

**AN INVESTIGATION OF THE NORMAL TAX
CONSEQUENCES FOR NON-RESIDENT CLOUD
COMPUTING SERVICE PROVIDERS IN SOUTH AFRICA**

by

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ABSTRACT

Cloud computing is a universal occurrence, to which South Africa is no exception. The technology of cloud computing has been the focus of extensive research, but the tax consequences have not been investigated in such research. However, the nature of cloud computing activities, which are conducted via the internet, highlights many difficulties related to taxation. The main taxation-related problems are elicited by the composition of these activities, namely the making available of the cloud by the service provider via the internet and the subsequent use of it by the consumer at any worldwide location. This composition makes the classification of such transactions and the subsequent taxation source determination problematic. Yet, from a South African perspective, there is little assistance regarding these problems. As a result, significant income may escape South African taxation liabilities.

The aim of this study was to investigate South African taxation consequences for non-resident¹ cloud service providers who conduct activities with residents¹ via the internet. The focus of the study was twofold: first, to identify factors, which indicates the classification of cloud computing activities as either a lease, a royalty (or its closely related know-how) or a service; and second, to determine the tax source of each of these classifications. Hence, this study sought to determine whether non-resident cloud service providers could possibly be liable for South African taxation and to identify related challenges that need to be addressed to ensure the collection of such taxes.

¹ Throughout this study the use of the term 'resident' should be interpreted as it is defined in section 1 of the South African Income Tax Act No. 58 of 1962 (the Income Tax Act). The use of the term 'non-resident' refers to any person/business that falls outside the scope of this definition of 'resident'.

OPSOMMING

Wolkbewerking (“Cloud computing”) is ’n wêreldwye verskynsel wat ook in Suid-Afrika voorkom. Wolkbewerkingstechnologie was al die fokuspunt van omvangryke navorsing, alhoewel die belastinggevolge nog nie in sodanige navorsing ondersoek is nie. Die aard van wolkbewerkingsaktiwiteite, wat via die internet plaasvind, benadruk egter verskeie belastingverwante vraagstukke. Die hoofbelastingvraagstukke word deur die samestelling van hierdie aktiwiteite, naamlik die beskikbaarstelling van die sogenaamde wolk deur die diensverskaffer via die internet en die gevolglike gebruik daarvan deur die verbruiker te enige wêreldwye ligging, uitgelig. Die klassifikasie en daaropvolgende vasstelling van die belastingbron van hierdie aktiwiteite word as gevolg van hierdie samestelling problematies. Tog, vanaf ’n Suid-Afrikaanse perspektief, bestaan min leiding vir hierdie vraagstukke. As gevolg hiervan kan beduidende inkomstebedrae moontlik Suid-Afrikaanse belastingaanspreeklikheid ontsnap.

Die doel van hierdie studie was om ondersoek in te stel na die Suid-Afrikaanse belastinggevolge vir nie-inwoner² wolkdiensverskaffers wat via die internet met inwoners² handelsaktiwiteite uitvoer. Die fokus van hierdie studie was tweeledig: eerstens om faktore te identifiseer wat die klassifikasie van wolkbewerkingsaktiwiteite as óf huur, óf tantième (of nou-verwante bedryfskennis) óf dienste kan aandui; en tweedens om die belasting bronne van elk van hierdie klassifikasies vas te stel. Gevolglik is daar in hierdie studie gepoog om vas te stel of nie-inwoner wolkdiensverskaffers moontlik vir Suid-Afrikaanse belasting aanspreeklik mag wees en om verwante uitdagings wat aangespreek moet word om die invordering van hierdie belasting te verseker, te identifiseer.

² Die gebruik van die term ‘inwoner’ moet deurlopend in hierdie studie volgens die definisie hiervan in artikel 1 van die Inkomstebelasting Wet interpreteer word. Die gebruik van die term ‘nie-inwoner’ verwys na enige persoon/besigheid wat buite die omvang van die definisie van ‘inwoner’ val.

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LIST OF ABBREVIATIONS

As part of the study the following abbreviations are used:

Abbreviation	Meaning
B2B	Business-to-Business
B2C	Business-to-Consumer
CPU	Central processing unit
CSP	Cloud service provider
IaaS	Cloud infrastructure as a Service
IP	Intellectual property
ISP	Internet service provider
IT	Information technology
PaaS	Cloud platform as a Service
PE	Permanent establishment
SaaS	Cloud software as a Service
SLA	Service level agreement
T&C	Terms and conditions
ToS	Terms of Service
VAT	Value-Added Tax

Chapter 1: Introduction

1.1 Background

Outsourcing is a universal and growing occurrence in facilitating improvements in information technology (IT) functions (Smith & Clearley, 2012). Cloud computing represents a refined extension of IT outsourcing wherein users benefit not merely from the use of enhanced IT functions, but may also distance themselves from ownership of computer resources (Smith & Clearley, 2012). This shift to utilising and delivering IT capabilities through the cloud computing phenomenon raises divergent tax problems, which were investigated in this study.

The starting point for such an investigation requires a comprehensive understanding of cloud computing as a technology, which has to date been researched extensively. For this purpose, this study relied on two widely used definitions of cloud computing as indicated in Table 1.1, 1.2 and 1.3, which follows.

Table 1.1: Cloud computing definitions

<p>1. Definition by the National Institute of Standards and Technology (NIST) (Mell & Grance, 2011):</p>
<p><i>‘Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and servers) that can be rapidly provisioned and released with minimal management effort or service provider interaction.’</i></p> <p>This cloud model described by Mell and Grance (2011) comprises three service models and four deployment models as indicated in Table 1.2 and 1.3 respectively.</p>
<p>2. Definition by Gartner Research (Plummer, Smith, Bittman, Clearley, Cappuccio, Scott, Kumar & Robertson, 2009)(own emphasis):</p>
<p><i>‘Cloud computing is a style of computing where scalable and elastic IT-enabled capabilities are delivered as a service using internet technologies.’</i></p>

Table 1.2: Main cloud computing service models

Service model	Description
Cloud infrastructure as a Service (IaaS)	The capability provided to the consumer is to provision processing, storage, network and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructures but has control over operating systems, storage, and deployed applications; and possible limited control of selected networking components (e.g. host firewalls).
Cloud platform as a Service (PaaS)	The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-related or acquired applications created using programming languages, libraries, service, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.
Cloud software as a Service (SaaS)	The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure . The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g. web-based e-mail), or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

Source: NIST (Mell & Grance, 2011) (own emphasis)

Table 1.3: Main cloud computing deployment models

Model	Description
Public cloud	The cloud infrastructure is provisioned for open use by the general public . It may be owned, managed, and operated by a business, academic or government organisation, or some combination of them. It exists on the premises of the cloud provider.
Private cloud	The cloud infrastructure is provisioned for exclusive use by a single organisation comprising multiple consumers (e.g., business units). It may be owned, managed, and operated by the organisation, a third party, or some combination of them, and it may exist on or off premises.
Community cloud	The cloud infrastructure is provisioned for exclusive use by a specific community of consumers from organisations that have shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be owned, managed, and operated by one or more of the organisations in the community, a third party, or some combination of them, and it may exist on or off premises.
Hybrid cloud	The cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community, or public) that remain unique entities, but are bound together by standardised or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between cloud).

Source: NIST (Mell & Grance, 2011) (own emphasis)

As indicated in the (own) emphasised words in these tables, the following key components of cloud computing contribute to the research problem of this study:

- Cloud service providers (CSPs) provide IT capabilities, the description of which determines the service model. These **IT capabilities are used by the end-user**, who determines the deployment model. The utilisation of IT capabilities is achieved by way of
- the end-user being granted access to computer resources **via the internet**.

These key contributory components to the research problem will subsequently be explored as background.

1.1.1 IT capabilities used by the end-user

The 'use of' the resources of CSPs has raised questions internationally on the classification of cloud computing activities according to its form as that of a service (Ernst & Young, 2012:4; KPMG International, 2012:7; Cummings, 2012:9; Carr, Hoerner, Rajurkar & Changtor, 2012:29; Jenson, 2011:853; Hellerstein & Sedon, 2012:16; Mahony, 2012:17; Niv, 2004). From the denomination of the cloud service models in Table 1.2 it is apparent that the face value (form) of cloud contracts, to supply any or a combination of these models, is that of a service. This statement is underpinned by a study of the terms and conditions (T&C) of cloud computing contracts performed by Bradshaw, Millard and Walden (2011). This study by Bradshaw *et al.* concludes that the T&C documents generally include, inter alia, a 'Terms of Service' (ToS) and a 'Service Level Agreement' (SLA). The denomination of these documents once again underlines the face value of cloud contracts as service contracts.

However, in contrast to the apparent service classification, 'the use of' computer resources inherently raises the question whether such cloud activities are not truly in the nature of leasing activities. Consequently, the classification of cloud computing activities that yield income is uncertain.

From a South African perspective, such classification of transactions that yield income is the primary step to determine whether such income results in South African normal tax liabilities. Consequently, based on the specific classifications, it is determined whether such income is from a South African source. Source determination therefore relies on the classification of the actions that yield income and differ for different classifications. Firstly, based on the classification, it should be determined whether or not income falls within the scope of section 9 of the Income Tax Act. Section 9 includes specific categories of income, which will be treated as a source from within South Africa.

Income categorisation is determined according to the classification of the underlying economic activity that earns income. Residually, if the classification falls outside the scope of section 9, it has to be determined how South African common law guidelines apply to a specific classification. Furthermore, the application of both section 9 of the Income Tax Act and the residual method will always be dependent on the true nature of a transaction according to the South African common law 'substance over form' doctrine. Where the courts find that the substance of the transaction differs from the legal form, it will give effect to the substance (*Zandberg v Van Zyl*, 1910:309).

It is clear, therefore, that the classification of a cloud computing transaction is essential to an investigation of the normal tax consequences for non-resident CSPs. The dilemma related to the classification of cloud activities due to cloud resources being **used by end-users**, therefore results in taxation difficulties. It appears from the above that such dilemmas are relevant not only at an international level, but also within the South African context.

The second contributory component to the research problem which is subsequently explored relates to cloud economic activities being conducted via the internet.

1.1.2 Cloud computing activities conducted via the internet

End-users are granted network access to cloud infrastructures to obtain the value of the IT capabilities made available by CSPs. Internet technologies are, therefore, essential in the utilisation and delivery of cloud computing activities. The internet has established a platform where computer resources and capabilities are delivered and consumed through the cloud independent of the location of both the provider and the end-user (Bradshaw *et al.*, 2011). From the end-user's perspective, location independence means that cloud activities can be consumed from anywhere in the world, where an end-user has access to the internet (Bradshaw *et al.*, 2011). From the CSP's perspective, location independence means that computer resources can be positioned and set up

wherever it is most effective and where economies of scale can be exhausted (Bradshaw *et al.*, 2011).

It is exactly this location independence that lies at the root of tax difficulties; firstly, since it allows for the consumption of cloud computing at a location where the physical presence of the CSP is not required. However, generally, physical presence (i.e. the existence of infrastructures) gives rise to a tax source in a country (Joubert, 2012). Cloud computing may therefore result in CSPs conducting much economic activity within a country with little or no physical presence there as the infrastructure is situated in another (tax) beneficial country (Joubert, 2012). This necessitates a re-examination of the identification of the tax source based on a physical presence in order to avoid potential tax losses. Secondly, the internet results in cloud services being delivered and consumed at any given location worldwide, which makes the source location of cloud computing activities especially difficult. In this regard, Joubert (2012) states the following:

The cross-border nature of economic activity is nothing new. But the internet has exponentially accelerated this trend. And the cloud computing phenomenon represents a further refinement, which can make the location of profits even harder for tax authorities to pin down.

The aforementioned clearly indicates that cloud computing activities result in computer resources being used via the internet independent of a specific location, which clearly causes several normal tax uncertainties. Such tax uncertainties may have possible adverse consequences for the South African fiscus if they are not attended to.

A deficiency in the highlighting and addressing of the uncertainties related to the tax treatment of cloud computing may lead to possible tax and government income losses (KPMG International, 2012:5). Tax losses may prove to be significant, since it is estimated that total spending on cloud services worldwide will amount to \$210 billion in 2016 (Gartner, 2012, cited in Clearley, Scott, Skorupa & Bittman, 2013).

South Africa is no exception to this technological phenomenon of cloud computing and is, therefore, not excluded from the risk of potential tax leakages. The consumption of cloud computing services in developing countries is small but growing fast, and it is primarily concentrated in big economies such as South Africa (Kshetri, 2010:48;50). The use of cloud computing in South Africa has, for example, allowed for call centres to divest themselves of computer resources; therefore they require a lower capital outlay (Kshetri, 2010:50). Furthermore, devoted call centre facilities in South Africa are no longer a requirement as cloud resources can be accessed from anywhere using internet connections (Kshetri, 2010: 50).

Consequently, the internet enables non-resident CSPs to render services to South African residents with no physical (tax) presence in the country. Yet, limited studies from a South African perspective have been conducted to ensure that non-resident CSPs should not in fact incur normal tax liabilities for such activities. Anecdotal evidence by Joubert (2012) and KPMG International (2012) suggests only the possible taxation uncertainties caused by cloud computing. In comparison, extensive academic research on cloud computing as a technology has been conducted, yet attention is called to the need for certainty regarding the normal tax treatment of cloud computing transactions from a South African perspective.

1.2 Research problem

It is evident from the aforementioned that the tax treatment of income earned by non-resident CSPs needs to be investigated because of the uncertainty surrounding this matter. The research problem of this study stemmed from the following uncertainties that require further investigation:

- The classification of cloud computing activities according to its true nature. This requires some further exploration into the nature of the rights, if any, the end-user has in the computer resources of the CSP (KPMG International, 2012:7);
- The normal tax source determination of economic activities via the internet as it is applied in the intricate cloud computing phenomenon.

1.3 Research objective and rationale for this study

The objective of the study was to investigate the tax consequences for non-resident CSPs that conduct economic activities in event of physical absence from South Africa. Such consideration necessitated the following:

- Firstly, an investigation of the possible classifications of cloud computing activities. Factors that require consideration in determining the true economic activity underlying cloud computing transactions, therefore, needed to be identified. According to the classification, CSPs will only incur South African tax liabilities if it is established that the activities are from a South African source.
- Secondly, an investigation of the source determination of cloud computing activities based on the possible classifications investigated in the first instance. The aim was to identify elements that may be indicative of the tax source of cloud transactions. This identification would be done in concurrence with South African legislation and common law guidelines for source determination.

In the process of investigating the above two considerations, challenges related to the classification of cloud activities would also be identified and the difficulties in determining and locating the source of cloud income earned by non-resident CSPs would be highlighted.

This research could assist the South African tax authorities in preventing possible tax leakage in the cloud computing internet realm. It may further assist the South African tax authorities in identifying unprecedented tax challenges regarding the global cloud computing phenomenon. These challenges identified during the study could assist in attempts to align taxation laws to embrace the change in cross-border economic activities within the internet realm. Furthermore, the research could be functional to non-resident CSPs' tax planning procedures when cloud contracts are concluded with South African residents.

1.4 Research design and methodology

A literature review was performed in order to formulate best practice guidelines for determining the source of income earned by non-resident CSPs from a South African perspective. Literature regarding cloud computing as a technology was

investigated as a starting point in this literature review. For this purpose EBSCOhost and Gartner databases as well as NIST publications were mainly used in gathering relevant literature. Research and publications by Enslin (2012) on the significant benefits and incremental risks of cloud computing services were also consulted. These databases and publications were investigated to gather a sufficient understanding of the term 'cloud computing' and its service models, deployment models and T&C of cloud computing contracts.

Subsequently, in conducting the literature review, the aim was to investigate the tax source, from a South African perspective, for each classified activity in cloud computing transactions. In this regard, South African legislative, regulatory and relevant case law literature was investigated. Literature from authoritative dictionaries, publications from the South African Revenue Service (SARS) and the OECDiLibrary database were also studied. Interviews with Mr Cobus Jooste (2012), a lecturer and fellow of Intellectual Property (IP) Law at Stellenbosch University, were also conducted in this regard. Furthermore, literature was gathered from databases such as Jutastat and LexisNexis Butterworths. The 'Commentary on Article 12: Concerning the taxation of royalties' by the OECD (2012b) was heavily relied on in formulating guidelines on whether or not rights in intangible assets are transferred within cloud computing activities. Even if South Africa is not a member of the OECD, the author holds the opinion that it is considered an authoritative organisation on cross-border transactions and the tax treatment, according to standard tax treaties, thereof. A study on the T&C of cloud computing contracts performed by Bradshaw *et al.* (2011) was mainly relied on for the standard T&C in cloud contracts. In addition, publications by authoritative auditing firms in the field of tax, such as Deloitte (Joubert, 2012) and KMPG International (2012) as well as popular media articles were used in investigating different opinions regarding the tax treatment and possible tax uncertainties regarding cloud computing.

