Warranty. This is traditional metric that is less commonly used. This metric represents the amount of time given to customers in lieu of a

bad executed engagement. It can be expressed in hours or, more typically, in percentage terms. The higher the Services Warranty the more time spent in non-billable work (as Services Warranty is not billable by nature) and the less available for other strategic initiatives such as Training and Development.

- Voluntary Attrition. Effective T&D Practices should help reduce attrition of teams as it focuses on professional growth. Professional growth fits into the Self-Actualisation part of the pyramid of needs of Maslow, the only one part of the pyramid on where the motivation increases as the needs are fulfilled (McLeod, 2007).

In addition to the traditional PS metrics listed above, this study proposes using the following derivative metrics:

- Variance. Variance is used to understand consistency and predictability. A metric with low variance is more desirable than a metric with high variance. Variance can no exist by itself, Variance has to be applied to a primary metric such as billable utilisation, delivered revenue or warranty for example. An alternative to Variance can be Standard Deviation.
- MDfT. Mean Distance from Target is used to understand the deviation of the attainment from target. MDfT can no exist by itself, MDfT has to be applied to a primary metric such as billable utilisation, delivered revenue or warranty for example.

An initial analysis was done by using the algorithm from Figure 4; after completing the analysis, it has been shown that the only segment that achieved all of its business targets through the four fiscal years of this study was UKI-NOR.

To discover this, the first thing that has been done was exploring training in a quantifiable manner. Table 22, below, summarises the amount of non-mandatory training, in hours, per Full Time Employee ("FTE") per Region and per Fiscal Year ("FY").

*Table 22 – Non-mandatory training hours per FTE per Region*

| **Region** | **2019** | **2020** | **2021** | **2022** | **Average** |
|---|---|---|---|---|---|
| SER-MEA | 0.00 | 92.50 | 79.25 | 65.17 | 47.38 |
| UKI-NOR | 32.16 | 87.75 | 78.76 | 59.07 | 51.55 |
| ANZ | 11.33 | 52.22 | 47.65 | 96.97 | 41.64 |
| West | 17.18 | 43.29 | 104.47 | 72.99 | 47.59 |
| East | 26.86 | 51.72 | 189.09 | 52.00 | 63.93 |
| Central | 25.60 | 85.93 | 90.75 | 49.37 | 50.33 |
| APAC (Singapore) | 10.30 | 164.50 | 92.00 | 149.50 | 83.26 |
| CEER-CIS | 25.14 | 51.50 | 157.06 | 95.36 | 65.81 |
| INDIA | 24.00 | 54.50 | 19.00 | 93.17 | 38.13 |

In order to discover effective T&D from the perspective of time invested, it is required to exclude "mandatory" trainings. For example, the technical on-boarding of a consultant can take up to 6 six weeks at full time dedication (240 hours). Not excluding these mandatory initial T&D activities will make regions with high attrition to have a high reading; so that regions having low attrition are penalised. The relevance of effective T&D happens beyond mandatory initial activities and should be more aligned with low attrition.

Another relevant piece of information in terms of finding effective T&D is correlating the data from Table 22, above, with attrition. Table 23, below, shows the calculated attrition per region.

*Table 23 – Voluntary Attrition per Region*

| **Region** | **2019** | **2020** | **2021** | **2022** | **Avg.** | **Avg. %** |
|---|---|---|---|---|---|---|
| CEER-CIS | 2 | 1 | 3 | 0 | 1.5 | 15.79% |
| East | 4 | 2 | 7 | 0 | 3.25 | 25.00% |
| West | 5 | 2 | 5 | 6 | 4.5 | 29.03% |
| SER-MEA | 0 | 0 | 2 | 0 | 0.5 | 8.70% |
| UKI-NOR | 4 | 1 | 3 | 3 | 2.75 | 11.96% |
| APAC (Singapore) | 0 | 1 | 0 | 1 | 0.5 | 22.22% |
| INDIA | 0 | 0 | 0 | 3 | 0.75 | 18.75% |
| ANZ | 2 | 2 | 1 | 3 | 2 | 23.53% |
| Central | 0 | 3 | 4 | 1 | 2 | 26.67% |

The table above shows the number of people leaving the company voluntarily per Fiscal Year ("FY") and Region. FTEs that the company has let go or that have retired or deceased are excluded. The average in % terms (Avg. %) is the attrition in respect with the size of the team for that Region in percentage terms.

At this point, a pattern of regions with significant lower attrition than others can be seen while at the same time a higher amount of T&D per FTE can be observed. These regions are SER-MEA, UKI-NOR and CEER-CIS.

Pržulj (2021) said that better trained teams make fewer mistakes as they work more effectively, with more quality and with a higher performance; for this reason, Services Warranty has been reviewed in order to discover Regions with significant lower Warranty than the others being the outcome the following:

*Table 24 – Billable Hours vs. Services Warranty Hours per Region*

| | **2019** | | **2020** | | **2021** | | **2022** | |
|---|---|---|---|---|---|---|---|---|
| Region | Bill. hours | Warr. hours | Bill. hours | Warr. hours | Bill. hours | Warr. hours | Bill. hours | Warr. hours |
| CEER-CIS | 21484 | 16 | 24815 | 121 | 41439 | 79 | 50053 | 4 |
| ANZ | 11715 | 0 | 13819 | 655 | 18038 | 215 | 13207 | 117 |
| SER-MEA | 20562 | 37 | 27137 | 150 | 25705 | 0 | 32818 | 524 |
| APAC (Singapore) | 3743 | 0 | 3442 | 71 | 5018 | 26 | 3127 | 0 |
| INDIA | 2187 | 0 | 2058 | 0 | 3448 | 202 | 9497 | 1080 |
| East | 54882 | 0 | 40061 | 61 | 27722 | 32 | 37146 | 109 |
| West | 45838 | 0 | 42407 | 108 | 41532 | 68 | 52424 | 33 |
| UKI-NOR | 59172 | 5 | 54952 | 54 | 55441 | 44 | 43375 | 0 |
| Central | 13207 | 0 | 14295 | 54 | 14891 | 63 | 22624 | 3 |

*Bill. hours = Billable time in hours*
*Warr. Hours = Services Warranty in hours*

Table 24, above, shows the total amount of work delivered to customers in hours (Billable time in hours) versus the total amount of hours that had to be given back (for free) to customers in return for a bad executed engagement (Services Warranty).

*Table 25 – Services Warranty % per Region*

| Region | 2019 | 2020 | 2021 | 2022 | Average | Variance |
|---|---|---|---|---|---|---|
| CEER-CIS | 0.07% | 0.49% | 0.19% | 0.01% | 0.16% | 0.000338% |
| ANZ | 0.00% | 4.74% | 1.19% | 0.89% | 1.74% | 0.032569% |
| SER-MEA | 0.18% | 0.55% | 0.00% | 1.60% | 0.67% | 0.003827% |
| APAC (Singapore) | 0.00% | 2.06% | 0.52% | 0.00% | 0.63% | 0.007146% |
| INDIA | 0.00% | 0.00% | 5.86% | 11.37% | 7.46% | 0.223421% |
| East | 0.00% | 0.15% | 0.12% | 0.29% | 0.13% | 0.000110% |
| West | 0.00% | 0.25% | 0.16% | 0.06% | 0.11% | 0.000094% |
| UKI-NOR | 0.01% | 0.10% | 0.08% | 0.00% | 0.05% | 0.000018% |
| Central | 0.00% | 0.38% | 0.42% | 0.01% | 0.18% | 0.000393% |

$Variance = VARPA = \frac{\sum(x-\bar{x})^2}{n}$

Previous Table 25 calculates the warranty in percentage terms as per the amount of warranty hours delivered compared to the total of billable hours that this region has delivered in a particular FY. It also provides the average and variance of each region across all 4 FYs.

Services Warranty is not considered billable work, which means that it does have a direct negative impact in both Billable Utilisation and Delivered Revenue; the highest the Service Warranty % is, the highest the negative impact in Billable Utilisation and Delivered Revenue.

Table 25 shows one region showing a significant lower number compared to the rest, UKI-NOR, with an average of 0.05%; this is as low as 102.75 warranty hours out of a total of 212941 billable hours delivered to customers across all 4 FYs.

Including the calculation of the variance reveals consistency, stability and predictability; in this study, the variance for the Region UKI-NOR is the lowest (0.000018%), meaning that it is the most stable, constant and predictable.

Another metric to check is Billable Utilisation.

*Table 26 – Consultant Billable Utilisation Attainment per Region*

| Region | 2019 | 2020 | 2021 | 2022 | Variance | MDfT |
|---|---|---|---|---|---|---|
| SER-MEA | 74.65% | 68.84% | 77.93% | 76.61% | 0.121% | 3.694% |
| UKI-NOR | 71.87% | 73.86% | 74.47% | 74.39% | 0.011% | 2.834% |
| ANZ | 47.26% | 61.05% | 81.55% | 82.25% | 2.163% | -2.784% |
| West | 76.77% | 75.89% | 53.41% | 72.42% | 0.903% | -1.191% |
| East | 77.98% | 78.29% | 61.85% | 82.14% | 0.609% | 4.251% |
| Central | 60.36% | 74.40% | 64.45% | 83.20% | 0.790% | -0.210% |
| APAC (Singapore) | 78.39% | 47.72% | 70.83% | 77.74% | 1.551% | -2.143% |
| INDIA | *NA* | *NA* | 86.19% | 83.87% | 0.014% | 14.032% |
| CEER-CIS | 68.70% | 52.74% | 66.50% | 73.90% | 0.611% | -5.353% |

*MDfT = Median Distance from Target* = $\frac{\sum Achivement - \sum Target}{number\ of\ years\ with\ data}$

*Variance = VARPA* = $\frac{\sum(x-\bar{x})^2}{n}$

*INDIA did not have billable FTEs in FY19 & FY20 hence the NA for these FYs*

Above, red-coloured values highlight a region not achieving its target for a FY while green-coloured values show a particular region achieving its target for given FY.

There are only two regions that have been able to achieve the Billable Utilisation target for the past 4 FYs, the UKI-NOR & INDIA. In order to simplify this research, the

remaining business targets have been only reviewed for the UKI-NOR as the rest of the Regions do not qualify anymore for achieving all targets through all FYs. INDIA does not qualify for further analysis as per its excessive Service Warranty, it displays 7.46% average for the 4FYs, a number that is substantially higher than the 0.05% of the UKI-NOR.

It has been seen that the UKI-NOR is the Region with the lowest variance and the lowest positive MDfT values. This shows that the UKI-NOR is the region that has deviated the least from the target while being at the same time the one that has had the more stable and consistent results; as said before, variance is an indication of consistency, stability and predictability.

Apart from Billable Utilisation, there are other two key PS targets, Delivered Revenue and Services Sales. The table below represents Achievement vs. Target for the Region UKI-NOR for Delivered Revenue for the UKI-NOR.

*Table 27 – Delivered Revenue Achievement vs. Target for the Region UKI-NOR*

| | **2019** | **2020** | **2021** | **2022** |
|---|---|---|---|---|
| Achievement | $13,699,688 | $11,961,445 | $14,187,911 | $15,095,981 |
| Target | $7,792,759 | $11,781,559 | $11,797,482 | $12,850,549 |

As can be observed, UKI-NOR attained its Delivered Revenue target through all four fiscal years. At this point, there is only one additional business performance target to review, Services Sales.

Table 27, above, was produced using Table 16 and Table 28.

The breakdown for the achievement on Delivered Revenue can be seen below in Table 28:

*Table 28 – UKI-NOR Delivered Revenue Attainment per Category*

| Category | FY19 | FY20 | FY21 | FY22 |
|---|---|---|---|---|
| Delivered Revenue | $11,367,433 | $10,123,380 | $9,974,476 | $5,140,016 |
| Delivered Revenue Fixed Fee | $0 | $26,003 | $208,679 | $178,744 |
| Subscriptions | $0 | $0 | $2,174,063 | $7,511,981 |
| T&E | $26,071 | $6,385 | $435 | $0 |
| Expiry | $2,306,184 | $1,805,678 | $1,830,259 | $2,265,241 |

*T&E = Travel and Expenses, used for Pass-Through Expenses*

Services Sales achievement for the four fiscal years studied foe the UKI-Nor region is shown below.

*Table 29 – Services Sales Achievement vs. Target in $s for the Region UKI-NOR*

| | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| | TCV | TCV | TCV | ACV |
| Achievement | $20,203,072 | $17,989,686 | $13,607,429 | $17,038,166 |
| Target | $8,191,468 | $11,756,914 | $13,042,021 | $11,018,904 |
| Achievement % | 247% | 153% | 104% | 155% |

*TCV = Total Contract Value*
*ACV = Annual Contract Value* $= \frac{TCV}{term\ of\ the\ contract\ in\ years}$

An achievement of 100% of more in Table 29 indicates that the target has been achieved. It can be seen that this has been the case across all four fiscal years.

The following table summarises the attainment of all business goals for the past four FYs in percentage terms for UKI-NOR. Anything that is 100% or higher means that the target has been achieved.

*Table 30 – UKI-NOR business targets achievement %*

| **Region** | **2019** | **2020** | **2021** | **2022** |
|---|---|---|---|---|
| Billable Utilisation | 102% | 104% | 105% | 105% |
| Delivered Revenue | 176% | 102% | 120% | 117% |
| Services Sales | 247% | 153% | 104% | 155% |

*Percentages are attainments in relation to targets*

The definition of effective implies the ability to hit all targets. However, looking at those targets alone would give an incomplete understanding of the term effective in the context of this research. This research is proposing not using only the traditional metrics that all Professional Services organisations but also two additional derivative metrics that can and should be applied to the four traditional metrics seen before (Billable Utilisation, Services Sales, Delivered Revenue and Services Warranty) :

- Variance. Variance allows to measure the dispersion of the population. This metrics becomes relevant as it does show how predictable a particular metric can be. Metrics with low historical variance indicate that they are expected to exist within a predictable and manageable range. Variance can be substituted by Standard Deviation.
- MDfT. The Mean Distance from Target is relevant to consider as it tracks the average achievement against target. Having metrics of low Variance is relevant but also it is required that those metrics are in line with their

targets. MDfT measures how far from the target the achievement of a certain metrics has been. Oppositive to what is intuitively though, overachieving can be as detrimental as underachieving. Overachieving in billable utilisation for a team means that the team could have invested more in other strategic initiatives such as Training and Development.

This research proposes using the four classic metrics for Professional Services; Billable Utilisation, Services Sales, Delivered Revenue and Services Warranty and innovates with two new derivative metrics (Variance and MDfT) that are applied to the traditional ones.

### 4.3 Research Question Three - The Bronet Model of Effective T&D

Research question three was presented as: What is a model for effective T&D that can be used by other Professional Services organisations in SaaS companies?

Figure 5 below, shows the innovative Bronet Model for effective T&D proposed in this research and how it does influence the different parts of the business, not only within Professional Services itself but also more broadly on the company as a whole (in our case the revenue generated by software-license).

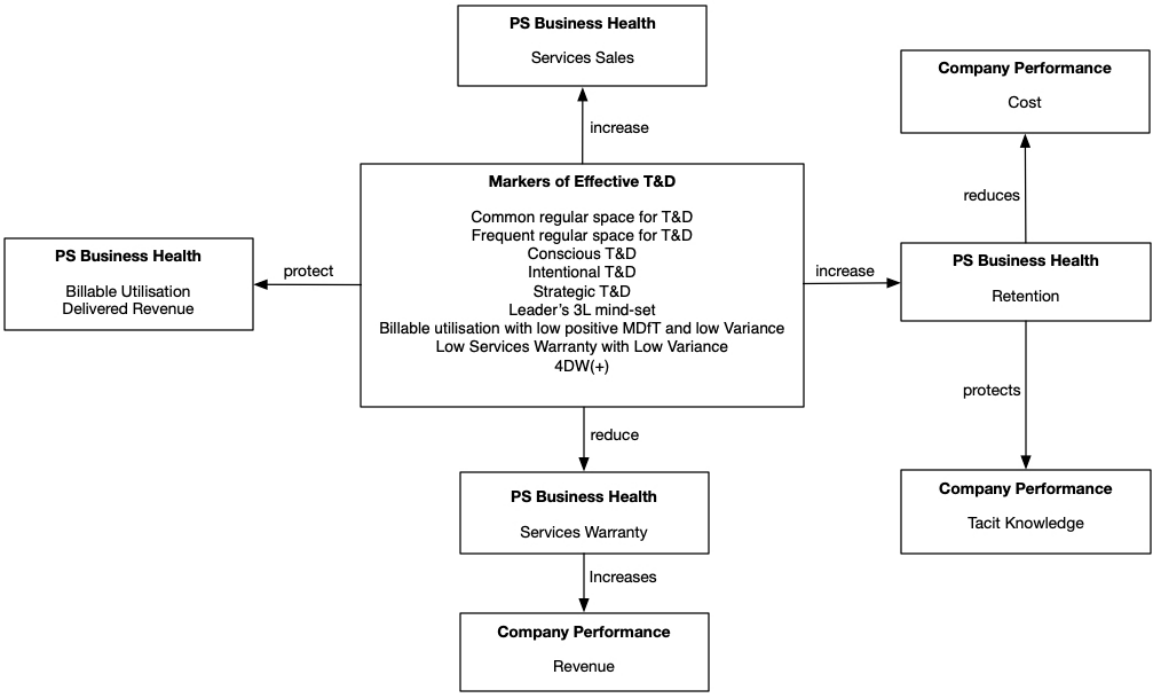


*Figure 5: The Bronet Model of Effective T&D*

The Bronet Model of effective T&D represented in Figure 5 starts with the presence of nine markers shown in the central box labelled "Markers of Effective T&D":

- Common Regular Space for T&D: There has to be a space that is that is common to all billable resources of a region. This facilitates not only self-

training but group training which ultimately enables collaboration and knowledge sharing.

- Frequent Regular Space for T&D: The spaced mentioned above, has to be frequent enough, being this weekly or bi-weekly.
- Conscious T&D: Leaders have to be well aware of the amount of training that their teams have invested in the past and what has been the tangible outcomes of that time spent.
- Intentional T&D: Leaders have to plan for the future how much time to be invest and what is the expected tangible outcome of that investment.
- Strategic T&D: When planning T&D for the future, plans have to be multi-year plans and get them aligned with the company goals.
- 3L mindset of a leader: The leader has to display Long-Life Learning, this is regularly getting training and acquiring tangible outcomes out of that training.
- Billable Utilisation with low positive MDfT and low Variance: Billable utilisation of the team has to be on target, not below and not above; also, the billable utilisation overtime has to be consistent.
- Low Services Warranty with low Variance: This means that Services Warranty has to be low and also, consistent through time.
- 4DW(+): This innovative marker indicates the presence of a model on where billable resources use 4 days a week for billable work (4DW) or 4 days and few more hours (4DW+), this marker is detailed in Table 31.