Throughout the research the potential changes in the legislation relevant to the study were monitored and taken into consideration.

1.5 Scope

From the four cloud computing deployment models in Table 1.3 it is clear that cloud computing entails remote network or internet access to computer resources, which may be located and managed as follows:

- on the end-user's premises and managed by in-house IT-divisions; or
- on the end-user's premises and managed by a third party CSP; or
- off the end-user's premises and managed by in-house IT-divisions; or
- off the end-user's premises and managed by a third party CSP.

For the purpose of this study, only cloud computing activities that are managed by non-resident third party CSPs off the end-user's premises (in a country other than South Africa) were included for investigation. Furthermore, the scope of this study excluded the following:

- A study of the tax source of cloud computing activities that are classified as that of a sale or a finance lease
- A study of the tax treatment of cloud computing activities consisting of a combination of income categories, i.e. whether and how apportionment of income should occur
- Any research on the existence and location of a permanent establishment (PE) regarding the CSP
- Tax consequences for non-resident CSPs that fall within the South African treaty network
- Any discussions on withholding tax related to royalty payments in terms of section 35 of the Income Tax Act
- Other categories of taxation, such as Value-Added Tax (VAT)

The aim of this research was not to provide guidelines for determining the source of the exhaustive list of cloud service possibilities, but rather to provide guidelines for the source determination of the three main cloud computing service models described by NIST in Table 1.2.

1.6 Organisation of the research

Chapter 1 describes the background and research problems relating to the tax treatment of cloud computing from a South African perspective.

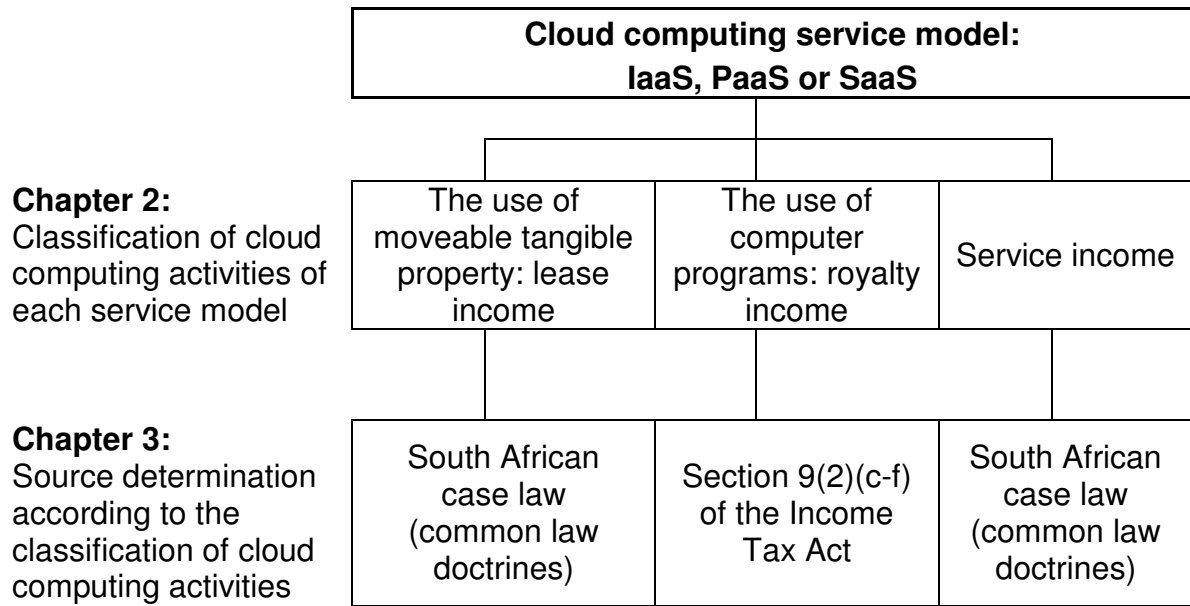
Chapter 2 covers the classification of economic activities underlying cloud computing income. Factors that should be considered in such classification are considered for each cloud computing service model.

Chapter 3 covers the source determination from a South African viewpoint for each of the classifications that are identified in Chapter 2. The source determination of cloud lease activities according to South African common law guidelines is highlighted as a starting point. Followed by the source determination in terms of section 9 of the Income Tax Act related to royalty income and lastly the source of service activities in agreement to common law doctrines is examined.

Chapter 4 consists of the summary of and then the conclusion to this study. This chapter is primarily constructed as a summary of the factors and elements to consider when determining the true nature of cloud computing economic activities and their normal tax source. A summary is given of challenges in the classification, the source identification and the location of cloud computing activities as interpreted in accord with South African legislation and common law.

Figure 1.1 illustrates the organisation of the research as presented in this thesis.

Figure 1.1: Organisation of the research



Chapter 2: Classification of cloud computing activities of each service model

2.1 Background

Cloud computing is remote access by end-users to up-to-date, maintained computer resources that are owned by CSPs. End-users of cloud computing do not merely benefit from having access to these resources, but also from using them. It is exactly the 'use of' IT resources by end-users that results in the classification of cloud activities according to their form, namely a service, to become questionable. Rather, the 'use of' IT capabilities necessitates a consideration of the possibility that cloud income may be categorised as lease and/or royalty income. The option of considering lease and royalty income as possible categories stems from the information provided in Table 2.1 and 2.2. To begin with, these tables identify the assets owned by CSPs under each of the service models. In addition, these assets and the use thereof are associated with either the definition of lease or royalty income.

The use of resources owned by the CSP in itself implies that the full ownership of these resources is never transferred to the end-user (OECD, 2012e:R(10)-13). Under true cloud computing activities the complete alienation of ownership (i.e. the full transfer of risk and rewards incidental to the sale of an asset or right) is therefore not a classification that was considered for the purpose of this study. Finance leases, whereby the lease substantially transfers the risks and rewards of ownership to the end-user (IASB, 2010) were therefore also excluded as a possible classification for the purpose of this study. Consequently, in an attempt to classify cloud computing activities; the use of the term 'lease' refers to an operating lease. However, in this study it was not the intention to imply that cloud computing activities will under no circumstances constitute that of a sale. Rather, it is posited that an event of a sale under cloud contracts is rare and, therefore, it was excluded from the scope of this study. This approach was confirmed by communication with Mr Cobus Jooste (2012).

According to Jooste (2012):

- As a basic principle of law one can only differentiate between contracts for the provision of services as opposed to contracts for the sale of goods.
- Generally, full ownership of the CSP’s servers and/or software is not transferred to the end-user; thereby cloud contracts will commonly not be classified as contracts for sale of such goods.
- It follows that service contracts encompass, and may be sub-classified as, payments for the right to use of tangible or IP.

In respect of right of use a distinction between lease and royalty income is made with reference to the nature of the underlying asset to the different cloud computing deployment models in the two tables which follows.

Table 2.1: Underlying assets within the three cloud computing models

IaaS:
Computer hardware , such as servers, comprising four fundamental hardware components, namely a central processing unit (CPU), memory and some means of getting input and displaying output (Davis, 1992:302). A server is also a computer (that includes hardware as described above) that is connected to a network and provides software functions that are used by other computers (ITIL, 2011). Therefore servers are also categorised as computer hardware.
PaaS:
Operational software / operating system: “A collection of software that manages computer hardware resources and provides common services for computer programs” (Wikipedia, 2013b).
SaaS:
Application software: “All the computer software that causes a computer to perform useful tasks beyond the running of the computer itself. A specific instance of such software is called a software application, program, application or app. The term is used to contrast such software with system software, which manages and integrates a computer’s capabilities but does not directly perform tasks that benefit the user. The system software serves the application, which in turn serves the user” (Wikipedia, 2013a).

Table 2.2: Underlying assets of lease income and royalty income

LEASE INCOME
<p><u>DEFINITION:</u> Generally a lease is defined as an agreement whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time (own emphasis) (IASB, 2010).</p> <p><u>UNDERLYING ASSET:</u> For the purpose of this study: tangible, moveable or immovable assets.</p> <p>UNDERLYING ASSET OF CSP: Computer hardware (moveable)</p> <p>SERVICE MODEL ASSOCIATED WITH UNDERLYING ASSET: IaaS</p>
ROYALTY INCOME
<p><u>DEFINITION:</u> Section 9(1) of the Income Tax Act refers to royalties as payments for the use of, or right to use IP. Royalties payments are therefore a specific form of lease income earned from conveying the right to use a specified asset, namely an intangible IP, in contrast to the lease of tangible assets.</p> <p><u>UNDERLYING ASSET:</u> Section 23I of the Income Tax Act defines IP as any registered IP, any property or right of a similar nature to registered IP; and knowledge connected to the use of such properties.</p> <p>UNDERLYING IP OF CSP: Computer programs: a set of instructions fixed or stored in any manner and which, when used directly or indirectly in a computer, directs its operation to bring about a result (South Africa: section 1 of the Copyright Act 98 of 1978 (the Copyright Act)). Although computer programs can be stored in a tangible manner (such as a disc), it is the instructions or programming languages that are an asset to the holder. Computer programs therefore include both operating and application software. Computer programs therefore fall within the scope of section 23I of the Income Tax Act as CSPs will either own the registered principles underlying the software (i.e. the logic, algorithms or programming languages) (OECD, 2012b:C(12)-12); and/or the right to commercially exploit such intangible assets (also refer to 2.3.1 below).</p> <p>SERVICE MODEL ASSOCIATED WITH UNDERLYING ASSET: SaaS and PaaS</p>

As both SaaS and PaaS entail the use of computer programs, with the use of either application or operational software being the main difference between the two models, these models will collectively be referred to as 'the use of computer programs' for the purpose of this study.

In an attempt to classify cloud computing activities into one or more of the sub-classifications under service contracts it was deemed vital to determine the underlying performance of the contract, i.e. **what it essentially is that the end-user is paying for** (Jooste, 2012) (own emphasis). This would require a study into whether or not a right of use in resources (tangible or IP) is transferred to the end-user in cloud computing activities (KPMG International, 2012:17).

In this chapter, therefore, factors are identified that may be indicative of rights being transferred to end-users of cloud computing. Such factors are identified individually for rights in either tangible assets or IP, depending on the cloud service model. Therefore, based on Tables 2.1 and 2.2, this chapter is organised under the following headings:

- IaaS: The use of moveable, tangible property (computer hardware): lease income (section 2.2)
- The use of computer programs: royalty income (section 2.3)

The aim related to this chapter was achieved by in-depth theoretical studies of each of the abovementioned possible income categories. These studies rely on international methodologies followed in the classification of cloud computing activities, which are subsequently applied in a South African normal tax context. Firstly, IaaS was investigated under the lease income category.

2.2 IaaS: The use of moveable, tangible property: Lease income

From a South African law perspective, a right to use a tangible property can only vest if the user holds bare detention and not ownership of the property (Van der Walt & Pienaar, 1999:199). The two required elements to bring forth bare detention are **control** of the resource **and** the wilful **intention to do so** (own emphasis) (Van der Walt & Pienaar, 1999:202). Consequently, prior to classifying

cloud activities as that of the lease of tangible assets, it primarily has to be established whether the end-user possesses control over computer hardware. Control does not imply a narrow interpretation of physical control, but should rather be interpreted from a functional viewpoint (Van der Walt & Pienaar, 1999:203). Then, the intention of the parties to a cloud computing contract should be investigated. Intention does not refer to the subjective intentions of parties to an agreement, but is established by the courts based on the appearance or actions of the parties (Van der Walt & Pienaar, 1999:213).

Under these two successive prerequisites to a lease, an analysis of factors to consider in determining the true economic activity underlying IaaS cloud transactions is pursued. The following section relates specifically to 'control'.

2.2.1 Control

The nature of the asset (i.e. the manner in which the resource can be controlled) should be taken into account in considering with whom control resides (Van der Walt & Pienaar, 1999:206). Van der Walt and Pienaar (1999:206) illustrate this by using an example of a vehicle: the vehicle requires its key to be of use and, therefore, the holder of the key is regarded to sufficiently control the vehicle. In addition, the use and purpose of an asset should also be taken into account. The use and purpose are closely related to the manner in which the asset is controlled, since the nature of a resource is usually relevant to the use of the resource (Van der Walt & Pienaar, 1999:206). By referring to the mentioned example of a motor vehicle, the key does not only indicate the manner in which it is controlled, but also the means by which the vehicle is used (Van der Walt & Pienaar, 1999:206). The aforementioned implies that the nature and use of computer hardware need to be considered to establish with whom its control resides, namely the CSP or the end-user. Table 2.3 describes the nature and use of computer hardware.

Table 2.3: The nature and use of computer hardware

Nature of computer hardware (i.e. the manner in which the resource can be controlled)	Use of computer hardware
Computer hardware (which includes servers) is essentially viewed to be made up of four components as indicated below:	
<ul style="list-style-type: none"> • A CPU 	The CPU is where the actual computing is performed.
<ul style="list-style-type: none"> • Memory 	Memory is used to hold the program that is being run and it provides a place to store transitional results.
<ul style="list-style-type: none"> • Input and output devices 	Input and output devices typically comprise means of transferring, retrieving and receiving data to and from computer hardware.

Source: (Davis, 1992:302-303)

Typically, under IaaS, the input and output device to remote computer hardware is the connection to the CSP's server via the internet, using either a web page or software installed on the end-user's computer. The end-user then uses the CSP's available and allocated CPU and memory on the CSP's server. The purpose or use of the CPU and memory is therefore to carry out instructions of the end-user's software and to store files and software belonging to the end-user. However, how the CPU and memory are used (i.e. the manner in which they are controlled) is determined firstly by their speed and capacity (i.e. what software it can run and the size of files it can store). In addition and ensuing from their speed and capacity, the choice of software, operating systems and/or files deployed or uploaded on the CPU and memory will also determine how they are used.

The CSP decides on and controls the speed and capacity of the hardware by means of purchasing or manufacturing the computer hardware. The end-user, on the other hand, has control over the choice of software, operating systems and/or files that are deployed on the computer hardware. However, this control by the

end-user is limited to and dependent on the speed and capacity of the CPU and memory. Nonetheless, the end-user does have some form of control over the computer hardware within IaaS.

It is evident that the nature and use of computer hardware result in both the CSP and the end-user having control over computer hardware. This submission is supported by the definition of IaaS provided in Table 1.2 with reference to the following sentence in this definition: “The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications; and possibly limited control of selected networking components (e.g. host firewalls).”

This joint control of computer hardware was also highlighted by the Colorado Department of Revenue (citing *City of Boulder v. Leanin’ Tree Inc.*, 72 P.3d 361 (Colo., 2003)) (in Hellerstein & Sedon, 2012:17) (own emphasis):

If the user has **significant control** over the property, then there is a tendency to view the transaction as one for the rental of tangible personal property. Users of the [provider’s] service have some degree of control over the servers and software. Users initiate the uploading of a file and designate the recipient. Users can control whether files are stored on the system and the duration of that storage. However, these seem minor **in relation to** the degree of control exercised by the [provider], which has **physical custody** of the property and **staff that program and control the system**.

From the aforementioned it is clear that where joint control exists, the party with **significant** control is regarded as having control. This is consistent with South African principles of law, which determine that the person who is in the **strongest and closest** relation to an asset is regarded to control it (own emphasis) (Van der Walt & Pienaar, 199:210-211). Establishing whether or not significant control exists is a question to be addressed based on the facts of each case (Van der Walt & Pienaar, 199:210-211). The words ‘in relation to’ in the above judgement imply a comparison of the factors that indicate control in favour of each party.

The party to whom control is pointed out by the foremost number of factors is regarded as having significant control. Such factors considered in this judgement include physical possession and operation of the asset. These two factors, in conjunction with other factors that may indicate control that have been identified during this study, are subsequently discussed.

2.2.2 Factors indicating control

During this study the following factors that may indicate whether control resides with the CSP or the end-user were identified:

- Physical possession of the resource
- Decision power in respect of the destination of the resource
- Operation and/or maintenance of the resource
- Deployment model
- The bearer of risk in case of non-performance

These factors are individually explained below.