The presence of the markers listed in above produces different positive effects in both Professional Services and the company as a whole. These benefits are shown in Figure 5 has arrows and verbs attached to these arrows from the central box (with title

"Markers of Effective T&D") to other boxes representing either Professional Services ("PS Business Health" boxes) or companywide ("Company Performance" boxes) areas. These verbs and arrows represents visually the benefits of the presence of the markers from the Bronet Model of Effective T&D.

The presence of these markers directly:

1. Increases retention of employees within the Professional Services Organisation by increasing engagement and motivation of employees.
2. Reduces Services Warranty by increasing the quality of delivery.
3. Helps secure the attainment of Billable Utilisation and Delivered Revenue Professional Services business targets.
4. Increases Services Sales by increased quality of delivery and customer satisfaction.

There are other indirect positive effects derived from the above:

1. The increased retention of PS employees:
    a. Reduces the costs (direct and indirect) associated of losing an employee and the costs of hiring and training a backfill.
    b. Protects the tacit knowledge of the organisation as tacit knowledge exists withing then employees themselves.
2. The reduction of Services Warranty benefits the revenue as per the following:
    a. The less work invested in warranty the more is invested in recognising revenue (Delivered Revenue).
    b. The less Services Warranty the higher the customer satisfaction the higher the chance of renewals and expansions.

While it is true that the majority of organisations measure the three most common KPIs related to PS business health (billable utilisation, services sales and delivered revenue), they fail to understand at a deeper level the true meaning of them.

The Bronet Model of effective T&D innovates PS mechanics by proposing two additional indicators for Professional Services organisations, Variance and Mean Delta from Target ("MDft"), as two key artefacts that are traditionally rarely, if at all, used.

The relevance of Variance is essential to understand the dispersion of the total population; large organisations with a large number of billable resources could attain their billable target but a high variance could hide the endemic problem that lies in having some resources under-utilised while others being over-utilised, this incurs in a high risk of personnel churn by burn-out or lack of purpose feeling. A high positive MDtF indicates the focus of the management on overachieving targets in detriment of investing in other strategic initiatives, incurring in a higher risk of burn-out of billable personnel and the reduction, overtime, of their technical capabilities.

The Bronet Model of effective T&D proposes aiming for 85% potential billable utilisation per week. This is reflected on the 4DW (or 4DW+) marker, on where PS organisations aim for the maximum potential billable for the week to be at 85%. Not all countries have the same number of hours per week for the employees; in our study it has been found that countries with contracts for billable employees of 37.5 hours a week (the case for the UK subregion of the UKI-NOR region); in this instance these employees can enjoy a full day of T&D and admin (4DW model) because that would mean a potential weekly billable utilisation of 85.33% (32 out of 37.5 is 85.33%). However, the majority of the employees operate under contracts of 40 hours a week; the individuals of these countries should invest 2 hours on the 5$^{th}$ day (this option will be called the 4DW+) to reach the same potential weekly billable utilisation of 85% as their 37.5 counterparts (34

out of 40 is 85%). Table 31, below, summarises this and offers guidance around what to aim for when it comes to the 4DW marker based on the number of hours per week in the contracts of billable resources.

*Table 31 – 4DW Marker in relationship to the working hours a week per contract*

| Hours per week in contract | Billable hours per week | Potential billable utilisation % per week | Model | Viable |
|---|---|---|---|---|
| 37.5 | 32 | 85.33% | 4DW | Yes |
| 40 | 32 | 80% | 4DW | No |
| 40 | 34 | 85% | 4DW+ | Yes |

$$Potential\ billable\ utilisation\ \%\ per\ week\ = \frac{Billable\ hours\ per\ week}{Hours\ per\ week\ in\ contract}$$

The Bronet Model of effective T&D, as described in this section, combined with Table 31 and the derivative metrics (Variance and MDfT) are the three innovative mechanisms that this research proposes; they can be easily reused by other Professional Services organisations worldwide to build effective T&D practices and monitor proactively the specific PS parameters that not only matter for helping build healthy Professional Services organisations, but also for contributing to a T&D approach that benefits the company as whole in the form of increased revenue from software licenses.

### 4.4 Raw Data Output Samples

This section shows the first two rows of the raw data obtained by running Salesforce reports using the data collection procedures described in section 3.5.4.

Some tables have calculated fields; for the tables on where these calculated fields exist, the relevant information about how these fields have been calculated has been described in the Methodology section; for clarity, the information of the Collection Procedures and calculated fields has been referenced also in this section.

All names of individuals have been removed from the samples and substituted with the tag <NAME REMOVED>. Also, all references to any customer or account name have been replaced with the tag <CUSTOMER NAME REMOVED>.

*Table 32 – Delivered Revenue Subscriptions Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Project: Region | UKI-NOR | UKI-NOR |
| Project: Project ID | PR-033687 | PR-033687 |
| Project: Project Name | <CUSTOMER NAME REMOVED>- EaaS-L .x2 | <CUSTOMER NAME REMOVED>- EaaS-L .x2 |
| Amount (converted) | USD 11,273.99 | USD 11,273.99 |
| Miscellaneous Adjustment: Miscellaneous Adjustment Name | Expert as a Service Subscription Large - 4/25/2022 | Expert as a Service Subscription Large - 5/25/2022 |
| Project: Project Level | Level 7 | Level 7 |
| Effective Date | 25/04/2022 | 25/05/2022 |
| FY | 2022 | 2022 |

Table 32, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 10 – Subscriptions Delivered Revenue Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 33 – Expired Revenue Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Project Manager | <NAME REMOVED> | <NAME REMOVED> |
| Project ID | PR-027395 | PR-026708 |
| Project: Project Name | <CUSTOMER NAME REMOVED>-GPL Visibility 2.0 | <CUSTOMER NAME REMOVED>- GPL Visibility 2.0 ON PREM |
| Billing Type | Prepaid | Prepaid |
| Total Delivered Revenue (converted) | USD 8,040.00 | USD 0.00 |
| Total Scheduled Revenue (converted) | USD 0.00 | USD 0.00 |
| Planned Days | 15 | 24 |
| Total Delivered Days | 4.19 | 0 |
| Total Scheduled Days | 0 | 0 |
| Total Remaining Days | 10.81 | 24 |
| Total Remaining Revenue (converted) | USD 20,760.00 | USD 52,800.00 |
| Start Date | 15/12/2020 | 22/10/2020 |
| End Date | 14/12/2021 | 22/10/2021 |
| Region | UKI-NOR | UKI-NOR |
| Enablement Expiration Date | 14/12/2021 | 22/10/2021 |
| FY | 2022 | 2022 |

Table 33, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 12 – Expired Revenue

Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 34 – Delivered Revenue Regular Projects Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Region | UKI-NOR | UKI-NOR |
| Project: Project Name | DB <CUSTOMER NAME REMOVED>-Services | <CUSTOMER NAME REMOVED> PS - Services |
| Billings (converted) | USD 453.50 | USD 5,032.21 |
| Time Period: End Date | 13/04/2019 | 15/09/2018 |
| Project Manager | <NAME REMOVED> | <NAME REMOVED> |
| Billing Type | Time and Materials | Prepaid |
| Project ID | PR-011193 | PR-008978 |
| Enablement Expiration Date | 30/01/2020 | 27/01/2020 |
| Billable Hours (Internal) | 0 | 26 |
| Project Actuals Converted: Project Actuals Converted For | <CUSTOMER NAME REMOVED>-Services - USD - 2019-04-07-W | <CUSTOMER NAME REMOVED> PS - Services - USD - 2018-09-09-W |
| Time Period: Time Period Name | 2019-04-07-W | 2018-09-09-W |
| Project Level | Level 1 | Level 3 |
| FY | 2019 | 2019 |

Table 34, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 11 – Implementation Projects Delivered Revenue Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 35 – Delivered Revenue Fixed Fee Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Project: Project Name | <CUSTOMER NAME REMOVED> - Peak Upgrade - Value Realization | <CUSTOMER NAME REMOVED> - Renewal - SaaS Migration |
| Project: Practice | Professional Services | Remote Delivery Centre |
| Project: Project Manager | <NAME REMOVED> | <NAME REMOVED> |
| Project: Region | UKI-NOR | UKI-NOR |
| Project: At-Risk Project | FALSE | FALSE |
| Milestone Amount (converted) | USD 7,079.64 | USD 7,079.64 |
| Project: Start Date | 16/01/2020 | 28/01/2022 |
| Project: Stage | Completed | Completed |
| Milestone: Milestone Name | Renewal Value Realization Package | SaaS Migration Assistance |
| Actual Date | 29/01/2021 | 27/04/2022 |
| Project: Parent Region | EMEAR | EMEAR |
| FY | 2021 | 2022 |

Table 35, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 13 – Fixed Fee Projects Revenue Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 36 – Pass-Through Expenses Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Project: Expense Billing Type | Pass Through Expenses | Pass Through Expenses |
| Total Billable Amount (converted) | USD 416.36 | USD 116.73 |
| Project: Region | UKI-NOR | UKI-NOR |
| Project: Project Name | <CUSTOMER NAME REMOVED> - VO 2 - Services BIQ | <CUSTOMER NAME REMOVED> - VO 2 - Services BIQ |
| Project: Practice | Professional Services | Professional Services |
| Last Expense Date | 11/04/2019 | 25/04/2019 |
| FY | 2019 | 2019 |

Table 36, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 14 – Pass-Through Expenses Revenue Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 37 – Services Sales Raw Data and Samples*

| Field | Sample Data 1 | Sample Data 2 |
|---|---|---|
| Opportunity Geography | APAC | APAC |
| Opportunity Region | ANZ | ANZ |
| Opportunity Name | Renewal-<CUSTOMER NAME REMOVED>-Subscription Contract-00016696 | Trial Licenses + FY21 Requirements |
| Months | 12 | 12 |
| Amount (converted) | USD 141,648.17 | USD 338,892.30 |
| Close Date | 22/01/2019 | 30/07/2021 |
| Stage | 6 - Closed Won | 6 - Closed Won |
| Product Name | Prepaid Travel and Expenses - Professional Services | Prepaid Travel and Expenses - Professional Services |
| Quantity | 1 | 15 |
| Sales Price | AUD 400.00 | AUD 100.00 |
| Sales Price (converted) | USD 287.34 | USD 75.79 |
| Total Price | AUD 400 | AUD 1,500 |
| Total Price (converted) | USD 287 | USD 1,137 |
| List Price | AUD 100.00 | AUD 100.00 |
| List Price (converted) | USD 71.83 | USD 75.79 |
| Product Code | ENB-PRE-T&E-01 | ENB-PRE-T&E-01 |
| Account Name | <CUSTOMER NAME REMOVED> | <CUSTOMER NAME REMOVED> |
| Overall Services Carve (converted) | | USD 1,136.92 |

| | | |
|---|---|---|
| Regular Unit Price (converted) | USD 71.83 | USD 75.79 |
| Services Carve ACV (converted) | | USD 1,136.92 |
| Product Family | Other | Other |
| Product Sub Family | Professional Services | Professional Services |
| FY | 2019 | 2022 |
| Overall Services Carve (converted) | USD 64.65 | USD 1,136.92 |
| Services Carve ACV (converted) | USD 64.65 | USD 1,136.92 |
| Adjusted Carve TCV (converted) | USD 64.65 | USD 1,023.23 |
| Adjusted Carve ACV (converted) | USD 64.65 | USD 1,023.23 |
| Net $ ACV | USD 287.34 | USD 1,136.92 |

Table 37, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 6 – Services Sales Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year), Overall Services Carve (converted), Services Carve ACV (converted), Adjusted Carve ACV (converted), Adjusted Carve ACV (converted) and Net $ ACV were added as a new columns and calculated using the logic described in the methodology section.

*Table 38 – Billable Utilisation WW Detail Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Parent Region | EMEAR | EMEAR |
| Resource: Region: Region Name | SER-MEA | SER-MEA |
| Resource: Resource Role | Architect | Architect |
| Resource: Full Name | <NAME REMOVED> | <NAME REMOVED> |
| Master Start Date | 26/07/2020 | 02/08/2020 |
| Master End Date | 01/08/2020 | 08/08/2020 |
| Historical Credited Hours | 0 | 0 |
| Historical Billable Hours | 8 | 28 |
| Historical Calendar Hours | 32 | 32 |
| Scheduled Credited Hours | 0 | 0 |
| Scheduled Billable Hours | 0 | 0 |
| Scheduled Calendar Hours | 0 | 0 |
| Utilization Calculation Name | Master Utilization - FY2021 | Master Utilization - FY2021 |
| Utilization Detail Id | UD90526757 | UD90526764 |
| Fiscal Year | 2020 | 2021 |

Table 38, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 3 – Billable Utilisation Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 39 – Training Timecards Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Concat Notes | SAP Training Day 1SAP Training Day 2SAP Training Day 3 | SAP Lab Completion and recap on 3-day videos and presentations on prep for SAP Exam |
| ALL Notes Exclude | FALSE | FALSE |
| BLANKS | -1 | -1 |
| Summit | -1 | -1 |
| ACIP | -1 | -1 |
| Meeting | -1 | -1 |
| Levitate | -1 | -1 |
| TPW | -1 | -1 |
| Kick | -1 | -1 |
| FSO | -1 | -1 |
| Trello | -1 | -1 |
| Mindtickle | -1 | -1 |
| APM | -1 | -1 |
| mandatory | -1 | -1 |
| customer | -1 | -1 |
| shadow | -1 | -1 |
| tj | -1 | -1 |
| jam | -1 | -1 |
| interviewer | -1 | -1 |
| Compliance | -1 | -1 |
| CX | -1 | -1 |

| | | |
|---|---|---|
| 90 | FALSE | FALSE |
| Fiscal Year | 2021 | 2021 |
| Timecard: Timecard Id | TCH-09-09-2020-171727 | TCH-09-17-2020-172858 |
| Timecard: Owner Name | <NAME REMOVED> | <NAME REMOVED> |
| Milestone | Personal Training | Personal Training |
| Resource Region | SER-MEA | SER-MEA |
| Start Date | 06/09/2020 | 13/09/2020 |
| End Date | 12/09/2020 | 19/09/2020 |
| Total Hours | 12 | 4 |
| Resource: Practice | Architecture | Architecture |
| Resource: Resource Role | Architect | Architect |
| Monday Notes | | |
| Tuesday Notes | SAP Training Day 1 | |
| Wednesday Notes | SAP Training Day 2 | |
| Thursday Notes | SAP Training Day 3 | SAP Lab Completion and recap on 3-day videos and presentations on prep for SAP Exam |
| Friday Notes | | |
| Saturday Notes | | |
| Sunday Notes | | |

Table 39, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 4 – Training Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab: The following fields are calculated fields added as new columns and

calculated using the logic described in the methodology section: Concat Notes, ALL Notes Exclude, BLANKS, Summit, ACIP, Meeting, Levitate, TPW, Kick, FSO, Trello, Mindtickle, APM, mandatory, customer, shadow, tj, jam, interviewer, Compliance, CX, 90, Fiscal Year.

*Table 40 – All historical users Raw Data and Samples*

| Field | Sample Data 1 | Sample Data 2 |
|---|---|---|
| Full Name | <NAME REMOVED> | <NAME REMOVED> |
| Title | Architect | Senior Consultant |
| Salesforce User: Active | TRUE | FALSE |
| Created Date | 22/12/2017 | 11/03/2016 |
| Last Date | | 19/03/2021 |
| Region: Region Name | CEER-CIS | East |
| Salesforce User: Manager: Full Name | <NAME REMOVED> | <NAME REMOVED> |
| Practice: Practice Name | Architecture | Consulting |
| Resource Type | FTE | FTE |
| Tenure in years | 4.824657534 | 5.024657534 |
| 2019 | TRUE | TRUE |
| 2020 | TRUE | TRUE |
| 2021 | TRUE | TRUE |
| 2022 | TRUE | FALSE |
| 2019 | FALSE | FALSE |
| 2020 | FALSE | FALSE |
| 2021 | FALSE | TRUE |
| 2022 | FALSE | FALSE |
| Non voluntary attrition | FALSE | FALSE |
| Tenure in days | 1761 | 1834 |
| Geo | EMEAR | Americas |

Table 40, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 5 – Historical Users Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 41 – Non-Consultant Billable Timecards Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Resource Region | CEER-CIS | CEER-CIS |
| Resource: Account Geo | EMEAR | EMEAR |
| Resource: Account Region | UKI | UKI |
| Timecard: Timecard Id | TCH-10-16-2020-177915 | TCH-10-30-2020-181193 |
| Resource: First Name | <NAME REMOVED> | <NAME REMOVED> |
| Resource: Last Name | <NAME REMOVED> | <NAME REMOVED> |
| Milestone | 46 Days - Architect (Inc T&E) | 23 Days - Architect Daily Rate (excl T&E) BiQ |
| Start Date | 11/10/2020 | 25/10/2020 |
| Total Hours | 32 | 2 |
| FY | 2021 | 2021 |

Table 41, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 9 – Non-Consultant Billable Utilisation Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 42 – Consultant Billable Timecards Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Resource Region | SER-MEA | SER-MEA |
| Resource: Account Geo | EMEAR | EMEAR |
| Resource: Account Region | UKI | UKI |
| Timecard: Timecard Id | TCH-09-25-2019-118620 | TCH-03-13-2020-142614 |
| Resource: First Name | <NAME REMOVED> | <NAME REMOVED> |
| Resource: Last Name | <NAME REMOVED> | <NAME REMOVED> |
| Milestone | 75 Days - Senior Consultant Daily Rate (including travel and expenses) | 57 Days - Consultant (excl T&E) |
| Start Date | 01/09/2019 | 08/03/2020 |
| Total Hours | 4 | 40 |
| FY | 2020 | 2020 |

Table 42, above, represents the first two entries of the output coming from running a Salesforce report with the configuration Table 8 – Consultant Billable Utilisation Data Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

*Table 43 - Services Warranty Timecards Raw Data and Samples*

| **Field** | **Sample Data 1** | **Sample Data 2** |
|---|---|---|
| Resource: Account Geo | Americas | Americas |
| Resource: Account Region | West 1 | West 1 |
| Resource Region | CEER-CIS | CEER-CIS |
| Timecard: Timecard Id | TCH-08-02-2019-111111 | TCH-11-15-2019-125928 |
| Resource: First Name | <NAME REMOVED> | <NAME REMOVED> |
| Resource: Last Name | <NAME REMOVED> | <NAME REMOVED> |
| Milestone | 10 Days - Services Warranty | 10 Days - Services Warranty |
| Start Date | 28/07/2019 | 10/11/2019 |
| Total Hours | 16 | 15 |
| FY | 2019 | 2020 |

Table 43, above, represents the first two entries of the output coming from running a Salesforce report with the configuration from Table 7 – Warranty Timecards Collection Procedure. The output was imported into a single Microsoft Excel file into its own single tab; the field FY (Fiscal Year) was added as a new column and calculated using the logic described in the methodology section.