• Physical possession of the resource

Physical possession is not a prerequisite of control, but rather a factor in determining with whom effective control resides. Within IaaS, determining physical possession is seemingly easy as cloud computing transactions may be concluded without the end-users even knowing the physical destination of their data (i.e. where the servers of the CSP are situated) (Jenson, 2011:851; Cummings, 2012:8). Without this essential knowledge of location, physical possession by the end-user is impossible. Even in situations where the end-user does have knowledge of the location of servers (Leong, 2011b), for the purpose of this study, physical possession still resides with the CSP. This is implied, since only cloud computing activities where the resources that are managed by non-resident CSPs are off the end-user's premises (in a country other than South Africa), is analysed in this study.

This absence of physical possession of resources was also considered by the OECD (2012b:C(12)-5-6) in assessing the true nature of leasing agreements for

satellite transponders, cables for transmissions of electrical power or communications and telecommunication roaming agreements. The OECD (2012b: C(12)-5-6) contends that the use of the mentioned equipment is to be classified as a service rather than a lease. This conclusion is drawn based on the fact that the user does not acquire physical possession of or physical access to the equipment that has been assigned to him (OECD, 2012b:C(12)-5-6). In the absence of physical possession the result is that the lessee simply utilises the underlying asset's **capacity**, rather than controlling it (OECD, 2012b:C(12)-5-6). This statement may also be valid within the context of IaaS where physical possession and access to computer hardware by end-users are also absent.

The next factor that may indicate which party to a cloud IaaS agreement controls the computer hardware relates to the decision power in respect of the destination of the resource.

- **Decision power in respect of the destination of the resource**

The attribute of computer hardware as being 'moveable' may imply that deciding its movement (i.e. the destination of the computer hardware) may indicate a form of control. At this point it is essential to point out that physical possession of assets does not inherently imply that the decision power relating to the physical destination of assets also exists. Scenarios may exist where physical possession of computer hardware indicates that control resides with the CSP; nonetheless the end-user has control over its ultimate destination. Certain cloud computing agreements may allow for the end-users to determine the location in which they want their compute to be provisioned (Leong, 2011a; Hestermann, 2012). However, this control by the end-user is dependent on and limited to either the number of locations in which the CSP's computer hardware is situated at the time when the end-user's choice is made; and/or to which the CSP is willing to move its computer hardware.

This possible form of control over computer hardware by the end-users is therefore similar to the control residing with end-users by means of their choosing the software, operating systems and/or files that are deployed on the computer

hardware, the main similarity being that such control by the end-user is dependent on the control first exercised by the CSP. The significance of this control gained by the end-user, in comparison to that of the CSP, should be determined based on the facts of each specific case.

The next factor that may indicate which party to a cloud IaaS agreement controls the computer hardware relates to the operation and/or maintenance of the resource.

- **Operation and/or maintenance of the resource**

If the full utilisation of the benefits of cloud computing is dependent on the CSP performing an action, procedure or function, control resides with the CSP. The Colorado Department of Revenue (citing *City of Boulder v. Leanin' Tree Inc.*, 72 P.3d 361 (Colo., 2003)) (in Hellerstein & Sedon, 2012:17) considered 'staff that program and control the system' as one such action performed by the CSP. Subsequently, it was ruled that control resides with the CSP. The responsibility of the CSP to provide cloud security measures has also been considered (USA. Wis. Private Letter Rul W1025003 and W0921002). Other actions or functions include updating, removal, replacement and/or maintenance and providing repair facilities of the assets (OECD, 2003:46-47, OECD, 2012c: R(2)-3). Some private letter rulings from the United States of America (USA) (Wis. Private Letter Rul W1025003 and W0921002) simply refer to these actions as the operation of resources. The USA Internal Revenue code section 7701(e) (cited in Carr; Hoerner, Rajurkar & Changtor, 2012:29) refers to these factors comprehensively as 'economic or possessory interest'.

It should be borne in mind that one of the significant benefits of cloud computing is the use of up-to-date technology infrastructures (Enslin, 2012:10574). This benefit fundamentally implies that some action relating to the updating of computer resources is required by the CSP. Furthermore, bundled maintenance, which places the responsibility of maintaining computer resources on the CSP, is very common in cloud computing (Mell & Grance; Wu, Garg & Buyya, 2011:195; Tarnavsky & Vorozhtsov, 2011:133, Cummings, 2012:8). Although the

maintenance of bundles is common, it is not necessarily inherent to cloud computing SLAs (Enslin, 2012:10574). Therefore, when considering bundled maintenance as a factor that may indicate control, the SLA underlying each cloud computing activity should be thoroughly investigated.

The next factor that may indicate which party to a cloud IaaS agreement controls the computer hardware relates to the deployment model.

- **Deployment model**

To whom computer hardware is made available can indicate with whom control of computer hardware resides. From Table 1.3 it is evident that to whom the resource is made available is determined with reference to the deployment model for cloud activities.

A public cloud, as described in Table 1.3, results in unrelated end-users concurrently competing for the use of the CSP's computer hardware-related capabilities according to its available capacity. If resources are simultaneously used by (or made available to) end-users that are unrelated to one another, a transaction should be treated as that of a service, rather than that of a lease (OECD, 2003:46). This principle of concurrent use is consistent with South African law wherein joint control of tangibles can only exist in situations where control is shared and not competed for (Van der Walt & Pienaar, 1999:218). This implies that end-users of IaaS, which is deployed on a public cloud, do not control the computer hardware. In such transactions the control therefore resides with the CSP.

In contrast to a public cloud, within a private cloud, as described in Table 1.3, the underlying computer hardware resources are exclusively used by one end-user. This may indicate that some control resides with the end-user within a private cloud.

Within a community cloud, it may be argued that joint control by the users of this cloud exists, as there may be no competing for cloud capacity. Rather than

competing for hardware capacity, from Table 1.3 it is clear that the aim of a community cloud is to share information or knowledge relating to a shared concern. The significance of the control applied by the end-user under both the public and community clouds should be determined in relation to the control applied by CSPs. This comparison should be done with reference to the other factors that indicate control, which are specified in the study.

A hybrid cloud is a configuration of two or more individual cloud deployment models. These models are technologically connected for the purpose of portability of cloud contents, but remain exclusive infrastructures. Deciding with whom control of a hybrid cloud resides will have to be based on the individual clouds configured in the hybrid. Each individual cloud will be evaluated based on the abovementioned examination of other deployment models.

The next factor that may indicate which party to a cloud IaaS agreement controls the computer hardware relates to the bearer of risks in case of non-performance.

- **The bearer of risks in case of non-performance**

In classifying transactions, the USA's Internal Revenue Code section 7701(e) (cited in Carr *et al.*, 2012:29) also considers who the bearer of the 'substantial risk of non-performance' (i.e. hardware malfunction) is. This risk refers to a financial risk (USA. SA IRS Rev. Rul. 2011-24, n.d.). If the provider does not bear the financial risk of considerably reduced receipts or increased expenditure for non-performance under a contract, the transaction should be treated as a lease. If a transaction is regarded as that of a lease, it inherently implies that the end-user is regarded as having significant control over the underlying resource. It follows that the bearer of financial risk regarding the use of resources may indirectly indicate who controls such resources.

From a cloud computing perspective, a number of CSPs provide a mechanism for reimbursing end-users in the event of non-compliance with specified service performance targets in SLAs (Bradshaw *et al.*, 2011:23-24). This mechanism is referred to as service credits. Service credits result in lessor future billing amounts

to end-users in the event of performance failure by the CSP (Bradshaw *et al.*, 2011:23). This may indicate control over resources by the CSP, since it then bears financial risk in case of non-performance. Frequently, the service performance targets omit an extensive assortment of possible events of non-performance (in other words events for which no service credits will be provided) (Bradshaw *et al.*, 2011:24). Therefore, to determine whether or not a CSP bears any financial risk in case of non-performance, the underlying SLA will have to be investigated. However, it is submitted that if the SLA provides for service credits, it cannot be considered in isolation, but should be considered coherently with the list of exclusions for such service credits. This is due to the fact that the list of exclusions may be so exhaustive that the probability of the end-user utilising such credits becomes insignificant.

Non-performance under cloud contracts should also be considered in light of South African principles of law regarding control. Control resides with a person in the strongest and closest relation to control the resource (significant control as discussed above) **and** who is able to continue uninterrupted control without requiring the help of someone else (Van der Walt & Pienaar, 199:210-211) (own emphasis). Therefore, it seems that the person who has significant and **uninterrupted** control of the underlying resource should be regarded as the bare detentor of such resource. If it is established that this person is not the end-user, then a lease agreement cannot exist. In applying this principle to IaaS, it has to be considered what the consequences are in case of non-performance by the CSP from an end-user's perspective. An example of non-performance would be the malfunction of the computer hardware that is accessed by the end-user. This may cause that the computing requirements of the end-user cannot be performed by the CSP's computer hardware. Consequently, without interference from the CSP (i.e. repairs or substitution), the end-user cannot uninterruptedly use the computer hardware the way it is intended to be used.

The research referred to above relates to all factors that were identified to be indicative of control in this study. A general overview of control, which has to be

exercised by the end-user of a resource for a transaction to be classified as a lease is provided in the next section.

Overview: Control

It appears from the abovementioned list of factors that both the CSP and the end-user will have some control over the underlying resources within IaaS. In determining who exercises control over resources, all relevant facts that have a bearing on each cloud transaction should be considered. Therefore, these factors are non-exhaustive and merely guidelines that may have a purpose in such a pursuit. In addition, such pursuit means that, for each party involved in cloud computing, the contribution of each factor towards significant control will have to be reflected upon. Such a reflection is indicated in Table 2.4 in respect of IaaS. This table indicates the **most likely** outcome for each factor, since it is applied to **generalised characteristics of cloud computing activities**.

Table 2.4: Factors that indicate which party has significant control of tangible moveable property (computer hardware) within IaaS

FACTOR	PARTY TO WHOM SIGNIFICANT CONTROL IS MOST LIKELY INDICATED		CLASSIFICATION	
	END-USER	CSP	LEASE	SERVICE
Physical possession of the resource	NO	YES	NO	YES
The party who has physical possession has some form of control over the asset. Physical possession is not a prerequisite of control, rather an indicator of significant control.	The end-user has mere virtual access to computer hardware related capabilities and is often oblivious to the location of servers. The remote servers are off the premises of the end-user and are the property of the CSP.		Without the end-user's physical access to computer hardware, and subsequent control over it, it has to be considered whether the end-user uses spare capacity rather than the actual server itself. If spare capacity is used, it would be classified as a service rather than a lease.	
Decision power in respect of the destination of the resource	NO	YES	NO	YES
Since computer hardware is moveable it is implied that the party who decides on its destination has some form of control.	In event of the rare occasions where end-users do have power over the destination of servers, this power is dependent on the power exercised by the CSP. The remote servers are the property of the CSP. The ultimate destination to which servers may be allocated – even if it is decided by the end-user – is determined by the CSP.		Even in scenarios where the end-user does have some control as a result of this factor, such control is outweighed by the control exercised by the CSP. If the computer resource is not significantly controlled by the end-user, a lease cannot exist.	
Operation and/or maintenance of the resource	NO	YES	NO	YES
The party who has the responsibility to perform certain actions to enable the full utilisation of benefits by the end-user has a form of control over the asset.	The end-user does perform actions related to the choice of software or operating systems that are deployed on computer hardware. However, these actions are dependent on the speed and capacity of the hardware, which is selected and maintained by the CSP. A great benefit of cloud computing to end-users is using up-to-date resources. This inherently implies a responsibility of		Even in the event of the end-user performing actions related to the use of the computer hardware, such action is dependent on actions that have to be performed by the CSP. If the computer resource is not significantly controlled by the end-user, a lease cannot exist.	

FACTOR	PARTY TO WHOM SIGNIFICANT CONTROL IS MOST LIKELY INDICATED		CLASSIFICATION	
	END-USER	CSP	LEASE	SERVICE
	the CSP to maintain and update resources.			
Deployment model:				
• Public cloud	NO	YES	NO	YES
	In the event of concurrent use by unrelated parties that compete for the available capacity of the CSP's resources, no control by such end-users can exist.		If the computer resource is not significantly controlled by the end-user, a lease cannot exist.	
• Private cloud	YES	NO	YES	NO
	The cloud is used by a single user, which indicates some form of control by the end-user.		However, this control will have to be considered in relation to all other factors that indicate control. If the prevalent number of factors indicates that control is exercised by the CSP, then a lease cannot exist. If the prevalent number of factors indicates that control is exercised by the end-user, then the transaction may only be classified as a lease if this is also the intention of the end-user.	
• Community cloud	YES	NO	YES	NO
	Joint control by the members of the community exists as they do not compete for the capacity of the computer resources in view of their communal goal.		However, this control will have to be considered in relation to all other factors that indicate control. If the prevalent number of factors indicates that control is exercised by the CSP, then a lease cannot exist. If the prevalent number of factors indicates that control is exercised by the end-user, then the transaction may only be classified as a lease if this is also the intention of the end-user.	
• Hybrid cloud	INCONCLUSIVE – depends on the configuration of the cloud			
The bearer of financial risk in case of non-performance				
• SLA includes service credits	NO	YES	NO	YES
	If service credits are included, then the CSP will bear diminished income in case of non-performance.		If the CSP bears a financial risk, then a transaction should be classified as that of service rather than a lease.	

FACTOR	PARTY TO WHOM SIGNIFICANT CONTROL IS MOST LIKELY INDICATED		CLASSIFICATION	
	END-USER	CSP	LEASE	SERVICE
• SLA excludes service credits	YES	NO	YES	NO
	If service credits are excluded, then the CSP will bear no risk of diminished income in case of non-performance.		If the CSP does not bear a financial risk, then it may be indicative that control does not reside with the CSP. However, this control will have to be considered in relation to all other factors that indicate control. If the prevalent number of factors indicates that control is exercised by the CSP, then a lease cannot exist. If the prevalent number of factors indicates that control is exercised by the end-user, then the transaction may only be classified as a lease if this is also the intention of the end-user.	
• Uninterrupted control without interference	NO	YES	NO	YES
	Continued use of resources is dependent on the CSP achieving its service targets.		If the computer resource is not significantly and uninterruptedly controlled by the end-user, a lease cannot exist.	

From Table 2.4 it is clear that control by consumers of computer hardware will very seldom be present in cloud computing IaaS activities included in the scope of this study. Table 2.4 indicates that the factors usually point towards control of computer hardware being exercised by CSPs rather than end-users. In the absence of control by the end-users, the classification of cloud computing activities as a lease will be unlikely. However, this classification is by no means impossible if the unique facts of customised cloud activities are considered.

If significant control resides with the CSP, then payments for IaaS should be classified as service income. Only IaaS cloud transactions that result in the end-user having significant and uninterrupted control will qualify to be considered for the lease classification. Such transaction will only be classified as that of a lease once it has furthermore been established that a lease was also the true intent of the parties involved.

2.2.3 Intent

From a South African perspective, 'intent' refers to the mentality or intention with which a resource is controlled, both of which are a question of fact rather than law (Van der Walt & Pienaar, 1999:211). In determining the intent with which end-users enter into an agreement, the transaction will therefore have to be interpreted based on the relevant facts. This may prove to be difficult as the form of a contract may be different to its real intention, as stated by Innes, JA in *Zandberg v Van Zyl*, 1910 AD 302 at 309 (own emphasis):

[N]ow, as a general rule, the parties to a contract express themselves in language calculated without subterfuge or concealment to embody the agreement at which they have arrived. They intend the contract to be exactly what it purports; and the shape which it assumes is what they meant it should have. Not frequently, however (either to secure some advantage which otherwise the law would not give, or to escape some disability which otherwise the law would impose), the parties to a transaction endeavour to conceal its real character. They call it by a name, or give it a shape, intended to not express but to disguise its true nature. And when a Court is asked to decide any rights under such an

agreement, it can only do so by giving effect to what the transaction really is; not what in form it purports to be. The maxim then applies *plus valet quod agitur quam quod simulate concipitur*. But the words of the rule indicate its limitations. The Court must be satisfied that there is a **real intention, definitely ascertainable, which differs from the simulated intention**. For if the parties in fact mean that a contract shall have effect in accordance with its tenor, the circumstances that the same object might have been attained in another way will not necessarily make the arrangement other than what it purports to be. The enquiry, therefore, is in each case one of fact for the right solution of which no general rule can be laid down.