### 4.6 Interviews

This section compiles the answers given to each of the questions in this questionnaire by each of the regional leaders. Names have been omitted to preserve anonymity of the respondents. In this study some of leaders managed more than one region, therefore in the questionnaire below they will be grouped by the regions they manage.

*Table 44 – Interview answers to Question 1*

| Region(s) | Answer |
|---|---|
| North, West & Canada | We do it in the following two different ways:<br>The first one is via formal education using internal options such as Mind Tickle or available e-learning material which allows tracking.<br>The second one is via Resource Requests. Billable resources have a milestone assigned and they can submit timecards against that milestone in Financial Force. Managers have to approve these timecards for billable resources to be credited. |
| LATAM | Yes, we do. Delivery Managers during one t ones with their billable agree on a training plan.<br>Billable resources submit timecards against the Training milestone; although the data exists in the system, it is not tracked proactively |

| | |
|---|---|
| East, South | Billable FTEs are asked to track their training time. This is done in Financial Force when they submit their training against that milestone. However, sometimes they do it and sometimes they do not. |
| UKI-NOR | Billable Resources use Financial Force, everyone has a pre-approved assignment for all Fridays of the year on where these billable FTEs can submit their training timecards against. This way they get credited for that and tracking is feasible. FTEs are consistent on submitting these TCs as their bonus is against utilisation and training is one of the few milestones counts towards utilisation worldwide. |
| APAC | Billable Resources can request training assignments, once created they can submit timecards against the training milestone in Financial Force for the approved dates. |
| CER | Billable Resources use Financial Force, everyone has a pre-approved assignment for all Fridays of the year on where these billable FTEs can submit their training timecards against. This way they get credited for that and tracking is feasible. FTEs are consistent on submitting these TCs as their bonus is against utilisation and training is one of the few milestones counts towards utilisation |

| | |
|---|---|
| | worldwide. (This is exactly the same as UKI-NOR and consistent with all EMEA regions). |
| SER-MEA | Billable Resources use Financial Force, everyone has a pre-approved assignment for all Fridays of the year on where these billable FTEs can submit their training timecards against. This way they get credited for that and tracking is feasible. FTEs are consistent on submitting these TCs as their bonus is against utilisation and training is one of the few milestones counts towards utilisation worldwide. (This is exactly the same as UKI-NOR and consistent with all EMEA regions). |

*Table 45 – Interview answers to Question 2*

| Region(s) | Answer |
|---|---|
| North, West & Canada | You can look at what certifications FTEs have attained for the ones that have invested in training. (The word can represent a possibility, when asked about when they actually do it then nothing specific has been found; the answer represents a potential but not a reality), |
| LATAM | We do not measure tangible outcomes, |
| East, South | We use a system called TeamSpace and another one called Talent Space.<br>(When asked about if we could see these systems and the data contained in them, all that has been seen was empty boxes where they supposed to have those attainments. Here the principle of Illusory Superiority was manifested)<br>We use one to ones to define the goals and propose what training to take.<br>(When asked about written examples there were none, again the Principle of Illusory Superiority manifested) |
| UKI-NOR | Yes, typically during every single Quarterly Business Reviews ("QBRs") on where we have a section for it.<br>(When asked about examples of QBRs a section for this purpose was found, this section appeared consistently across different quarters). |

| | |
|---|---|
| APAC | Not really |
| CER | It is not a formal performance measure, but managers do review that every quarter. This is reviewed during QBRs. (When asked about examples of these QBRs, no evidence was found that could clearly support this claim; this is another manifestation of the Principle of Illusory Superiority). |
| SER-MEA | Not done proactively |

*Table 46 – Interview answers to Question 3*

| Region(s) | Answer |
|---|---|
| North, West & Canada | We do not have any regular reviews for this. When the company assigned a T&D budget then the company planned and tracked attendance but this is nothing that this group has done proactively. |
| LATAM | We know that the data is in the system, but there are no regular proactively reviews done by this team. |
| East, South | We do not proactively look at this. |
| UKI-NOR | We do it in our regular quarterly business review meetings (Consistent with answer to question number two). |
| APAC | Not really. |
| CER | We do this during QBRs (answer to question number two revelated that there was no evidence of any type of regular reviews of T&D investment, which shows again the presence of the principle of Illusory Superiority). |
| SER-MEA | We do it monthly with his management team, on the progress of the training, for some specific people during 121. They look at people that have been lacking specific mandatory certifications, in our case this is ITIL as it is the only one mandatory. (Non-mandatory type of |

trainings are of special interest, this answer revealed that only mandatory type of trainings were tracked).

Figure 6, below, is a screenshot from a QBR in the region UKI-NOR. Point 3 was used to review what training has been done by each billable resource (time spent) and what has been achieved out of that investment.

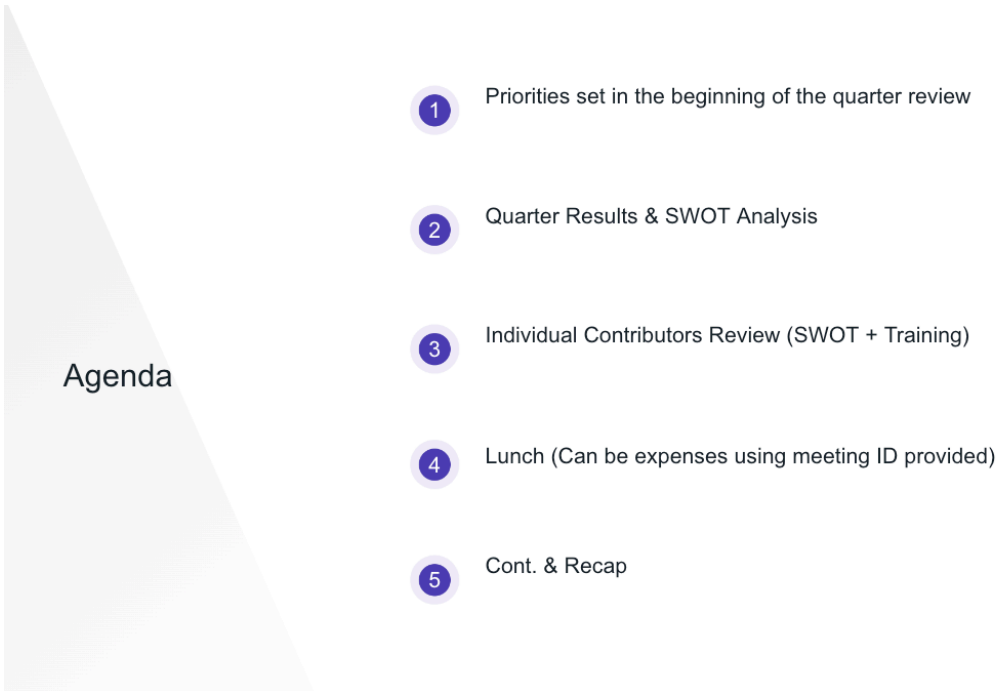


*Figure 6: QBR evidence of strategic proactive T&D*

*Table 47 – Interview answers to Question 4*

| Region(s) | Answer |
|---|---|
| North, West & Canada | The idea was to use Talent Space as a framework for PDPs.<br>(When asked for examples of this in Talent Space and looked at the detail of the content of it there was no reference to dates, or courses, or anything specific. It was only one small box which was empty). |
| LATAM | We use Talent Space as a framework for Personal Development Plans. There is a section that can be used for this purpose.<br>(When looking at the detail of the content of the section above there was no reference to dates, or courses, or anything specific. It was only one small box which was empty; the box itself was as very small text-box that could be barely used for anything).<br>We also discussed PDPs during 121 meetings with employees. We, however, do not have a standard template, what we have is the notes from the 121 discussions and on when we discuss and agree on what skills to develop and how (courses/trainings).<br>(When asking about the real examples of those notes, nothing about anything specific, deadlines, expected |

| | |
|---|---|
| | duration, tangible outcomes or goal alignment was found). |
| East, South | We have informal non-SMART PDPs. The way we do it is being opportunistic by training a skill when need of the business appears. There is no strategic training. (This is a tactical approach). |
| UKI-NOR | Yes, they do but not all of them. It is optional to have them. The format is not formal, it is a sequence of soft agreements during the 121 between managers and (direct) reports. |
| APAC | We do not have PDPs |
| CER | We use Talent Space for this. (When asked about real examples. We have been presented with two on where the small boxes had some notes. These notes only indicated what skill or training to take but did not have deadlines, expected outcomes and no goal alignment was present). |
| SER-MEA | He had it as a Manager, but not since he became a Regional Director. This is something that is not actively looked at. There are no outcomes or deadlines specified. |

The figure below is an anonymised screenshot that shows the reality found about how Talent Space was used for Personal Development Plans.

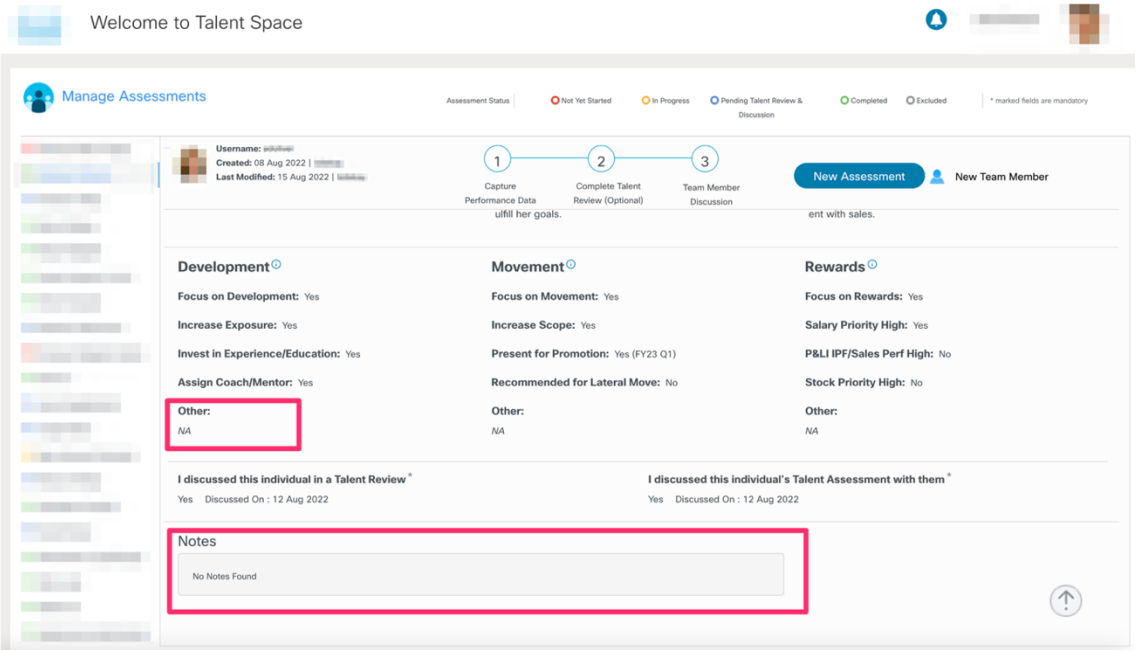


*Figure 7: Talent Space Evidence*

Figure 7, above, shows a screenshot of the real examples seen when requested for more information on how Talent Space was used for Personal Development Plans. The red squares represent the spaces that have been claimed that were used for the purpose of PDPs. Not only all cases reviewed were blank but also the design of them do not indicate that it can be used in any meaningful way.

*Table 48 – Interview answers to Question 5*

| Region(s) | Answer |
|---|---|
| North, West & Canada | A couple of months last time I visited Talent Space I did a review, but nothing since then.<br>(However, it has been observed that Talent Space lacked any relevant PDP information). |
| LATAM | Before the Focal Review (Focal Reviews happen twice a year) they reviewed all FTEs. They reviewed about achievements opportunities for improvement so there is a space; done it twice a year. |
| East, South | He does it with his management team quarterly. He does not have a formal QBR as they do not review their business. They do a semi-SWOT analysis and everyone proposes actions to improve performance of individuals.<br>(A Performance Review is not reviewing PDPs). |
| UKI-NOR | During the QBR we go one by one and review what has been done in the quarter in terms of hours spent and tangible achievements. We also see what the plan for the upcoming quarter is.<br>(This is in-line with the reviewed decks used for the QBRs). |
| APAC | NA. |
| CER | Yes, they review that twice a year. Beginning of the FY and end of FY achievements check. |

| | |
|---|---|
| SER-MEA | In terms of deadlines, he is open, he does not put time boundaries unless items go on for a long time, something he had done in past on few occasions. He covered the specific example of one person that was learning French for a. long time without any evidence of progress. |

*Table 49 – Interview answers to Question 6*

| Region(s) | Answer |
|---|---|
| North, West & Canada | Nothing.<br>There is a lot of autonomy so each Regional Director has a different approach but to his knowledge there is no common space for people to work towards T&D together. In the past they used to have "Experts" in certain areas to showcase how to do certain tech things, they called this Knowledge Central. For example, when they had a shortage of SAP skills, they used these sessions to increase exposure; they did part of theory and practice too. Entire Americas team. They do this but it is not a regular cadence; Some people believe that these spaces are very useful as the presenters showcase their skills (recognition) and the enablement aspect allows people to try technologies in a safe space where they can fail. Last time happened several months, nothing in Q4 so that would be 4 or 5 months ago. |
| LATAM | We have Tech Sessions; these are presentations around certain technologies. Examples are Open Telemetry or Secure App. There has been at least once in the past two weeks. These sessions are just slides, there are not practical. |

| | |
|---|---|
| East, South | We do enablement Fridays every other week. He is supportive of all Fridays and doing as much T&D as possible, not going beyond the billable target. The start and end of the call (session) there is a session (governance). Some trainings are common, from the team to the team. |
| UKI-NOR | All Fridays are generally out of billable work, we use Fridays for T&D, admin work and in some cases also for extraordinary support to customers (billable).<br>Once a month there is a technical challenge that typically takes the whole day. Not everyone can attend but we typically see around 50% of the workforce attending. It is very practical. We plan about exercises than happened on a customer and can happen in the future in others, or something that we believe that can happen in the future to other customers without having happened yet. |
| APAC | We have sessions once every month. These sessions are for knowledge sharing, an architect prepares the topic to share and delivers the session. These are very practical. |
| CER | Everyone is out of the billable planner on Fridays, so that they can do T&D, Admin and other productive activities. Although, if required, some do billable work is done too. |

| | |
|---|---|
| SER-MEA | Fridays, they are fully blocked out for T&D and Admin. The exception is with few individuals but the general rule is that Fridays are used by everyone for T&D and Admin. |

*Table 50 – Interview answers to Question 7*

| Region(s) | Answer |
|---|---|
| North, West & Canada | No, he is not doing anything special. But he is doing the BetterUp (BetterUp is Coaching Programme, which interestingly is falls into the category of T&D for a leader; however, during the interview it has been observed that although he was enrolled in BetterUp, session have not been followed up with). |
| LATAM | He does not. He is so busy that he has to attend other things. |
| East, South | He does not do it formally; he reads a lot and listens to webinars but no-one tracks it. |
| UKI-NOR | Yes, I take this very seriously. Multiple Masters' Degrees and industry accepted certifications. |
| APAC | Yes, but only a 2-day course in the past years -> Data story telling company course. |
| CER | Mental fitness training via a personal coach. It helps him develop him in emotional intelligence. This is constant. He invests a lot in emotional intelligence and mental resilience. |
| SER-MEA | Yes. RevRec training ongoing. CMI Level 5 Award in Management and Leadership. 2021. |

### 4.6 Conclusion

This research has given answers to the three research questions. It has also produced two innovative derivative metrics, Variance and MDft, that can be applied to the classic Professional Services metrics to understand effectiveness in the context of Training and Development.

Additionally, it produced the Bronet Model for Effective Training and Development, a model that can be used by other Professional Services organisations around the Globe to maximise Revenue (from PS and from software licenses), Retention and to protect Tacit Knowledge.

Also, Table 31 – 4DW Marker in relationship to the working hours a week per contract, proposes a specific distribution of time of billable resources that enables Professional Services organisations to hit their billable utilisation targets allowing them time to develop their own teams.

It has been seen how the UKI-NOR region used this model successfully; it is even more commendable seeing that this achievement happened under negative circumstances such as a Global Pandemic and BREXIT, meaning that under normal and more stable circumstances other organisations should be able to achieve this easier.

It has been observed how effective SMART Challenging can be during the interviews as a mechanism to counter the principle of Illusory Superiorly, a principle that manifested itself multiple times through the answers given by some of the leaders.

# CHAPTER V:

# DISCUSSION

This chapter, which according to DSR is step 10 (Figure 4), shows how the results have been achieved and what part of the literature is related to each part of the process that led to the results described in the previous chapter.

## 5.1 Discussion of Results

The results obtained have been in-line with the literature reviewed; improved retention rates, improved business targets attainment and increased quality are examples of the observations from the results of this study. In any case, it cannot be determined to what extent effective T&D practices have been a contributing factor to the success the regions that displayed the markers that constitute effectiveness, the truth is that these systems are complex and unfortunately, cannot be studied in isolation, there are some many external variables that influence the outcome; but it has been the objective of this study to determine such a thing. The objective has always been the look for a definition of effectiveness and the look for a model that can be reused by other organisations worldwide, the criteria has been finding a region that managed to achieve all business targets across all four Fiscal Years of the study displaying effective T&D policies.

## 5.2 What does "Effective" T&D look like?

Understanding what does "effective" mean with regard to T&D is complex; probably giving one single static definition of it would not produce any meaningful answer. An alternative and more feasible option is finding markers, this approach could help other organisations discover if their practices have signs of effective T&D and what to look for when building effective T&D policies.

It is also required to understand how different regional leaders in charge of the different segments studied deal with T&D, what things they have in common and if those different approaches display behaviours that align with the literature covered in section chapter II; for example, if a leader displays a life-long learning mindset (Caves, 2018; Kotter, 2012) or if the leadership teams takes a proactive and strategic approach to T&D by including it in regular reviews and by promoting SMART Strategic Personal Development Plans ("PDPs") instead of tactical PDPs. For this, the leaders of all Regions have been interviewed through structured interviews and the outcomes of those were correlated with the data that has been collected and processed. For this, the following questions should be clarified:

- Do leaders know how much has been invested into T&D?
- Do leaders know what the outcomes have been?
- Do leaders prioritise over-achieving targets over T&D?
- Are leaders intentional and proactive with T&D?
- Do leaders review with their management teams what has been done and has been planned?
- Do leaders use SMART Strategic PDPs? Do they allocate regular spaces for FTEs for T&D?
- Do leaders make FTEs accountable for a specific outcome(s)?