The tenor (form) of cloud computing agreements is that of a service. However, when all relevant factors indicate that the end-user has control over computer hardware, the classification as a service will have to be reassessed. The possibility that the **substance or the real intent** of the cloud agreement is that of a lease will have to be considered in each cloud IaaS agreement individually. The main object of such assessment is to establish whether the parties **wilfully** (Van der Walt & Pienaar, 1999:213) **and honestly** (Watermeyer, JA in *Commissioner of Customs and Excise v Randles Bros & Hudson Ltd*, 1941 at 395) intend such an agreement to be a lease rather than a service.

It is important to bear in mind that the words 'a real intention, definitely ascertainable, which differs from the simulated intention' by the learned judge, Innes, JA, refer to a disguised transaction which '[i]n essence ... is a dishonest transaction: dishonest in as much as the parties to it do not really intend it to have, *inter partes*, the legal effect which its terms convey to the outside world' (Watermeyer, JA in *CCE v Randles Bros & Hudson Ltd*, 1941). However, it is not suggested that the parties to a cloud computing agreement are malicious or intentionally trying to conceal the real nature of cloud agreements. Rather, that the communal use of cloud computing as a service may or may not represent the true substance of a cloud computing contract due the intricate nature and expectations of cloud computing as a technology. If, however, a service is what the CSP and

end-user honestly intended the IaaS cloud transaction to be, “[a] transaction ... is interpreted by the Courts according to its tenor ...” (Watermeyer, JA in *CCE v Randles Bros & Hudson Ltd*, 1941 at 395).

The literature study from an international perspective on this research topic indicates that the real (honest) intention of the parties to a cloud computing agreement is to be determined based on the **true object, dominant purpose or essence of the transaction which lead to the parties entering into the agreement** (Singapore: Inland Revenue Authority of Singapore (IRAS), 2012; Hellerstein & Swain, 2012 (cited in Hellerstein & Sedon; 2012:17)). The main question to be addressed is, therefore, the identification of that for which the payment in an IaaS cloud computing agreement is essentially made (OECD, 2012b:C(12)-14; Jooste, 2012).

This issue was also explored by the OECD (2012d) in resolving the problems relating to the taxation of income derived from the leasing of industrial, commercial and scientific equipment (ICSE); and specifically the leasing of containers. The problems that were addressed relate to the inclusion of income from the leasing of containers in the definition of royalties in Article 12 as it was then (i.e. before the amendment to exclude such income). The essence of the transaction was merely one of the considerations in addressing this problem. However, this consideration was supported only by the minority of the committee. Nevertheless, this study posits that the content delivered on the topic of ‘the essence of a transaction’ is not less relevant to this study. It will not be attempted to improve on the content provided by the OECD (2012d: R(3)-12):

On the other hand, it has been argued that the economic reality of container leasing goes far beyond the simple lease of a tangible good. The advent of container leasing was not due to the wish of carriers to rent rather than own containers. The economic reason underlying this development was rather the wish to be able to pick up and leave a container wherever it is convenient for the carrier to do so. This is only made possible by the fact that the leasing enterprises have built up a world-wide network of installations and perform a kind of clearing

function where there is a surplus of containers at one point and a scarcity at others. The enterprise thus performs a service in balancing supply and demand for containers on a world-wide scale; the lease is an instrument rather than an ultimate end in itself.

This quote was also referred to, used and simplified in another document (OECD (2012c:R(2)-7) as follows: "... the service element is economically more important than the mere putting at disposal of the tangible asset ..."

These passages consider the economic reason behind entering into a transaction as being indicative of 'the essence' of such a transaction. Therefore, a study into the economic reasoning behind cloud contracts may cast some light on the issue of intent.

The economic reasoning behind cloud computing from the CSP's perspective is to benefit from the economies of scale due to the computer hardware having the capacity to accommodate a number of end-users. As stated by Bradshaw *et al.* (2011:5): "The provider will thus seek to eliminate the overhead of unused computer computing capacity; this saving can be passed on to the customer via lower service charges." This may indicate that CSPs seek to earn income from cloud activities by making their spare capacity available, rather than leasing their resources.

Conversely, less capital investment by end-users in computer resources is often mentioned as the prime attraction of cloud computing agreements (Bradshaw *et al.*, 2011; Kshetri, 2010:50; Tarnavsky & Vorozhtsov, 2011: 133; Joubert, 2012; Enslin, 2012:10574; KPMG International, 2013:6). This may suggest that end-users of cloud IaaS wish to rent rather than own the underlying tangible computer hardware resources. On the other hand, studies by KPMG International (2013:5) indicate that from an end-user's perspective, the emphasis is on solutions rather than technical benefits. This study by KPMG (2013:6) further indicates that the main magnetism towards cloud computing is cost reduction, although this includes added benefits. Improved innovations in products, services and processes are

included in such added benefits (KPMG International, 2013:6). Furthermore, the end-user of cloud computing does not only seek to benefit from the mere use of computer resources, but also seeks additional benefits such as bundled maintenance (Enslin, 2012:10574; Sabetzadeh & Tsui, 2011:16). In the USA, the issue concerning the essence of cloud contracts has, inter alia, been addressed as follows: “[A]lthough customers might be considered to ‘use’ the servers of those providers (and the software provided), the department concluded that such providers were ‘most commonly understood to be providers of a service, not lessors of computer servers or software.’ (Colorado Department of Revenue, PLR-11-7, 2011, cited in Hellerstein & Sedon, 2012:17)). In addition, regarding cloud IaaS data backup and recovery services it was concluded that “the primary object of the transaction was for the customer to preserve and protect existing data” (Utah Tax Commission, PLR-07-013, cited in Hellerstein & Sedon, 2012:20).

It appears as if establishing the economic reason for entering into a cloud agreement may not be a simple task as it may encompass numerous possibilities.

Overview: Intent

It is clear that a possible lease classification will only apply to the use of tangible, moveable property, namely computer hardware within IaaS, if both control by the end-user **and** the intent to do so exist. The aforementioned clearly indicates that there are numerous possible economic reasons for entering into a cloud computing contract. The dominant reason will, therefore, have to be established based on the relevant facts of each contract. This may prove to be difficult and therefore an attempt to provide set guidelines on the matter appears to be futile and was not further investigated in this study.

As opposed to the use of tangible, moveable property within IaaS, cloud computing activities also entail the use of computer programs within SaaS and/or PaaS. Therefore, it needed to be considered whether income earned from the latter transaction should be categorised as royalty income. Such categorisation was investigated and is discussed in the next section.

2.3 The use of computer programs: Royalty income

In Table 2.2 it was shown that the use of computer programs necessitates an exploration on whether or not such a transaction may result in royalty income being earned by CSPs. Royalty income is specifically included to be of a South African source under section 9(2)(c-d) of the Income Tax Act, based on a two-part test (which is discussed in paragraph 3.3). Sections 9(2)(c-d) of this Act specifically refers to royalty income that is defined in section 9(1) with reference to section 23I as discussed in Table 2.2. This is commonly referred to as proper royalties.

However, an analysis of the true nature of the use of computer programs needs to be broadened to include the imparting of scientific, technical, industrial or commercial knowledge, assistance or services. This is commonly referred to as know-how (SARS, 2012), which is covered in section 9(2)(e-f). The inclusion of know-how under this section, which pertains to royalty income, is based on the same two-part test that is applicable to proper royalties. The applicability of the two-part test to know-how implies a relation to proper royalties. In addition, this relation is consistent with international tax treaty principles disclosed by the OECD. Royalties are defined by the OECD (2012a) as follows (own emphasis):

[Royalties are] payments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work including cinematograph films, any patent, trade mark, design, or model, plan, secret formula or process, or for **information concerning industrial, commercial or scientific experience**.

The emphasised words in this OECD definition refer to information transferred that generally does not fall within the scope of IP (therefore not proper royalties), but that represent closely related know-how (OECD, 2012b:C(12)-7).

For the purpose of this study, the analysis of the use of computer programs was, therefore, performed under the subdivisions of proper royalties and know-how as presented below. Proper royalties were firstly investigated.

2.3.1 Proper royalties

The question to be addressed was whether or not CSPs convey any right to use its IP to the end-user in providing SaaS and/or PaaS. Subsequently, the following two matters needed to be explored in addressing this question:

- Whether application or operational software owned by CSPs and made available to end-users is classified as IP; and if this is affirmed (this was done in Table 2.2);
- Whether any right in the software (IP as defined in section 23I of the Income Tax Act) vests in the end-user under cloud computing SaaS/IaaS activities.

Responding to the latter matter is reasonably clear-cut according to the relevant South African legislation, namely section 11B and 19B(2) of the Copyright Act. From the relevant legislation it is clear that the end-user will only make use of the copyright in software (IP) owned by the CSP if the CSP does in fact convey any of the rights listed in section 11B of the Copyright Act to the end-user. The mere use of software owned by CSPs for personal consumption or consumption in the day-to-day activities of an organisation is contradictory to this list of activities that require the software to be commercially exploited. This also seems to be the approach followed in section 19B(2) of the Copyright Act.

Patently, this matter required no further investigation and is summarised below.

Overview: Proper royalties

Only in rare cases where the end-users apply the CSPs software in a manner that would constitute the commercial exploitation of the **IP** underlying such software, will payments for SaaS and PaaS be considered to be **proper** royalty payments according to South African law. By way of elimination, such payments will then be regarded as payments for services rendered (refer to Figure 2.1 for a summary in this regard). However, the use of computer programs also necessitates a consideration of whether closely related **know-how**, which is retained by the CSP, is imparted to the end-user through the cloud computing activities.

2.3.2 Know-how

The income categories covered in sections 9(2)(e) and (f) of the Income Tax Act that relate to know-how can broadly be broken down and were subsequently explored as follows (own emphasis):

- Primary category: Income earned from **imparting** any **knowledge or information** of a scientific, technical, industrial or commercial nature; or
- Secondary category: Income earned from rendering any **assistance or service in connection with** the application or utilisation of **such knowledge of information**.

Primary category

To impart means to make known (Oxforddictionaries.com, n.d.). In the context of section 9(2)(e-f) that which should be made known, i.e. 'knowledge or information', is know-how/special and secret knowledge that is closely related to royalties (SARS, 2012; OECD, 2012b:C(12)-7).

The OECD (2003:39) interprets the meaning of 'know-how' as follows:

[Know-how is] undivulged technical information that is necessary for the industrial reproduction of a product or process, directly and under the same conditions; inasmuch as it is derived from experience, know-how represents what a manufacturer cannot know from mere examination of the product and mere knowledge of the progress of technique.

Based on this definition, know-how is characterised by the following (OECD 2012b: C(12)-7):

- Undisclosed knowledge or information; and
- that is obtained from past experience; and
- that can be practically applied within an operation or enterprise for its own account; and
- where the application of such knowledge or information will lead to an economic benefit.

Undisclosed knowledge refers to knowledge that is not generally made known to the public, but that is supplied to the end-user under circumstances where specific provisions regarding the secrecy of such knowledge apply (OECD, 2012b:C(12)-7, C(12)-8). This knowledge has to be gained from past experience which, in itself, implies that it excludes consideration for new information compiled at the request of the end-user (OECD, 2012b:C(12)-7). In a summarised version, these first two characteristics of know-how collectively refer to **the nature of information that constitutes know-how**. It is therefore fundamental, firstly, to draw attention to the nature of the information that is made available to end-users within SaaS and PaaS.

Secondly, **the manner in which it is applied within the users' organisation also influences the characterisation of knowledge as that of know-how**. This refers collectively to the last two of the abovementioned characteristics. This secret or special knowledge has to be applied within an operation without the grantor playing any part in the application other than supplying such knowledge (OECD, 2012b:C(12)-7). Furthermore, it has to be applied and utilised by the user in a manner that constitutes commercial exploitation rather than the private use of such knowledge, that is, Business-to-Business (B2B) or Business-to-Consumer (B2C) respectively.

It is submitted that an inquiry into the nature of information that is made available to end-users of cloud activities does not require extensive exploration and can reasonably be addressed in a simplistic manner: what is made available to the end-user within SaaS and PaaS is not the secret process or the principles underlying the software (Wesson, 1999:37). What is made available to the end-user is rather the result of such secret process (Wesson, 1999:37). The secret information or principles behind software includes the logic, algorithms or programming languages (OECD, 2012b:C(12)-12), which are regarded as know-how. In contrast, the developed software as a product will be the result of such know-how.

The making available of the actual know-how versus the making available of the **result** of know-how should therefore not be confused. Subsequently, the end-users utilise the result of such knowledge for personal consumption rather than the actual special knowledge itself for commercial exploitation such as reproduction. The private use of the result of know-how will therefore result in the supply of services.

Furthermore, the scope of the know-how referred to in section 9(2)(e-f) is limited to be of scientific, technical, industrial or commercial nature. The meaning of this limitation is, however, according to the author's best knowledge, not addressed by the Legislator and can be of a wide import. Nevertheless, this limitation becomes less important when it is suggested that CSPs, under SaaS and PaaS, generally do not impart the special or secret knowledge behind computer programs.

Hitherto, the possibility of CSPs imparting know-how has only been discussed concerning the making available of computer programs owned by CSP. However, consideration also needed to be given to the following:

- Technical assistance or consulting offered ancillary to cloud computing agreements (i.e. advice provided electronically via communications with technicians or access to databases such as responses to frequently answered questions) (OECD, 2012b:C(12)-9); and
- Cloud computing activities resulting in the provision of reports that are of value to the end-user.

Technical assistance or consulting, ancillary to the cloud service model provided to the customer, automatically results in the CSP sharing some knowledge or experience with the end-user. This knowledge or experience shared may be due to various causes, for instance concerning a problem or specific request that the end-user may have. It will, therefore, have to be considered whether such knowledge that is shared results in the imparting of know-how under section 9(2)(e-f). In addressing this concern, the same principles as described above regarding the nature and use of information that constitutes know-how will be applied:

- With a hypothesis that the technician or consultant does possess know-how, it is most likely that in rendering technical assistance such know-how is not made known to the end-user. Rather, such know-how is applied in executing the work requested by the end-user (OECD, 2012b:C(12)-8). It would therefore be more accurately classified as a service rather than the sharing of know-how.
- Commonly, such assistance or consulting will not entail a specific provision concerning the confidentiality of such advice provided or knowledge shared (OECD, 2012b:C(12)-8).
- In addition, such information or knowledge shared by the CSP will not be commercially exploited by the end-user (i.e. for reproduction or applied in a secret manufacturing process). It is rather used within the day-to-day operations of the end-user.
- Furthermore, in an analysis of know-how performed by the OECD (2012b:C(12)-8) it was concluded that technical assistance is regarded as the rendering of service rather than that of providing know-how.

On the other hand, cloud activities may also, if desired by the end-user, result in the provision of special reports or the manipulation of end-users' data into a useful format. Once again, such scenarios will have to be scrutinised based on the guidelines on the nature of information that constitutes know-how:

- With a hypothesis that such reports are compiled **using** know-how (i.e. the programming languages and logarithms of software); it should be determined whether or not such know-how is made known to the end-user. If know-how was made known, it should result in the end-user being able to compile such reports on his own, without further interference by the CSP (OECD, 2012b:C(12)-8).
- Furthermore, for such reports to be regarded as know-how, a confidentiality provision regarding such information will have to accompany such a report.
- In addition, the knowledge or content included in such reports will have to be knowledge gained from experience in the past, not new information compiled at the request of the end-user (OECD, 2012b:C(12)-7)

The abovementioned guidelines point out that technical assistance or the provision of reports within cloud computing will seldom fall within the scope of the primary category of section 9(2)(e-f).

So far, the investigation only provided some clarity on the interpretation of the primary category of section 9(2)(e-f). However, the secondary category also needed to be scrutinised in light of the cloud computing phenomenon.

Secondary category

It is imperative to emphasise that the secondary category refers to the rendering of assistance or services. This implies that all cloud computing activities that are not regarded as being that of a lease, proper royalties or the imparting of know-how in the primary category of section 9(2)(e-f) should be considered under the capacity of this secondary category. However, in the context of section 9(2)(e-f), this assistance or services are narrowed down to be **in connection with** the application or utilisation of such knowledge or information (i.e. know-how).

In this limitation to the nature of services that fall within the scope of the secondary category, the wording 'in connection with', is inherently vague. Some synonyms for this wording include 'relating to', 'regarding' or 'pertaining to'. However, the degree or strength that this service should be linked or related to know-how is unclear. 'In connection to' inherently provides some level of flexibility in interpreting this secondary test.