These questions helped reveal some characteristics of effective T&D, the presence of this characteristics has been organised in this study in the form of markers. However, there is the possibility that markers can be missed as per simply not being them present in the sample of this research. The intention has been to discover a meaningful "starting" guide that can serve others. For this purpose, after reviewing all interviews and

analysing all available data, Table 19 was built as a guide. This table contains a list of markers that could help reveal, when present, the existence of effective T&D.

Caves (2018) and Kotter (2012) pointed out to the relevance of having leaders mind a Life-Long Learning ("3L") mindset, this allowed a potential marker to be considered and therefore a question specifically designed to discovered this has been added to the questionnaire.

Developing Plans that are multi-year becomes relevant, especially if they are aligned with company goals (Johnson, 2005). Recruiting, Retention and Revenue should be key company goals for building successful services organisations (Allen, 2004). For this reason, having a goal for average tenure per FTE seems a good practice; this means that setting a target of 4 years for average tenure, requires alignment with building multi-year PDPs; ideally 4-year long plans as by doing so retention it could be maximised towards the target 4-year target; therefore, justifying a strategic approach to PDPs.

Employees in Professional Services firms tend to join for careers, rather than just for jobs (Vaiman, 2008); unfortunately, Professional Services firms are limited by their own structure in terms of promotions, the career path is limited and often represented as a pyramid on where higher roles are more scarce affecting the career paths available to employees (Maister, 1993). Although companies cannot offer higher roles for all employees, they can support the development of employees towards acquiring the skills necessary to make FTEs ready for those higher roles; this is the second fundamental aspect of the Strategic aspect of PDPs. Building plans that align employees towards becoming ready for their next level from an early stage in a multi-year format maximises retention in terms of average tenure affecting ultimately all other relevant metrics. This also means that leaders of the organisation have to be conscious and intentional when it comes to devising an effective T&D culture through Strategic PDPs.

During the interviews some leaders answered “yes” quickly to some of the questions. For example, when asked about if their FTEs have PDPs, a significant proportion of leaders answer yes. However, when asked for real examples to review the details behind the answer, either their FTEs did not have PDPs at all or the format presented did not qualify for a PDP. This is phenomenon was described as “Illusory Superiority” (Buunk and Van Yperen, 1991) and also as “the sense of relative superiority” (Headey and Wearing, 1988) and is crucial to take it into account when conducting these type of interviews; in order to find meaningful answers, it is needed to dig deeper in pursue of the fine details behind every answer.

### 5.3 Effective T&D and Business Health

Knowing if effective T&D can exist in PS in SaaS companies without compromising its ability to attain all business targets for a long period of time (in this research four fiscal years) needs to be answered with regard to the specific context of this research. The classic approach to measure the business performance of Professional Services in SaaS organisations, is by using the following three KPIs:

- Billable Utilisation
- Services Sales
- Delivered Revenue

This context offers the possibility to produce a regional segmentation, a region is lowest level in terms of targets. It is needed to assess all regions against all of these three targets through all 4FYs. In order to simplify this analysis, a staged-driven approach has produced on where each stage represents one of the three indicators shown above, disqualifying any region for further assessment in following stages if that region did not attain its target for all of the FYs; the full algorithm can be seen in Figure 4. It was predicted that by using this method, have fewer regions should survive as progressing

from stage to stage; the analysis started by looking at billable utilisation first. This revealed that only the regions UKI-NOR and INDIA attained its billable utilisation targets for all FY with data (4 FYs for UKI-NOR and 2 FYs for INDIA). At this point only these two regions survived so the analysis, the analysis from this point focused on these. INDIA did not qualify for further analysis as per having the indicator "Services Warranty" too high (7.46% average). Services Warranty is one way of measuring Services quality as better trained teams make fewer mistakes as they work more effectively as per the higher quality (Khan, 2012; Pržulj, 2021).

Attrition is also a key parameter; it has been already pointed out in the literature that T&D enhances motivation and how this links back to the work of Maslow and Herzberg. A region with effective T&D should have attrition levels lower than the average of the others (Crnomat, 2008; Salas et al, 2012).

For this reason, understanding how many hours of T&D each region invests per FTE becomes relevant. Discarding al mandatory T&D is required when looking at the number of T&D hours; the reason for this is because it is a common practice in the Industry to have an initial technical on-boarding process for new hires, this is used to train FTEs on the solution(s) of the company. In this case study, the company had between 4 and 8 weeks of full-time training depending on the role and ability of the FTE. This is the equivalent of 160 to 320 hours per FTE; Regions with high attrition will have a higher T&D per FTE reading, producing a false result. In order to clean this reading, it is needed to exclude all mandatory type of training so that a clearer objective view of this particular indicator can be analysed.

When assessing these three targets, two additional variables have been included: Variance and Mean Distance from Target ("MDfT"). The reason for this is that a consistent pattern that exists for a prolonged period reveals intention and proactivity (it is

unlikely to be consistently lucky for a long time); it is also a sign of healthy business as it does also enhance predictability; having a business indicator that is stable and predictable (and in-line with expectations) is an indication of good business health.

The results have been cross-checked on each region for average of non-mandatory T&D hours per FTE with Services Warranty (let us remember that Warranty is used as a quantifiable indicator for quality) and the three main business indicators (Billable Utilisation, Services Sales and Delivered Revenue). After doing this, the key regions with low Services Warranty, high Services Sales achievement and with low positive MDfT and low Variance in Billable Utilisation and Delivered Revenue were identified.

During the analysis of training timecards many inconsistencies have been found. There is a high number of timecards that contained activities that are not related to training or development. Examples of inconsistencies are TCs related to internal meetings, preparation or pre-sales activities. In other cases, some timecards came with blank notes. The definition of what training counts or does not count has not been set, this is the reason why it has been decided not to define effective in relationship with the number of hours invested in training; instead of that, the responses provided in the interviews revealed that three high-achieving regions replied that Fridays were left for T&D and Admin activities, proposing a new model of working during the week, the 4DW model.

There is a relevant consideration to make when defining or understanding the 4DW marker. When it comes to contracts, not all countries specify the same number of hours per week. While the majority of the countries specify 40 hours per week there are some that set it to be 37.5 or 35. This has implications when it comes to calculating billable utilisation attainments of individuals. An example is the U.K., which has contracts of 37.5 hours per week for all billable resources. In this instance, a resource that

works 8 hours a day 4 days a week on billable work is achieving a billable utilisation of 85.3% for that week, while the same model on a country with 40 hours a week will produce just 80%.

The region SER-MEA did not qualify to progress in the analysis for failing in achieving its billable its utilisation target in FY2020, falling short of 3 points. As the 4DW model seems to work well for contracts of 37.5 hours a week or less, the equivalent to a 40-hour per week option would have been not having the 5$^{th}$ day for T&D in full (8 hours) but only 6 hours while using the other 2 hours of the day for billable work (which could be invested in billable activities such as follow-ups, report writing and preparation for the following week), see Table 31.

Billable utilisation is always calculated in relationship to the amount of available calendar hours on a week compared to the number of hours worked on billable work; the number of hours on a calendar week is limited by the different factors including the number of hours a week per contract.

It can be seen above that when using the most common 40-hour a week approach, the option that aligns the most with having a full day a week when having 37.5 hours a week contracts is having a day on where 6 hours are invested into T&D and Admin while leaving the remaining 2 hours of the day for billable work; by doing so now both contract options (countries that have 37.5 hours and week the ones that have 40) facilitate a potential 85% of billable work per week.

Had SER-MEA chosen 4DW plus two hours on Fridays (4DW+ model), probably it would have achieved the billable target as the 4DW+ model facilitates 5 additional billable points per week and SER-MEA fell short of only 3. When calculating time allocated for Training and Development, it is key to consider these small differences as neglecting them might impact the ability to attain the billable utilisation target.

### 5.4 The Cost of Attrition

The cost of losing a billable employee depends on their annual salary. The SHRM stablished direct costs of losing one employee between 50% and 75% of their annual salary while the total cost can be between 90% and 200% of their annual salary (Joinson, 2000).

In this study, two types of Consultants have been studied, Regular Consultants and Senior Consultants. The median annual salary for a Regular Consultants in 2022 in the business unit of the company studied in this research was $142,150 while for a Senior Consultant the average annual wage was $164,400. Using this figures, and according to Joinson (2000), the direct cost of losing a Regular consultant sits between $71,075 and $106,612.5 while the total cost is in the range that goes from $127,935 to $284,300. For a Senior Consultant the direct cost goes from $82,200 to $123,300 and the total cost between $147,960 and $328,800.

The attrition for the four Fiscal Years studied revealed that in the United States only, the Professional Services team of business unit of the company studied in this research lost 31 billable resources. The total cost of losing 31 employees is in the multimillion range; being more specific, it is between $4,58M and $10.19M.

When looking at the soft costs, tacit knowledge should be the one to consider seriously. Protecting the loss of tacit knowledge is essential in Professional Services organisations; knowledge can be classified as explicit (or articulable) and implicit (or tacit) (Liebeskind, 2009). While explicit knowledge can be articulated and therefore easily transferred, tacit knowledge cannot be articulated; meaning that is difficult to transfer (Liebeskind, 2009; Teece et al, 1997), Additionally, trade secrets laws apply only to knowledge that is codified meaning that tacit knowledge is not protected (Liebeskind, 2009). Vaiman (2008) said that knowledge sharing is another essential strategy that

should assist the firm in protecting its tacit knowledge. One of the findings was that there are different options that facilitate knowledge sharing in PS organisations, being one once-a-week meetings of all FTEs. This explains why effective T&D policies should include common and frequent regular spaces for knowledge sharing as well.