The Legislator referred to these words in Interpretation Note No. 50 on section 11D (2009) in the Income Tax Act. This reference was made to the wording of section 11D as "knowledge **essential to** the use of ..." (own emphasis). According to the Legislator, the words 'essential to' are more rigid than the words 'connected to' as previously used in the old regime in section 11B. The words 'essential to' automatically grant much less flexibility regarding the interpretation of this secondary test. It follows, then, that there is a need for the Legislator to consider and communicate what degree of connection was intended in section 9(2)(e-f) of the Income Tax Act.

Nevertheless, whatever the uncertainty may be relating to the degree of such 'connection', there should be a connection to the application or utilisation of **such knowledge or information**, (i.e. know-how) (own emphasis). The emphasised words, together with the words 'in connection with' indicate that know-how should first have been imparted under the primary category. That is, the know-how cannot be utilised or applied by an end-user in circumstances where the end-user was never supplied with such know-how. Consequently, the secondary category of section 9(2)(e-f) will only apply to the use of computer resources in the rare occasions where know-how was first imparted.

The applicability of both the primary and the secondary category of section 9(2)(e-f) is summarised below.

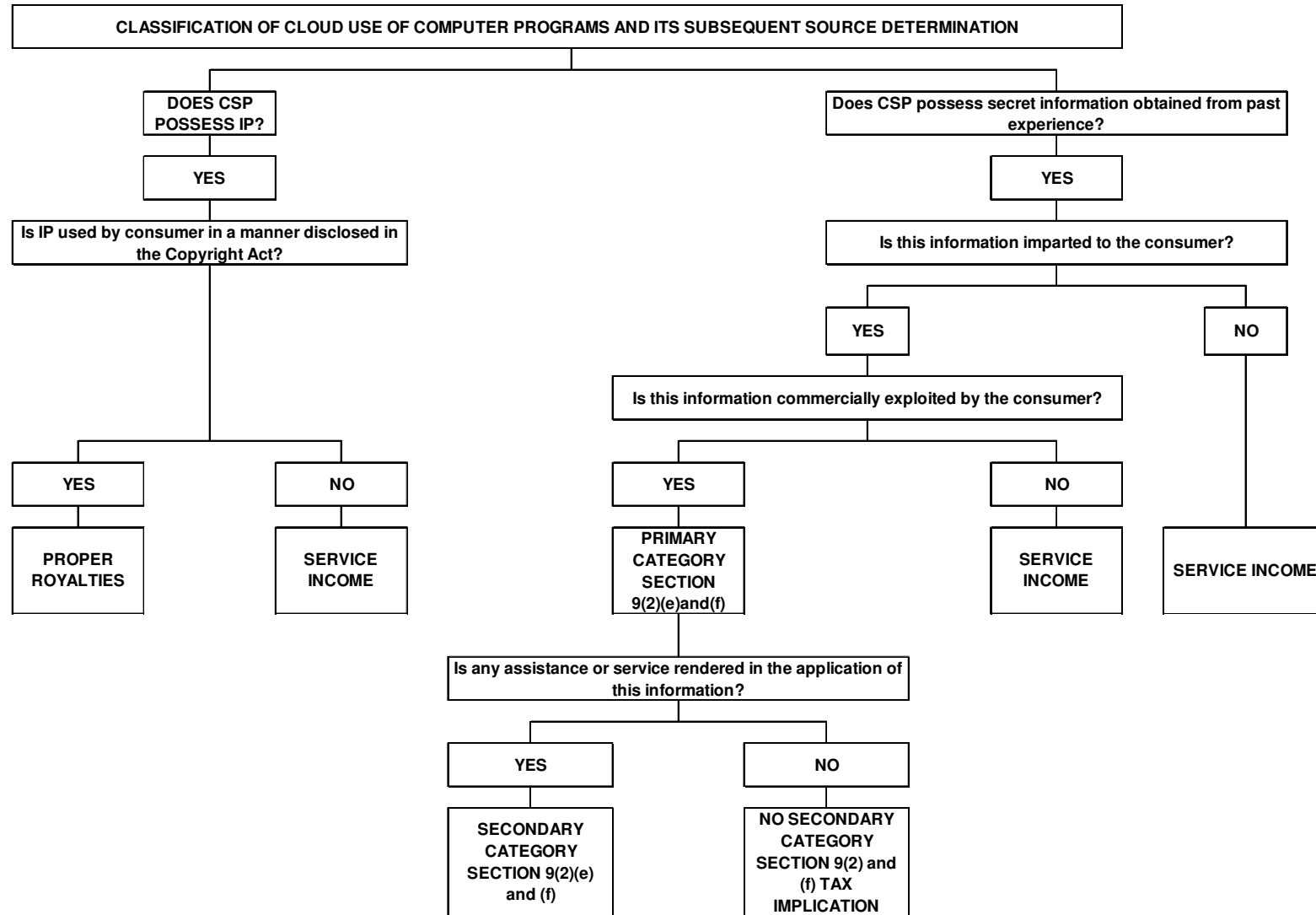
Overview: Know-how

Generally, end-users utilise computer programs that are the result of know-how, rather than the know-how itself which is retained by CSPs. Such computer programs are also used in a manner that does not constitute commercial exploitation. The same arguments, in agreement with characteristics of know-how, can also be raised in relation to technical assistance and the provision of special reports within cloud computing transactions.

These arguments suggests that the use of a computer program under cloud activities will **dominantly** be treated as services, rather than the imparting of know-how according to the primary category of section 9(2)(e) and (f) of the Income Tax Act. In the unlikely event that know-how is transferred to the end-user, it logically follows that the applicability of the secondary category of section 9(2)(e-f) will only be considered in rare circumstances. However, in such rare circumstances, the applicability can only be attempted to be considered in absence of the uncertainty regarding the words 'in connection with', as described above.

The aforementioned as well as factors that need to be considered when the classification of the use of computer programs is examined is summarised in Figure 2.1.

Figure 2.1: Factors that indicate the classification of the use of computer programs within cloud computing



Source: Compiled by the author

From Figure 2.1 it is clear that it is unlikely that cloud computing activities pertaining to the use of computer programs will fall within the scope of section 9(2)(c-f). However, it is emphasised that the complex nature and diversity of cloud computing activities will never allow for a uniform set of the rules to be applied to each contract. The relevant facts pertaining to each contract will need to be scrutinised before any conclusions are drawn.

2.4 General overview: classification

The classification of cloud computing activities is fundamental to the consequential tax treatment thereof. Yet, due to the inherent sophisticated nature of cloud computing activities, expressly from a taxation stance, this task seemingly becomes ambiguous as elucidated by the in-depth theoretical study of the true nature of cloud activities under the three service models. From this study it is evident that formulating guidelines that can uniformly be applied to the cosmic extent of cloud computing activities is both impracticable and futile. Rather, this study attempted to formulate a broad spectrum of factors that may be used when these factors bear relevance to a specific cloud computing agreement under the three main service models. Furthermore, it is not suggested that these factors are exhaustive. It is emphasised that the underlying contract specific to each end-user will have to be investigated scrupulously to consider all relevant facts before the classification of the cloud computing activity is attempted. This may prove to be a time-consuming process that depends on subjective interpretations. The presence of specific guidelines on the classifications of cloud computing internet activities may avoid any challenges in this regard.

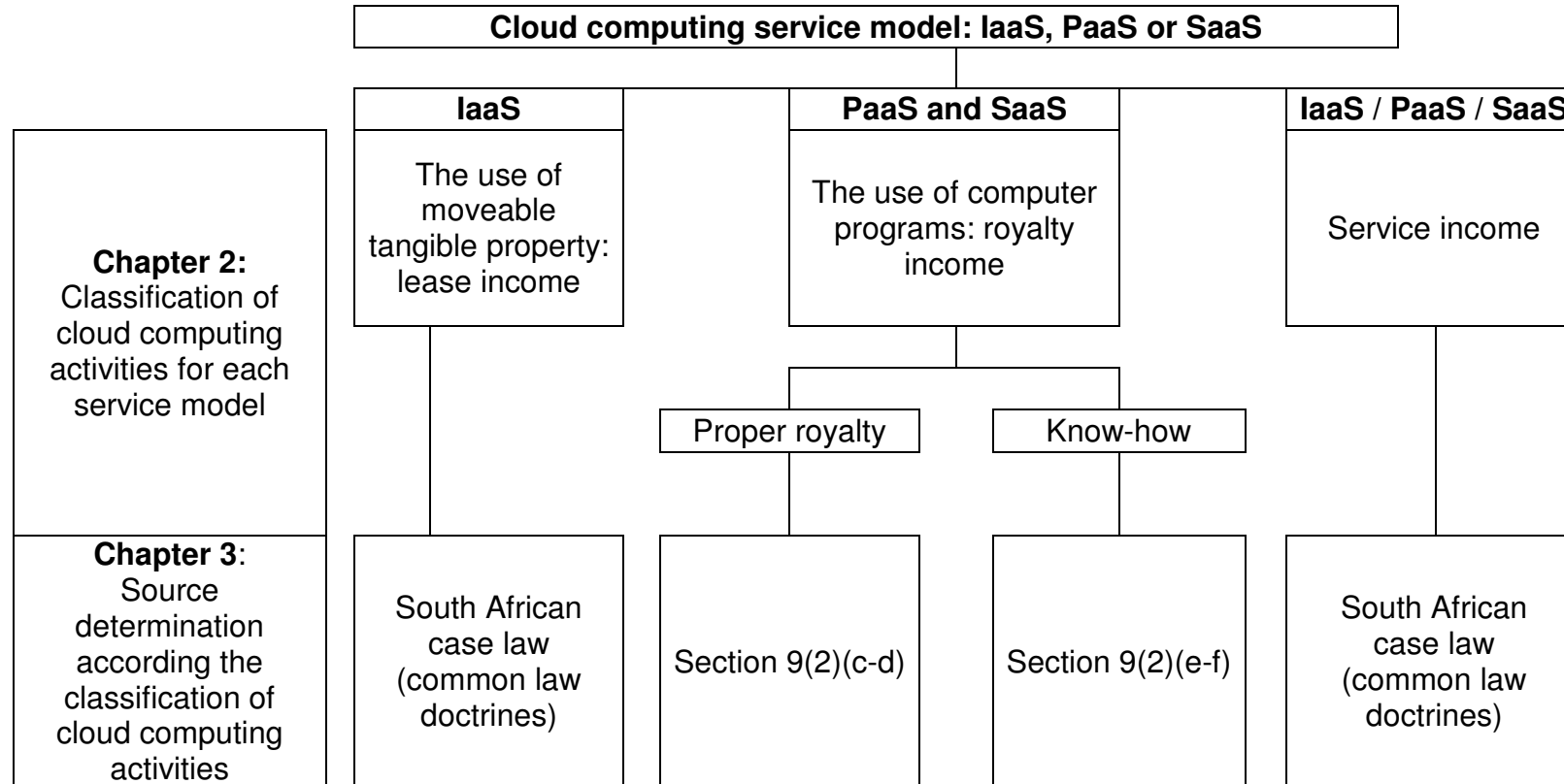
However, in the absence of such guidelines at present, at the root of classifying cloud computing activities it has to be considered whether the contract provides for any rights in the underlying computer resources vested in the end-user (KPMG International, 2012:17). Under this consideration it is submitted that cloud computing activities may be classified as one or a combination of the following income categories:

- IaaS: The use of tangible, moveable property: lease income; and/or

- SaaS and PaaS: The use of computer programs – proper royalty income; and/or
- SaaS and PaaS: The use of computer programs – income from the imparting of know-how; and/or
- IaaS/SaaS/PaaS: Service income, which will be classified as such by means of elimination of the above three income categories.

These possible classifications were used as a starting point in studying the normal tax source of cloud computing activities from a South African perspective as presented in Chapter 3 and indicated in Figure 2.2.

Figure2.2: Organisation of the research for Chapter 3



Chapter 3: Source determination according to the classification of cloud computing activities

3.1 Background

Cloud computing activities will earn lease income from tangible moveable assets, proper royalty income or income from the imparting of know-how. In the absence of any of the aforementioned income categories, it falls within income earned from services rendered. Income earned by CSPs may also consist of a combination of these four income categories. The treatment of combined income categories falls outside the scope of this study.

In this chapter the taxation source is examined from a South African perspective, for each of these income categories. South African source rules will firstly be determined by applying section 9 of the Income Tax Act. In the deficiency of an income category enclosed within the scope of section 9 of this Act, the common law doctrines will residually apply.

Lease income and income from services rendered are not encompassed in the list of income categories in section 9 of the Income Tax Act. The study of the source should, therefore, follow the guidelines ascertained by the South African courts. However, the interpretation of the term 'from a South African source' by the learned judges within common law, seem to be a difficult task with many conundrums. Watermeyer CJ in *Commissioner for Inland Revenue (CIR) v Lever Bros & Another* (1946:454) (*Lever Bros* case) indicated that it is probably impossible to convey a definition which would endow a collective test for determining when an amount was received from a source within South Africa. In *Rhodesia Metals Ltd (In Liquidation) v Commissioner of Taxes (COT)* (1940:436) Lord Atkin accepted that 'source means not a legal concept but something which a practical man would regard as a real source of income'. On a related note, the Income Tax Act also does not provide a definition of the term 'source'. It was stated by the courts (Centlivres CJ in *CIR V Epstein*, 1954:689)) that this absence of a definition was probably due to the Legislator being aware of the difficulty in providing such definition.

Nevertheless, common law does provide us with guidance on determining the source of income, the primary test being that of originating cause established by Watermeyer CJ in the *Lever Bros case* (1946:450):

... the source of receipts, received as income, is not the quarter whence they come, but the originating cause of their being received as income, and that this origination cause is the work which the taxpayer does to earn them, the quid pro quo which he gives in return for which he receives them. The work which he does may be a business which he carries on, or an enterprise which he undertakes, or an activity in which he engages and it may take the form of personal exertion, mental or physical, or it may take the form of employment of capital either by using it to earn income or by letting its use to someone else. Often the work is some combination of these.

All the more, the common law judgements provide specific guidance on the primary test of locating the originating cause for specifically lease income and services rendered, both of which will be separately discussed in this chapter.

The South African courts have traditionally dominantly established originating cause based on the so-called activities test (Meyerowitz, 2005:7-4). That is, where the taxpayer performed the actions that resulted in his receiving income (*CIR v Epstein*, 1954:699). However, in Schreiner's dissenting judgement in *CIR v Epstein* (1954:699), he holds the opinion that always assuming that the activities test is applicable in determining the originating cause was not the intention of Watermeyer CJ in the *Lever Bros case* (1946). Schreiner JA (*CIR v Epstein*, 1954:699) states that the originating cause may also be where profits are realised. In the context of cloud computing this could possibly be construed as the place where the end-user is located.

The potential source locations within cloud computing dictate a consideration of this judgement by Schreiner JA, which opposes the so-called activities test.

These locations are based on the three main components within cloud computing, each of which may have a different location:

- (a) The servers and the programs run on it, owned by the CSP; and/or
- (b) The business operations of the CSP (which may or may not be the same location of the above servers); and
- (c) The location of the end-user, which may be worldwide wherever there is an internet connection.

If it is assumed that reliance should always be placed on the activities of the taxpayer to establish the originating cause, it will most probably be located at (a) and/or (b) above. For the purpose of this study both these locations are situated outside South Africa. However, no income would have been received without some form of interactive activity conducted by residents via the internet. Excluding the possibility of the location of the end-user as a possible source of cloud income may defeat the reason for source as a test of liability for normal tax. The source test allows that a country that yields wealth from the actions of its resident's shares in a portion of that wealth wherever the recipient of it may live (*Kergeulen Sealing & Whaling Co Ltd v CIR* 1939 AD 487 at 507 per Stratford, CJ, 10 SATC 363). Even so, if (c) above can be considered as a location of the originating cause of cloud computing activities, other tax difficulties may arise. Isolating a specific location for (c) is vastly problematic as the nature of internet activities allows for end-users to continually change their locations to the destination of their choice.

This suggests the problems that may be highlighted in applying the traditional common law guidelines to the intricate nature of cloud computing activities conducted via the internet. This matter has, according to the author's best knowledge, not been addressed by the South African tax authorities regarding normal tax. As a result, these difficulties will be further investigated in this chapter.