### 5.5 The Bronet Model of Effective T&D

The Bronet Model of Effective Training and Development joins all of these dots by looking at regions that have been successful in attaining their business targets and discovering what markers should exist to call a T&D policy effective.

Organisations that display all of the markers in the model should be well positioned to increase their quality of service, this can be quantified by the reduction of services warranty; this should increase the company revenue from both license software and services sales. These organisations are also in a position to reduce attrition, and by doing so, reducing the costs associated with loosing highly skilled personnel; let us remember that only for the United States for the four Fiscal Years of this studied, these costs were in the range that goes from $4.5M to $10M; additionally, improving attrition levels protects the loss of tacit knowledge. And finally, what is essential to all PS organisations, it does work also protecting billable utilisation and delivered revenue attainment of targets.

### 5.6 Illusory Superiority and SMART Challenging

As expected, the Illusory Superiority phenomenon has been observed multiple times during the interviews.

For example, question number four (Does your team (direct and indirect members) have PDPs?) revealed that all leaders but one (APAC) replied positively to this question. Using SMART challenging to reveal the S part of the SMART acronym (Specific) showed that in fact Personal Development Plans were not present. This study revealed leaders making a reference to a system (Talent Space) that could have been used for that purpose although evidence of its use has not been found; When looking at the detail of this system, it has been observed that all it had is a small box with the title “Other” and a Notes box at the bottom, these two boxes are no for purpose.

Another example is question number two, on where different leaders wanted to believe that they tracked the outcomes of T&D; when these leaders replied that they did and SMART challenging was applied by asking for specific examples,  no evidence could be found that they did what they claimed they did.

For this reason, questionaries alone can give an unreliable picture from the reality. Specially if questionaries are self-driven and not guided by an interviewer that can dig deeper into the answers given. Analysing automatically those questionnaires could be challenging and results, as per the Illusory Superiority phenomenon, could  become highly unreliable.

SMART Challenging is intended to use follow-up questions to understand the specific details behind one answer. It is also intended to understand if the answer can be measured, if it is time-bound (that would for example to see if the answers given apply to the time range of the study), and if the answer given is realistic and achievable. This SMART Challenging technique has been proven useful to compensate for the Illusory Superiority phenomenon.

# CHAPTER VI:

# SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

This section reviews this work, starting with a high-level summary and going through the implications, recommendations and final conclusions of the purpose, motivation and results.

## 6.1 Summary

During this study it has been reviewed if effective T&D can exist in Professional Services organisations in SaaS companies; certain markers have been discovered; these markers can help identify the presence of effective T&D policies in these type of companies in PS teams.

Business metrics have been analysed on different segments (regions) and only one region, UKI-NOR, achieved all targets through 4 FYs consecutively displaying also effective T&D markers. It is relevant to highlight this achievement happened under two negative influencing factors: A global pandemic and BREXIT.

It is not possible to link that effective T&D has been the cause for this achievement, not even to what extent it contributed to the success of this region; however, that was not a question for this study, the question has been always if effective T&D practices can exist without impacting the ability to attain all targets and the answer has been positive.

## 6.2 Implications

PS organisations in SaaS companies can now prioritise T&D over overachieving their business targets, there is no reason to think that by doing so the organisation has to sacrifice business performance. In fact, it has been found higher revenue performance (Services Sales), better predictability (lower variance in key business metrics) and higher

quality of delivery (lower services Warranty) when T&D is set in place according to the markers listed in the Bronet Model of Effective T&D. Better levels of retention are also present; this improves the ability of the organisation to use their resources more effectively (less effort in hiring and onboarding new employees, less time invested in working with customers on service warranty activities, better ability to forecast different aspects of PS) while protecting their tacit knowledge at the same time.

The list of markers in the Bronet Model of Effective T&D can help other organisations build-up effective T&D practices that can contribute to better Retention and Revenue. These markers can also be used to assess the different parts of the organisation to discover what is present and what is not, to then use the missing markers as the guide towards building a model that can lead to a better outcome for both the company and employees.

The Bronet Model of Effective T&D facilitates a map for Professional Services organisations in SaaS companies, enabling them to maximise retention of their employees and to protect their tacit knowledge by building T&D practices that are strategic, multi-year (aligned with the average tenure goal), intentional and conscious with common and regular spaces for knowledge sharing and on where leaders display a 3L mindset.

The 4DW or 4DW+ marker can be reused by other PS organisations to focus on better long-term skills growth and quality of service with the ultimate intention of producing higher revenue and retention.

This generalisation is step 11 (Figure 4) in Design Science Research.

### 6.3 Recommendations for Future Research

One of the areas that can be improved is the one around the markers. What other meaningful markers can exist that have not been seen in this research? Another aspect

would be understanding the relevance or weight of each of the markers, which ones contribute more than the others and/or to what extent each marker contributes?

Something of high interest is the Strategic PDPs marker. The reason for this is that organisations should have an average tenure goal for their active workforce, this goal could be used to align the length of PDPs to maximise its retention potential; organisations that not only facilitate time but also partially of fully fund it could generate tenure agreements on those PDPs, binding FTEs to the full length of the plans plus an additional time. While doing this research, some billable FTEs have this to a smaller extent, however, just for when they aim for a single bigger goal such as an MBA; Being smarter at building multi-year binding PDPs that consolidate multiple small trainings could maximise the retention of employees even more. Studying this point including a comprehensive ROI analysis would be beneficial, especially if the research includes how much the average tenure improves with this approach, computing the aggregated savings of not losing FTEs.

Building Strategic PDPs should contain, ideally, multiple elements covering at least two or three years. They also should align company goals with individual goals (career goals) which something that Johnson (2005) highlighted by saying that "when a company helps its employees develop expertise that furthers their professional development and enables the company to address its thorniest challenges, both types of loyalty align powerfully." This is the first point that Johnson lists when defining how to balance career and company loyalty. The template below could be used and studied in future research.

Name: <Your name here>
Role: <Your current role here>
Career Goal(s): <Your high level goals here>
Geo: Americas

Manager:
Director:
VP:

| T&D Element | Start ETA | Completion ETA | Tangible Outcome(s) |
|---|---|---|---|
| SAP Delivery Practice | Q1FY23 | Q3FY23 | SAP SME<br>SAP HANA Certified |
| MSc Data Science | Q4FY23 | Q4FY25 | MSc Diploma |
| | | | |

***ALL PDPs*** *have to be reviewed and approved by the Manager, Director and VP. They will comment in this document to make their approval visible.*

*Figure 8: Example of a potential Strategic PDP template*

Something not covered is understanding how the UKI-NOR region managed to attain all of its targets through four consecutive FYs on where two exceptional negative events, COVID19 and BREXIT, happened at the same time. This could be another option for future research; although this question is complex in nature as most probably there are many contributing factors for this.

Another line of research, given the size related limitation pointed out at the end of section 3.8, would be analysing at a larger scale, across multiple Professional Services organisations in SaaS companies, the presence of the markers from Table 19 and cross check them with the business results to validate these markers furthermore.

SaaS companies have a unique set of attributes meaning this research could be extended to other different teams (in SaaS companies) such as Pre-Sales, Product Management or Technical Support for example. Although these groups are different in nature, specially from a P&L point of view; In SaaS companies, Pre-Sales and Sales have Revenue and Cost while Support and Product Management have only Cost; this means that it would be easier to re-use the Bronet Model of Effective T&D of this research with organisations with full P&L (Revenue and Cost) and focusing on the improvement of the

relevant business targets of those organisations instead the ones that belong to Professional Services.

### 6.4 Conclusion

The purpose of this study has been to understand if Training and Development can be used to influence, in a positive manner, Revenue and Retention in Professional Services organisations that belong to SaaS companies.

To date, companies pay little attention to the financial costs of attrition and less to the soft-costs produced by the loss of tacit knowledge linked to attrition; and while research has proven that T&D can have a positive impact in either personnel or the business, there has been so little work done around combining both with the purpose of understanding what does “effective” look like when it comes to T&D in Professional Services in SaaS companies.

Companies, especially in the IT industry, do not understand how effective T&D practices can influence both Revenue and Retention; and when speaking about Revenue it is not only about services sales revenue but also about software-license sales revenue too.

The motivation of this work is about changing the world two-fold, first by building a new model for Professional Services organisations in IT on where people can have a more balanced and purposeful life while enjoying an always knowledge-growing career and secondly, on where companies can benefit from a model that offers better company results in the form of increased Revenue and Cost reduction.

Giving a static definition of “effective” in the context of T&D, as previously said, would not produce any meaningful answer. The alternative that produces a more feasible option comes in the form of markers; using markers better serves other organisations in terms of developing effective T&D practices.

After analysing data from four fiscal years using the algorithm shown in Figure 4 and interviewing the leaders of the different segments, this study developed Table 19 showing a comprehensive list of markers that when present reveal the existence of effective T&D practices. The innovative Bronet Model for effective T&D based in markers presented in this paper, shown in Figure 5, combined with the guidance on time distribution of billable resources given in Table 31 and the derivative variables Variance and MDft, offers a new way of approaching T&D in PS organisations; a way that contributes to first, protecting all business targets of those PS organisations and also, secondly, contributing to the bigger goals of the company in the form of increased revenue of software licenses and retention of talent and tacit knowledge.

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