Relevant to this investigation is the non-tax judgement from Heher JA in the *Casino Enterprises (Pty) Ltd v The Gauteng Gambling Board* (2011) (*Casino Enterprise case*) wherein the Supreme Court of South Africa considers the

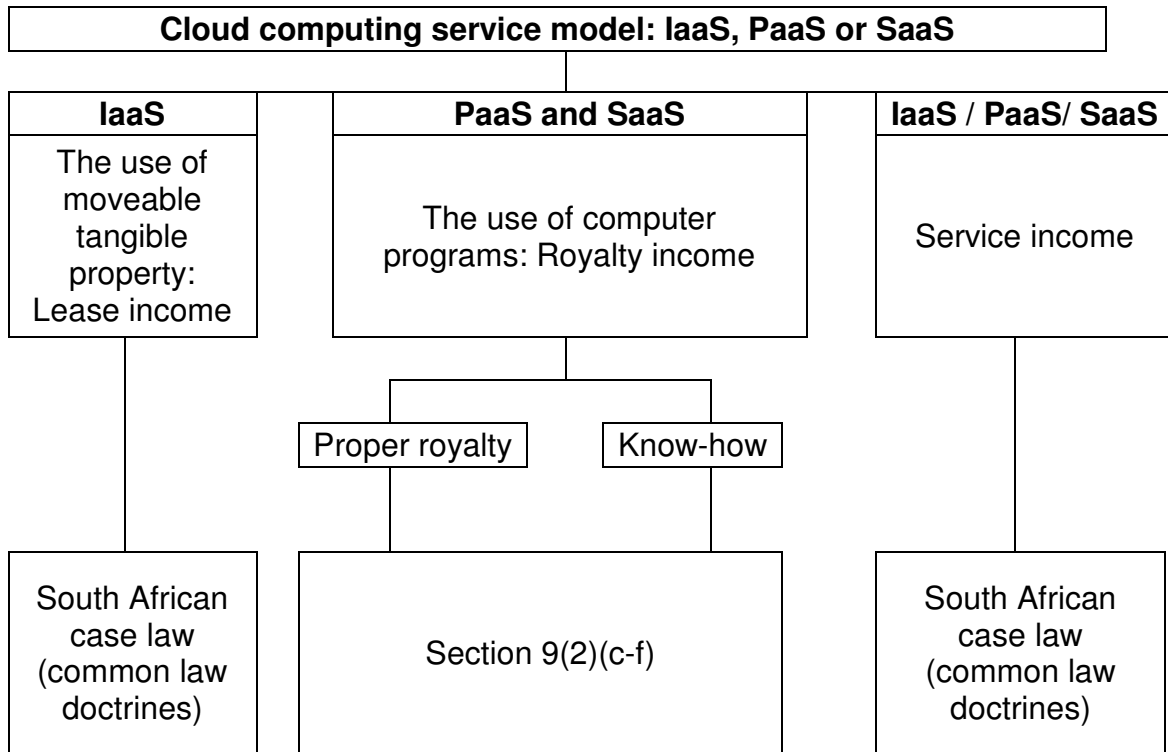
location of gambling in an internet casino. It is posited in this study that in the absence of this case being related to tax, it bears great relevance to establishing the source of cloud computing activities provided to South African residents via the internet.

The issue addressed in the *Casino Enterprise* case (2011) is similar to the pursuit of this chapter, which is to establish **where the provision of cloud computing activities takes place**. The focus of the dispute in the *Casino Enterprise* case (2011:2) is whether South African gambling laws are infringed by internet casino activities. The issue is, then, **where** the service of providing online gambling is rendered – where the end-users are located or where the servers of the online casino are located. The question is addressed in order to establish whether South African gambling acts are contravened or not.

The Casino Enterprise case (2011) will, therefore, be relied on greatly in the examination of originating cause for lease and service income. On the other hand, the source determination of proper royalties and the imparting of know-how is covered under section 9(2)(c-f) of the Income Tax Act and will subsequently be investigated under the faculty of these sections.

The aim of this chapter is, therefore, to examine the source determination of cloud income earned by non-resident CSPs from activities conducted with residents. Challenging areas in the source determination will correspondingly be highlighted. This source examination of each of the possible income categories of cloud computing will follow the structure presented in Figure 3.1.

Figure 3.1: Structure of the research relating to the source determinations of cloud computing activities

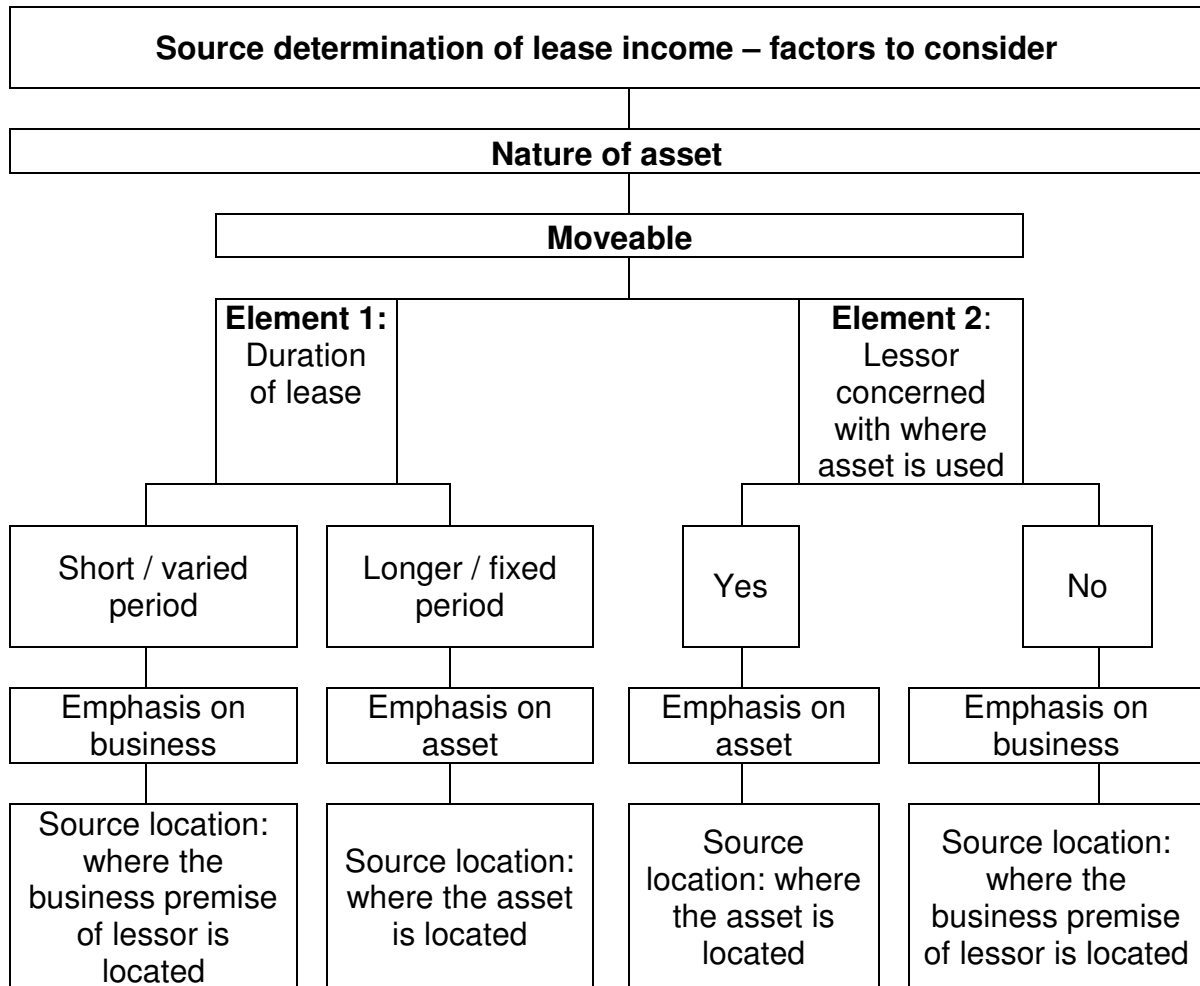


3.2 The use of moveable, tangible property: Lease income

The location of the originating cause of lease income has traditionally been determined by firstly regarding the nature of the asset (i.e. moveable or immovable) generating this income. Consequently, in the event of the lease of movables, the originating cause is identified based on the object of emphasis to the lessor, which can either constitute his business or his lease asset. The emphasis on either one of these objects is indicated by two elements, namely the duration of the lease and whether or not the lessor is concerned with where the lease asset is used (Meyerowitz, 2005: 7-9; Van Schalkwyk, 2011: 67). Leases that are of short duration or vary in duration generally indicate that the object of emphasis and the resultant originating cause are on the business. In contrast to this, longer lease terms imply that the lease asset is the object of emphasis. Consequently, the latter indicates that the source of the lease income is where the asset is located. Regarding the second element, if the lessor is concerned with where the lease asset is used, it is implied that emphasis is on

asset. On the other hand, the emphasis will be on the business where no such concern exists. These guidelines and elements are summarised in Figure 3.2.

Figure 3.2: The source determination of lease income from moveable assets



Source: Compiled by author

These guidelines and elements in Figure 3.2 were implied in the judgement in *CoT v British United Shoe Machinery (Pty) Ltd* (1964:196) (*British United case*) where Clayden CJ stated:

Looked at from a practical point of view it is I consider the machines and not the capital which was invested in the machines which, by being let out to use, produce the income. The source of the income is because someone is using the machines, the property of the respondent. With the hire of smaller things for a more limited period, for

example motor cars, it is rather the business of the lessor than the property leased which is the source ... And the location of the source would probably be the location of the profit producing activities, and the occasional use of property in another country would probably be ignored ... This case is not like that of the tugs: the lessor of the property was concerned with where his machines were to be used, for he made it a condition of the agreement that they should be used, and only at a particular place in Rhodesia. It is obvious that there cannot be an inexhaustible market in which to lease machinery used in the manufacture of footwear. And if the lessor of such machinery has quantities of it for hire that he can hire out not only in his own country but in an adjoining country it seems to me that it is an inescapable conclusion that he means to make money through the use of that machinery in that other country. If that is so it does not seem to me to matter that would-be users of the machinery have to go to the lessor to get it, and have to pay to take it where they want to use it. The lessor is opening up another market for his hiring activities. And when the property produces income in that other market the source of that income is I consider where the market is. I consider that it is clear that with property of this nature, and leases of so long duration so that the emphasis is on the property and not on the business of the lessor, the source of income derive from the property is where the property is used.

However, this passage from the *British United* case (1964:196) renders many arduous questions relating to the test of source for lease income in a cloud computing environment.

At this point it is essential to state the predominant difference between a traditional lease, referred to in the above passage, and a cloud computing lease: in a traditional lease agreement, the lessee has physical possession of the asset, that is, the asset is used where the asset is also located. In the context of this study, within a cloud computing environment, the lessee never has physical

possession of the asset, but uses the asset remotely via the internet. Therefore, within cloud computing the location where the asset is used is separated from its physical location. This separation of use and possession results in the first ambiguity from the *British United case* that relates specifically to the second element in Figure 3.2: is the originating cause located based on the fact that the lessor is concerned with where the assets are **used** or where they are **located**?

An additional uncertainty raised by the passage from the *British United case* (1964:196) stems from the following section (own emphasis): ‘The lessor is opening up another market for his hiring activities. And when the property produces income in that other market the **source of that income is I consider where the market is**’. Similar to the aforementioned, this section would not create any difficulties within a traditional lease agreement where a single location exists for the physical asset, the use of the asset and the market. However, within cloud computing these elements all have different and continually changing locations; therefore, the intended meaning of ‘market’ requires some investigation. Furthermore, it should be inquired whether the market may be a consideration for the location of originating cause of cloud computing activities.

Consequently, based on the *British United case* (1964), further investigations into the source determination of cloud computing lease activities will therefore be based on the following aspects:

- Uncertainties pertaining to Element 2 in Figure 3.2: Is the lessor concerned with where the asset is used or located?
- Considering the location of the market as a possible location of the originating cause of cloud lease activities

3.2.1 Uncertainties pertaining to Element 2 in Figure 3.2: Is the lessor concerned with where the asset is used or located?

From the *British United* case (1964), as summarised in Figure 3.2, element 2 refers to whether or not the lessor is **concerned with** where the asset is **used**. It is submitted that 'concerned with' refers to 'having control over'. This submission is based on the two opposing leases compared to each other in this passage from the *British United case*. In the lease agreement reviewed in this case, the lessor has control over where the assets are used based on a condition in the lease agreement. This is compared with the hire of cars, where the lessor has no such control as a result of the nature of such a business. This is a logical result as the lessee in car hire can freely move the vehicle wherever he requires it.

This element of having control over assets has traditionally been narrowed down to controlling the location where the asset is **used**, which also inherently implies control over the physical location of the asset, since use and physical possession are unabridged within a traditional lease. Therefore, although the passage specifically refers to where the asset is used, at the time of the judgement the need to distinguish between control pertaining to the location of use and the physical location of the asset was irrelevant. However, within cloud computing such a distinction becomes relevant.

Within cloud computing lease agreements the CSP has no control over where the computer hardware is used by the end-user. This is the result of the nature of internet activities being location independent. However, the nature of computer hardware is moveable, which implies that the assets may be located at and moved to different premises. Therefore, the CSP, as owner of such hardware, generally does have control over its location. It follows, then, that to enable the determination of the originating cause of cloud lease activities, it has to be made clear whether 'having control over' assets refers to control pertaining to the location of use, or the physical location of the asset or both. The need for guidance in this regard is elucidated by applying Figure 3.2 to cloud computing lease activities under both possible meanings of element 2:

- **Option 1: Element 2 – Lessor is concerned with where the asset is *used*:**

- Result for element 1: Emphasis on the business

Cloud computing lease agreements are of short or varied duration due to the elastic quality associated with consuming cloud activities. Therefore, element 1 indicates that the emphasis is on the business of CSPs.

- Result for Element 2: Emphasis on the business

CSPs have no control over where computer hardware is used; and therefore the emphasis will be on the business of the CSPs.

Under option 1, the results of both elements, which indicate the object of emphasis, are identical. This is also the situation in applying both opposing examples in the *British United* case. This will result in lease income, earned from the use of computer hardware by South Africans, incurring no taxable income from a South African perspective, since the source will be located where the business premises of CSPs are located.

- **Option 2: Element 2 – Lessor is concerned with where the asset is *located*:**

- Result for Element 1: Emphasis on the business

Cloud computing lease agreements are of short or varied duration due to the elastic quality associated with consuming cloud activities. Therefore, element 1 indicates that the emphasis is on the business of CSPs.

- Result for Element 2: Emphasis on the asset

CSPs have control over where computer hardware is located; and therefore the emphasis will be on the asset of the CSPs.

Under option 2, the results of both elements, which indicate the object of emphasis, are conflicting. The taxability of lease income, earned from the use of computer hardware by South Africans, is therefore uncertain under this option. This conflict of results under option 2 could lead to difficulties in applying the principles outlined in the *British United* case, since none of the scenarios that are considered leads to conflicting results. This leads to an uncertainty as to what extent each of the elements influences the determination of the object of

emphasis (i.e. the weight contributed by each element). However, the validity of this uncertainty only applies in the event of element 2 in Figure 3.2 being that the lessor is concerned with where the asset is **located**.

In addition to the abovementioned identified uncertainties pertaining to element 2, which is indicated in Figure 3.2, the *British United* case also necessitates a consideration of the market as a possible location of originating cause of cloud lease activities, which will subsequently be investigated.

3.2.2 Considering the location of the market as a possible location of the originating cause of cloud lease activities

In terms of the commercial use of the term 'market', it can refer to a group of end-users to which an enterprise aspires to **make its products or services available**. Alternatively, it can also refer to where the enterprise promotes the supply of its products or services, for example a specific geographical area to which the service or product is **made available**. The market is, therefore, located where a product or service is made available, which is inherently where the consumers are located.

From the definitions in Table 1.1, cloud computing makes computer resources available to the end-user, at his convenience, where he may find himself. Therefore, the location of the end-user, which is where he accesses the cloud, represents the market for cloud activities. This market is thus only limited to end-users having internet access and therefore primarily boundless regarding geographical scope. This location independence nature of the market for internet commerce transactions was also considered in the *Casino Enterprise* case (2011:14-15) by Heher JA (own emphasis):

Moreover the appellant 'makes' such games 'available' to prospective players in South Africa. The purpose of the Act is to control the effect of gambling on South Africans in South Africa whatever the source of the temptation may be. In so far as the intention of the appellant is to use the internet casino to introduce South Africans to the 'delights' of direct

gambling from their homes (or places of business) it places no strain upon the ordinary meaning of the expression to treat the placing and maintenance on the web of an internet casino which is readily accessible to such persons as acts of making gambling available in South Africa. The appellant's advertising on its web-site informs the interested viewer that 'In just a few easy steps you can start playing all your favourite casino games from the comfort of your own home' and 'Imagine being able to enjoy all your favourite slot machine games in your own personal cosy abode where you can just relax and be at home.' **Although these statements no doubt contain some hyperbole, they also identify an essential truth in what the appellant is doing: the opportunity to gamble is being offered to the would-be player wherever it finds him or her with a computer link to the internet, which usually means in the home or office ...**

[39] To 'make available' means to 'render accessible for use' or 'place at one's disposal or within one's reach'; see *Reynolds Brothers Ltd v Chairman, Local Road Transportation Board, Johannesburg and Another* 1985 (2) SA 790 (A) at 802. The 'engagement' and the 'making available' both take place wherever the participant finds him- or herself, which, as the introductory material on the website makes clear, is the appellant's stated intention.

This judgement from the *Casino Enterprise* case, in tandem with the *British United* case, may in fact result in the location of the market, that is, the location of the end-user, to be considered as the originating cause of the cloud computing lease transactions. It can be argued that essentially the computer hardware owned by CSPs, wherever it may be located, generates income in the market to which it is made available. This market is located wherever the end-user has access to computer technologies, which is commonly implied to be at his home or office (*Casino Enterprise* case, 2011:15). Although CSPs' market is worldwide, this all-inclusive market inherently does include South Africans. It follows that in the event of the market being the originating cause, that lease income earned by CSPs from South African end-users will incur South African tax liabilities. In source

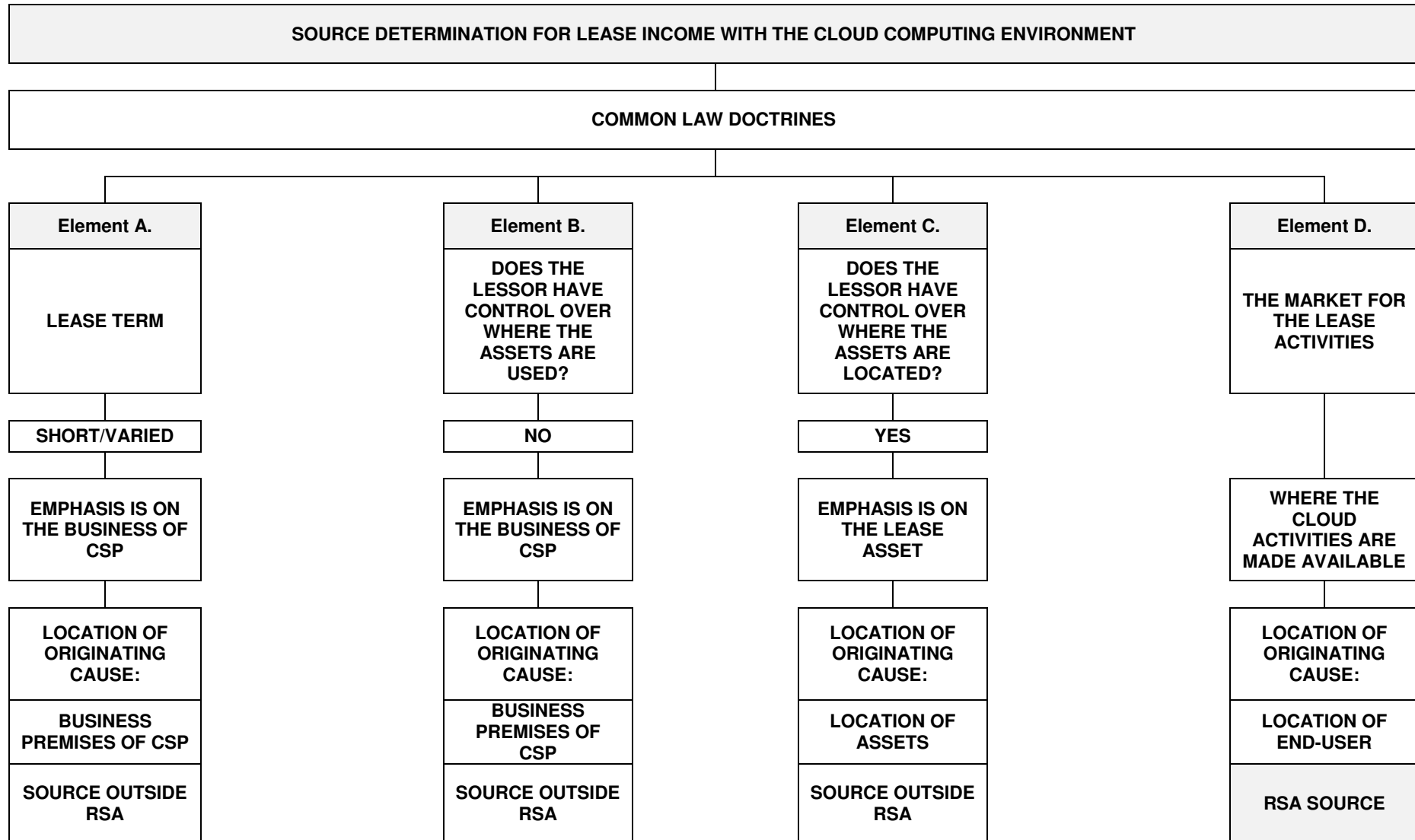
determination the shift in focus to the location of the consumer (paying for the services) is also evident in the amendments to section 9(2)(b), 9(2)(c) and 9(2)(e) of the Income Tax Act .

The investigation of the source determination of lease income within the cloud computing realm indicates that the traditional common law doctrines do provide some elements and guidelines to consider in this matter. However, these guidelines and elements clearly hold uncertainties and challenges, which are summarised below.

Overview: Lease income

A summary of the possible elements that will need to be considered to determine the source of cloud lease activities is explicated in Figure 3.3.

Figure 3.3: The source determination of cloud lease income



Source: Compiled by the author

From Figure 3.3 and the aforementioned investigation, it is clear that considering the traditional guidelines and elements to determine the source of income becomes embroiled within the cloud computing environment. Furthermore, based on the location independent nature of the internet, the market for cloud lease activities has been identified as a possible location of the originating cause. This finding is in agreement with the dissenting judgement of Schreiner JA in *CIR v Epstein* (1954:699) which opposes the activity-based approach of determining the originating cause. It rather moves towards the viewpoint that 'the place where the taxpayer's income originates is not where he himself personally exerts himself, assuming that he does so, but where the business profits are realised'. At this point, from a normal tax perspective, it is uncertain whether this approach will be accepted and followed by the South African tax authorities.

The answer to the above is perhaps in what has already been emphasised relating to source determination – that each individual case will have to be considered based on the hard matters of fact looked at from a practical point of view (*Rhodesia Metals Ltd (In Liquidation) v COT*, 1940:436). However, this time-consuming process may be avoided if South African tax authorities provide some clarity on the application of these factors that have become enmeshed within the cloud computing lease environment.

The next source investigation pertains to the cloud computing activities that render royalty income.

3.3 The use of computer programs: Royalty income

The source determination of proper royalties and the imparting of know-how are covered under section 9(2)(c-f) of the Income Tax Act. Sections 9(2)(c-d) relate to proper royalty income and sections 9(2)(e-f) relate to the imparting of know-how. However, these sections describe the same two-part source test for the relevant income categories covered by these sections of the Income Tax Act. Firstly, these income categories are from a South African source if the paying party is a South African resident, unless the receipt is attributable to a PE outside South Africa. Secondly, South African source royalties and know-how income will exist if the

receipt is related to the use, right of use or grant of permission to use IP or know-how within South Africa. Consequently, the source rules relevant to both proper royalties and know-how will be studied uniformly under the faculty of this two-part test.

The source determination, according to the first test in section 9(2)(c) and (e) for respectively royalty and know-how, is based on payments that are made by residents. In the context of this study, which excluded research on the existence and location of a PE regarding the CSP, this test is evidently self-explanatory and uncomplicated. Consequently, the first test of source in section 9 requires no further examination.

Contrariwise, a challenging quandary may arise in the second source test in sections 9(2)(d) and (f), which is based on IP and know-how that are **used in the Republic**. This difficulty stems from the electronic delivery of cloud computing, which enables the end-user to access and use a cloud from different locations while travelling (Cummings, 2012:12). (It is implicit that the use of IP or know-how is ultimately where the end-user is located.) The question therefore arises whether 'used in the Republic' requires a literal or a broader interpretation. The interpretations denote **a physical presence and usage in South Africa** versus the inclusion of the use of IP and know-how **by residents**, wherever they may find themselves.

This uncertainty has, to the best of the author's knowledge, not been addressed by the South African tax authorities for normal tax source test purposes. It has, however, been attended to by SARS (2013) regarding the place of supply for purposes of VAT, which may be indicative of the expected future response to the normal tax problem. Nonetheless, the author holds the opinion that this VAT-related response from the tax authorities is also relevant to the normal tax problem under review, which is exactly what is considered by SARS (2013), albeit for VAT purposes:

In view of the fact that customer location is often unknown in the case of e-commerce, a proxy for customer location will be used. It was

decided that either of the following will serve as a proxy for customer location: (i) payment from a South African bank account, or (ii) customer residency in South Africa.

From the SARS (2013) response, it seems that resources are regarded to be used in the Republic of South Africa based on the end-user being a resident, rather than on the basis of the customer being physically present at the time of use. This broader approach to customer location was also applied by the courts in the *Casino Enterprise* case (2011:15) wherein Heher JA gave no regard to the fact that the user of online gambling services may be wherever he finds himself with a computer linked to the internet. The learned judge merely, without further embellishment, made the assumption that the location is usually in the office or home of the end-user.

This broader approach will also eliminate various problems that may stem from the literal interpretation of customer location. The prevalent problem is that non-resident CSPs will be liable to South African income tax if any person, including non-residents, connects to the internet to access or use cloud activities from a South African address while being physically present in South Africa. This brings forth implicit, copious administration and practical difficulties. Tracking customer locations and apportioning income earned by CSPs to all countries in which end-users may be present at the time of use are merely a few of these difficulties. It follows, then, that the broader interpretation to include the use of IP and know-how by residents, wherever they may find themselves, seems to be a more practical and reasonable approach.

However, this approach necessitates a consideration of how it will be established whether or not South African **tax** residents use IP or know-how provided online by non-resident CSPs. This has in fact been considered by tax authorities and it has already been mentioned that SARS (2013) came to a decision to use a proxy address, namely payment from a South African bank account or customer residency in South Africa. However, these options are not without fault when they

are related to the source of income for normal tax purposes. There are various limitations, since in using these proxy addresses it is assumed that:

- the CSPs will have this information disclosed to them or available (Hellerstein & Sedon, 2012:24)
- reliance can be placed on the CSP to comply with the South African normal tax liability imposed on them for customers located here (Hellerstein & Sedon, 2012:25); and
- the use of the end-user's information will not constitute bad faith (Hellerstein & Sedon, 2012:24)

[Note that the abovementioned three limitations will also be applicable to the first source test within section 9(2)(c) and (e).]

Furthermore, it is assumed that the ultimate end-users (and not just the payer) of the IP and know-how provided via cloud computing transactions are located at these proxy addresses (Hellerstein & Sedon, 2012: 25). Uncertainty regarding citizenship/company registration and tax residency according to section 1 of the Income Tax Act may exist. A person (as defined in section 1 of the Income Tax Act) may not be a South African citizen or registered company, but may be a tax resident according to the Income Tax Act. If the tax residency of a customer/end-user is not disclosed to the CSP it will result in certain transactions escaping the CSP's South African income tax liability.

Other indicators of end-user location, such as end-user internet protocol or billing addresses have also been considered by South African tax authorities. However, each of these, as mentioned below, created its own hindrances and was rejected by SARS (2013):

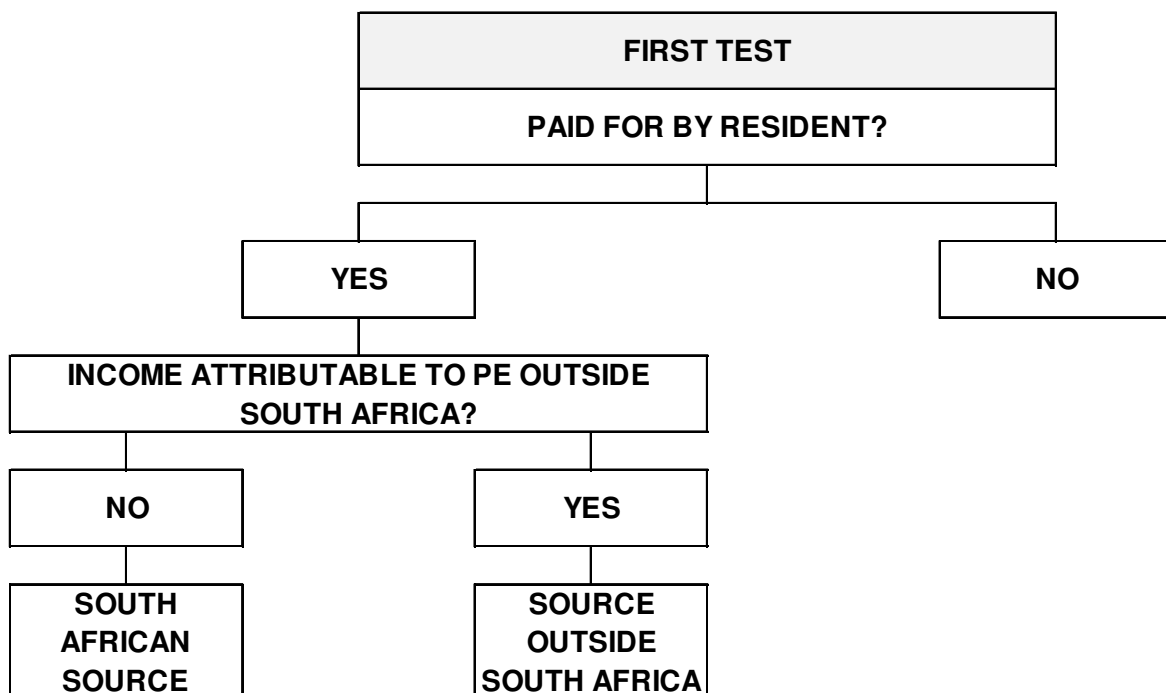
- Customer internet Protocol addresses depend on the location of the internet service provider (ISP) and not necessarily on the location of the customer himself. Furthermore, customers can disguise their internet protocol addresses and ISPs may also procure bandwidth from other ISPs based on traffic volumes, which signifies that the location may change.
- The customer's billing address may be manipulated without difficulty.

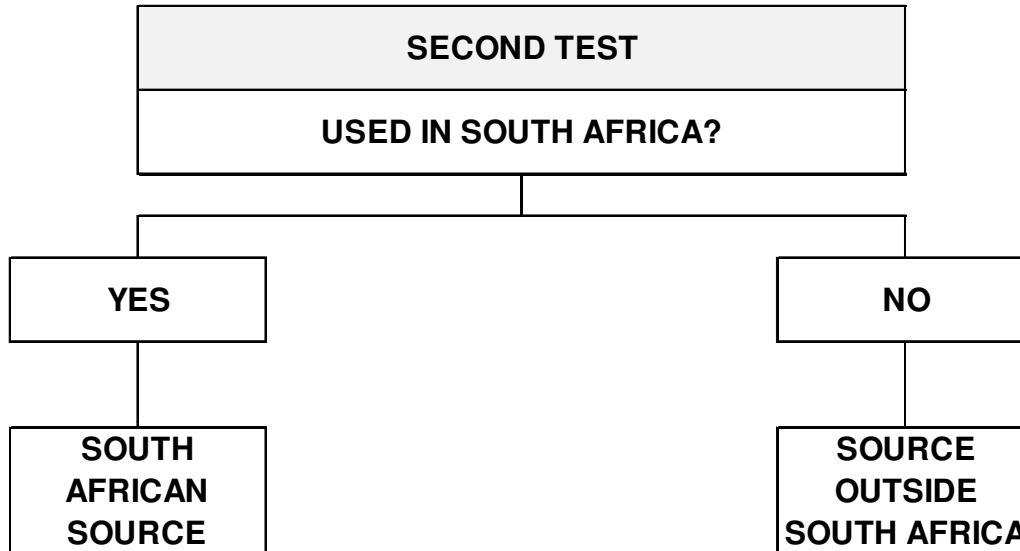
The source determination of royalty income under the faculty of the two-part test of sections 9(2)(c-f) clearly needs guidance pertaining the abovementioned challenges and uncertainties. The application of section 9(2)(c-f) and its identified challenges related to cloud computing are summarised in Figure 3.4 below.

Overview: Royalty income

The application of section 9(2)(c-f) is summarised in Figure 3.4 . However, from the aforementioned it seems that applying section 9(2)(c-f) to the convoluted realm of cloud computing activities categorised as royalty or know-how income, is not a clear-cut task. In addition, numerous difficulties relating to the administration and regulation exist. This calls for guidance from South African tax authorities in order to prevent tax avoidance and/or non-compliance by non-resident CSPs.

Figure 3.4: The application of section 9(2)(c-f)





Source: Compiled by the author

The next source investigation pertains to the cloud computing activities that render service income

3.4 Service income

The common law has traditionally specified the source location of service income at the place where the services are rendered. However, establishing the place of rendering within the internet realm is not a clear-cut task. This was emphasised and confirmed by SARS (2013) to a great extent in the following statement (own emphasis): “Unlike physical services, it is **impossible** to determine the place of performance of an electronic service.” This statement by itself provides a suitable ground to question the authority of the traditional source approach to services within the internet, and what is more specific to this study, an approach to the cloud computing milieu.

However, the traditional source approach to services should not only be interpreted from an isolated viewpoint of place of rendering, but rather from the ultimate test of source, namely originating cause. As Tredgold CJ in *Cot v Shein* (1958:16) stated (own emphasis):

A man may render services by accepting responsibility just as much as by manual or other work. When he does he accepts

responsibility at the place at which the undertaking for which he accepts responsibility is being carried on, wherever he may be at the moment. It may be accepted that, prima facie, the test of the source of a payment for services rendered is the place where those services are rendered. [17] CIR v Lever Bros and Another 1946 AD 441 at 449; CIR v Epstein 1954 (3) SA 689 (A) at 698. The learned judge in the present case said: 'It now seems settled law that generally the source of such income is the place where the services for which the salary is paid are rendered.' Unless the word 'generally' is understood to introduce a considerable qualification the proposition may be perhaps, in this passage, be too boldly stated. **The ultimate test of source is originating cause** (Lever Bros case supra at 450).

Hence, in the absence of being able to determine the place of performance, it will be attempted to remodel the ultimate originating cause of cloud activities classified as services. The term 'originating cause' has already been extensively explored based on the eminent quote by Watermeyer CJ in the *Lever Bros case* (1946:450) as inter alia being 'the quid pro quo which he gives in return for which he receives them [the income]', that is, that for which the end-user is ultimately paying / the substance of the transaction. The author holds the opinion that this is exactly what the learned judge in the *Casino Enterprise case* (2011) considered in determining the location of internet gambling. As stated by the judge in the last mentioned case, Heher JA (2011:10,14):

The materiality of the facts in the summary (inasmuch as any action takes place in or out of the Republic) depends not on the opinion of the expert witness but upon what, in the context of the respective statutes, is meant by **the concept of 'gambling'**. Any aspect that is irrelevant to the proper meaning, [e.g.] the place of lay-out, can be ignored ... **The legislator is concerned with substance, not form**, and if gambling takes place in South Africa it is of no consequence what means are employed to facilitate it and whether those means are employed outside the country.

From this approach taken in the *Casino Enterprise* case (2011), it appears that the originating cause of cloud service may be identified in answering the following question: Where does the concept of cloud computing services come to pass?

The response to this question is two-dimensional, namely:

i. The concept of cloud computing:

In a summarised version it is (Mell & Grance, 2011; Plummer *et al.*, 2009) (amended, own emphasis)

- the **making available** of computer resources (be it classified as any one of the income categories discussed);
- to end-users at their own convenience wherever they find themselves; and
- with minimum management effort or service provider interaction.

ii. The concept of service rendering:

- A service is not a function, it is a **function performed on the end-user's behalf** at a cost to the end-user (O'Sullivan, Edmond & Ter Hofstede, 2002:118) (own emphasis); wherein
- the service provider uses its skills to render this function (OECD, 2012b: C(12)-8); to
- **deliver value to end-users** by facilitating **end-user-defined outcomes** without the ownership of specific costs and risks (ITIL® Glossary and Abbreviations. English, 2011) (own emphasis).
- Furthermore, service rendering also **includes accepting responsibility as held in *Cot v Shein*, 1958:16** (own emphasis).

It should be borne in mind that these elements are interrelated as cloud computing is a specified form of service rendering which makes the following statement by O'Sullivan *et al.* (2002:119) very relevant to this analysis: "[A]n e-service is characterised by its ability to be automatically **summoned** anywhere, anytime." Therefore, in this study it is posited that the concept, the essence, the originating cause of cloud computing services should be digested as follows: The CSP accepts a responsibility to perform the function of making available end-user-defined computer resources wherever he may summon it, which is also where the value is delivered to him. In the latter statement, the activities

performed by the CSP at either its place of business or the location of the servers is not disregarded, but merely viewed as immaterial or incidental to the dominant originating cause of making available computer resources.

The location of both the acceptance of the responsibility by the CSP as well as the act of making available is, according to Tredgold CJ in *Cot v Shein* (1958:16) and Heher JA in the *Casino Enterprise* case (2011:15), the location where the end-user is at the time when the cloud service is summoned. It stands to reason that this view should be interpreted in the same broader manner under which 'the use in the Republic' is interpreted. This implies the administrative difficulties discussed in paragraph 3.3.

Overview: Service income

It is apparent that the traditional common law source approach to services rendered necessitates a reintroduction of originating cause, the ultimate test of source, in cloud computing services. However, this does seem to reroute from the so-called activities test, to the dissenting judgement of Schreiner JA in *CIR v Epstein* (1954) where profits are realised.

3.5 General overview: Source determination

Establishing the source of the various cloud computing income categories under both the faculties of section 9 of the Income Tax Act and the common law is not a simple or unproblematic task. The electronic consumption and delivery of cloud computing lease activities make the source determination based on the traditional common law guideline complex. This complexity is mainly due to traditional lease agreements resulting in the use and the location of the moveable asset to be simultaneously in the same location. However, within the cloud computing environment these components of the lease are separated and at different locations. The main difficulty in applying section 9(2)(c-f) of the Income Tax Act stems from defining the meaning of the words 'used in the Republic'. This problem only relates to electronic economic activities due to the location independence benefit gained from the use of cloud resources. Furthermore, within the service income category of cloud computing, the South African tax authority (SARS, 2013)

has stated that it is an impossible task to determine the place of rendering an electronic service, which is the traditional source (originating cause) of services within the common law. This, therefore, necessitates a reconsideration of the originating cause and its location of cloud computing service activities. South African tax authorities consequently need to consider and address these matters in order to avoid a possible loss of normal tax.

The challenges relating to the determination of the normal tax consequences for non-resident CSPs that are in need of guidance from the South African tax authorities are summarised in Chapter 4.

Chapter 4: Conclusion and recommendation

4.1 General

It is clear that the nature of cloud computing activities, which are conducted via the internet, elevates many difficulties related to taxation. The main taxation-related problems are elicited by the composition of these activities, namely the making available of the cloud by the service provider via the internet and the subsequent use of it by the consumer at any worldwide location he finds most convenient. This composition causes the classification of such transactions and the subsequent taxation source determination to become problematic. Yet, from a South African perspective, little assistance exists on these problems, which abound with difficulties. As a result, significant income may escape South African taxation liabilities.

The aim of this study was to investigate South African taxation consequences for non-resident CSPs who conduct activities with residents via the internet. The focus of the study was twofold: first, to identify factors, which indicates the classification of cloud computing activities as either a lease, a royalty (or its closely related know-how) or a service; and second, to determine the tax source of each of these classifications.

In this chapter the findings of this study are summarised. The findings will be organised according to the possible classifications of cloud computing activities and an investigation of the subsequent potential tax source(s) of these activities. In addition, related challenges that have been identified throughout this study will be summarised.

4.2 The use of moveable, tangible property: Lease income

Cloud activities will only be classified as a lease if it is established that the end-user **both controls** the underlying computer hardware **and** wilfully and honestly **intends** such control. A summary of these two required elements for a lease is provided in Table 4.1. However, findings suggest that control by end-users of computer hardware will very seldom be present in cloud computing activities included in the scope of this study. [Table 2.4 indicates the **most likely** outcome

for each factor that may indicate control, since it is applied to **generalised characteristics of cloud computing activities**. This table also indicates that the factors usually point to control of computer hardware residing with CSPs. In the absence of control, the classification of cloud computing activities as a lease will be unlikely.] However, this classification is by no means impossible if the unique facts of customised cloud activities are considered.

In the event of cloud activities being classified as a lease, the source determination relies on the South African common law doctrines, which mostly stem from the doctrine of originating cause. A summary of the potential elements that may be indicative of the source of lease income, extracted from the *British United* case, is articulated in Figure 3.3. Subsequently, challenges that relate specifically to the lease classification of cloud computing activities are summarised in Table 4.2.

Table 4.1: Summary of the required elements for a lease to exist

CONTROL	INTENT
Due to the nature and purpose of computer hardware, joint control by the CSP and the end-user exists.	It has to be established whether the wilful and honest intent of parties to a cloud computing agreement is in accordance with its form, which is a service.
In the event of joint control, it has to be established which party has significant control. From the research performed, it seems that the party to whom the dominant number of factors indicates control is regarded as having significant control of the computer hardware.	Establishing such intent is based on the true object, the dominant purpose and the essence of the transaction under review (these are used interchangeably).
The factors that are indicative of control have been identified as follows: <ul style="list-style-type: none"> • Physical possession of the resource • Decision power in respect of the 	The essence of the transaction is that what is essentially paid for, which is indicated by the economic reason for entering into the transaction.

CONTROL	INTENT
<p>destination of the resource</p> <ul style="list-style-type: none"> • Operation/maintenance of the resource • Deployment model • The bearer of risk in case of non-performance 	
<p>However, these factors are not considered to be comprehensive, since the relevant facts related to each specific case will have to be investigated and considered.</p>	<p>There are various economic reasons for entering into a cloud computing agreement, which will have to be established based on the facts relevant to each specific case. Therefore, no set guidelines can be formulated.</p>

Source: Compiled by author

Table 4.2: Challenges identified relating to the use of moveable, tangible property: Lease income

<p>A party is considered to significantly control computer hardware in the event of the prevalent number of factors pointing towards him.</p>
<p>This is the result of the assumption that the weight which each factor contributes towards significant control is equal. This assumption seems reasonable in the absence of any indication to opposing ratios allocated to factors. However, South African authorities may choose to assign certain factors with higher weight ratios, such as physical possession. The matter therefore requires some authoritative guidance within the South African normal taxation context.</p>
<p>Intent of parties who enter into cloud computing activities will have to be determined based on the facts of each case.</p>
<p>Since the intent of parties is a matter of fact, each individual cloud computing agreement will have to be scrutinised. This may prove to be a time-consuming, expensive and ineffectual task, which may cause a waste of resources and tax leakages. Guidance, such as standardised treatment of cloud computing activities within the South African taxation framework are, therefore, required to avoid such losses.</p>

Elements C and D in Figure 3.3 have traditionally not been considered in the source determination of lease income.

This is caused by the separation of the locations related to the asset and its use within cloud computing lease agreements, which was not the case in traditional lease agreements. It is, therefore, unclear what the response of the taxation authorities will be in this regard. On a related note, element D is the only element that indicates that cloud lease activities will be sourced in South Africa. At this point, it is unclear whether element D replaces all other elements because the nature of cloud computing activities is so different to traditional leases. Furthermore, currently there is no indication of whether element C should replace element B or whether both these elements should be considered alongside each other. Nonetheless, elements B and C result in conflicting source locations, although none of the locations are in South Africa. Guidance in this regard is fundamental to establishing the source of cloud lease activities.

Element D in Figure 3.3 results in a cloud lease transaction being treated as a South African source if the end-users are located in South Africa.

This causes multiple administration challenges as indicated in Table 4.3. Furthermore, it has to be considered whether the first test of source in section 9(2)(c-f) should not merely also be applied to cloud lease activities; that is, if cloud lease payments are made by South Africans, such income should be regarded to be of South African source. This will also simplify the administrative difficulties referred to above.

Source: Compiled by author

4.3 The use of computer programs: Royalty income

The factors that should be considered in establishing whether cloud activities earn either royalties or income from know-how are explicated in Figure 2.1 in Chapter 2. Cloud activities will generally result in the use of the result of IP or know-how, rather than the actual IP or know-how itself. This implies that the use of computer programs within a cloud context will commonly not fall within the scope of section 9(2)(c-f), since it will be classified as services.

In the event of cloud income being categorised as rendering proper royalty income or the imparting of know-how, the source determination is done as illustrated in Figure 3.4 based on the following two-part test:

- First test of source: If the use of IP or know-how is paid for by a South African resident, such income is regarded to be of a South African source.
- Second test of source: If IP or know-how is used in South Africa, income earned from such use is regarded to be of a South African source.

However, the classification of the use of computer programs and the subsequent source determination according to the classification is not without challenges. These challenges are disclosed in Table 4.3.

Table 4.3: Challenges identified relating to the use of computer programs: Royalty income

Interpretation of ‘used in South Africa’ in the context of the secondary test in section 9(2)(c-f) of the Income Tax Act.
Uncertainty exists as to whether the second test of section 9(2)(c-f) should be interpreted based on a literal (physical presence and use in South Africa) or broader (used by a South African resident) approach. From SARS (2013) correspondence related to VAT on electronic services, it seems that the broader approach is preferred. Yet it is uncertain whether this will apply in a normal tax context. Applying the broader approach eliminates many administrative difficulties that are associated with the literal approach. However, the broader approach is not without faults. These faults are mainly caused by disclosure constraints, which may result in tax losses due to insufficient information (these difficulties are explicated in paragraph 3.3 on page 73). Furthermore, the broader approach relies on non-resident CSPs to declare its South African tax liability, which implicitly implies many related challenges (these difficulties are explicated in paragraph 3.3 on page 73).
Uncertainty regarding the scope of scientific, technical, industrial or commercial information referred to in section 9(2)(e-f) of the Income Tax Act.
It is unclear what is included within the scope of scientific, technical, industrial or commercial information referred to in section 9(2)(e-f) of the Income Tax Act. Since cloud computing is a technology, it has been assumed that cloud activities may be of a technical nature. However, clarity in this regard is required.

Uncertainty regarding the level of flexibility implied by the words ‘in connection with’ in section 9(2)(e-f).

It has to be considered whether the service or assistance has to be merely related or is essential to the application of know-how.

Source: Compiled by author

4.4 Service income

Cloud activities that do not result in lease, royalty or know-how income are by omission classified as service activities. The nature of services rendered via the internet necessitates a reassessment of the traditional source test, namely where services are rendered. However, such reassessment should be done within the parameters of the originating cause relating to cloud computing. Furthermore, it seems clear from the *Casino Enterprise* case (2011) that this is achieved by considering and describing the concept of cloud computing, namely the acceptance of responsibility by the CSP and making computer resource available to end-users wherever it is summoned.

The location where all the abovementioned elements of cloud computing come to pass is where the end-user is located. Therefore, if cloud services are used by residents, it should result in a South African normal tax liability to non-resident CSPs. It is also posited in this study that the same broader approach to royalties also applies to services that are consumed in South Africa. This will result in the same administrative difficulties that are disclosed in Table 4.3.

4.5 Conclusion

The intricate nature of cloud computing activities requires vigilant investigations relating to test of source with the intention of preventing possible significant loss of normal tax for the South African fiscus. The risk of tax leakages is underlined from a South African perspective, since the most common characteristics of cloud computing activities point towards a service classification, which results in a normal tax liability to the CSP if services are rendered to consumers in South Africa. Even so, numerous uncertainties and difficulties may currently cause such liabilities not to be recovered. This requires a response from the South African tax

authorities in order to prevent the potential loss of income in the event of cloud computing.

4.6 Recommendation

Further research on solutions to the challenges identified in this study (refer to Tables 4.2 and 4.3) is recommended. Resolving these challenges could assist in an attempt to prevent possible loss of normal tax to the South African fiscus as well as provide guidance to prospective taxpayers and tax consultants.

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