

UNIVERSITY OF KWAZULU-NATAL  
COLLEGE OF LAW AND MANAGEMENT STUDIES,  
SCHOOL OF LAW

**PRACTICABILITY OF SUCCESSFULLY  
ACHIEVING A PAPERLESS SEA TRADE:  
ELECTRONIC VS PAPER BILLS OF  
LADING**

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This Research Project is submitted in partial fulfilment of the regulations for the Master of Laws (LLM) in Maritime Law Degree at the School of Law at the University of KwaZulu-Natal

January 2018.

## DECLARATION

I, Nompumelelo Portia Ngcobo, do hereby declare that:

- (i) This thesis is my own original work, unless it is otherwise indicated.
- (ii) This thesis has not been submitted for fulfilment of any other degree or examination at any university except for the University of KwaZulu- Natal.
- (iii) This thesis does not contain any other persons writing, data, or other information, unless specifically acknowledged as being sourced from other persons. Where such sources have been quoted, then:
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Signed

N.P Ngcobo

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Nompumelelo Portia Ngcobo

## ACKNOWLEDGEMENT

My profound gratitude goes to GOD almighty for the unending love and strength.

To myself for not giving up when it got tough.

My sincere gratitude goes to my supervisor Mr K Zondi for his guidance and contribution to my work.

Lastly, to my late dad, my five beautiful aunts and to my friends for their love, support and the words of encouragement during my studies, thank you.

Thank you all.

## TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENT.....	iii
<b>Chapter 1</b>	
1.1 Introduction .....	1-2
1.2 Types of Bills of Lading .....	2-7
<b>Chapter 2</b>	
2.1 The Historical Background of the Bills of Lading .....	8 -10
<b>Chapter 3</b>	
3.1 The Bill of Lading as evidence of the carriage of goods contract .....	11 -13
3.2 The Bill of Lading as Receipt of Goods .....	13-15
3.3 The bill of lading as a document of title .....	15 -19
3.3.1 Essential elements for the transfer of ownership .....	19 -20
3.4 Consequences of a negotiable bill of lading .....	20 -21
<b>Chapter 4</b>	
4.1 Advantages of a traditional paper bill of lading .....	22
4.1.1 Availability of precedent .....	22-23
4.1.2 Availability of standard clauses .....	23
4.2 Disadvantages of a paper bill of lading .....	23
4.2.1 Delays.....	23-24
4.2.2 High costs .....	24
4.2.3 Susceptible to errors .....	24
4.2.3 Susceptible to fraud.....	25
4. 3 Solutions to the disadvantages.....	25-26
<b>Chapter 5</b>	
5.1 Early initiatives to implement an electronic bill of lading.....	28
5.1.1 The Sea Docs system.....	28-29
5.1.1.1. Does the Sea Doc replicate the three functions of a bill of lading? .....	29-30
5.1.2 Comite Maritime International (CMI) Rules for electronic bills of lading....	30-32
5.1.2.1. Do the CMI Rules replicate the three functions of a bill of lading? .....	32-33

5.1.3 The Bolero System.....	33-34
5.1.3.1 Does the Bolero System replicate the three functions inherent in the paper bill of lading?.....	34-35
5.1.4 The UNCITRAL Model Law on Electronic Commerce.....	35
5.1.4.1 Does the UNCITRAL Model Law on Electronic Commerce replicate the three functions inherent in the paper bill of lading?.....	36- 37
5.2 The South African perspective.....	37
5.2.1 The Electronic Communications and Transactions Act.....	37 -38
5.2.2 Does the Electronic Communications and Transactions Act replicate the functions of a bill of lading inherent in the paper bill of lading?.....	38-39
5.2.3 The Sea Transport Document Act 65 of 2000.....	39-40
5.3 Recent systems.....	41
5.3.1 E-Title.....	41
5.3.1.1 The functioning of an e-title.....	41-42
5.3.1.2 How an electronic bill of lading is transferred under e-title.....	42-43
5.3.2 Electronic Shipping Solutions (“Ess”).....	43
5.3.2.1 The functioning of an Ess .....	43
5.3.2.2 How an electronic bill of lading is transferred under Ess .....	44
5.4 Functions of an electronic bill of lading .....	44
5.4.1 An electronic bill of lading as evidence of the carriage of goods contract and receipt of goods .....	44
5.4.2 An electronic bill of lading as a document of title .....	45- 47
5.4.2.1 Is the ‘Negotiable transport document’ under the Rotterdam Rules equivalent to a document of title as in the paper bill of lading? .....	47-49

## Chapter 6

6.1 Advantages of adopting an electronic bill of lading.....	51
6.1.1 Reduced operating time .....	51-52
6.1.2 Reduced operating costs.....	52
6.1.3 Increased flexibility .....	52-53
6.1.4 Fraud.....	53-54
6.2 Disadvantages of using an electronic bill of lading .....	54

6.2.1 Changing standards.....	54
6.2.2 Payment and delivery risks .....	55 - 57
6.2.3 Security risks .....	57
6.3 Obstacles to paperless sea trade .....	58
6.3.1 Lack of adequate regulatory regime .....	58
6.3.2 Ineffectiveness of the Rotterdam Rules .....	58-60
6.3.3 Inability to replicate the document of title function.....	60-61
6.3.4 The 'document' and 'writing' requirement.....	61-62
6.3.5 The 'signature' requirement.....	62 - 64

## **Chapter 7**

7.1 Is Africa ready for paperless sea trade or, only the European countries are fully equipped and ready for paper less sea trade?.....	65-66
7.2 The way forward .....	67 – 70

## **Chapter 8**

The Conclusion .....	71-72
Bibliography.....	73

## **Abstract**

Increase in electronic commerce create challenges to the use of the existing laws and the traditional modes of concluding contracts, including the use of paper bills of lading. As a result, this induces a need for the shipping industry to conform to international trade by adopting electronic trading tools such as electronic bill of lading and do away with paper based bill of lading.

The purpose of this study is to examine the feasibility in replacing the paper bill of lading with an electronic bill of lading. In addition, whether the paper bills of lading functions, particularly that of transfer of ownership can be adequately replicated in an electronic bill of lading. In addition, the study will address the lack of adequate regulatory regimes and look at whether the Rotterdam Rules satisfactorily address issues associated with the use of electronic bills of lading. Finally, an evaluation of whether Africa is ready to deal with paperless sea trade or it is only the developed states which are ready.

This thesis is based on a qualitative approach as opposed to quantitative approach. As such it will involve a desktop review, analysis and critical evaluation of various legal materials. Both primary and secondary legal authorities will be explored to provide the nature, developments and feasibility of the electronic bills of lading.

The findings are that the existing legislations only recognises paper bills of lading. As a result, merchants are reluctant to switch to electronic bills of lading for many reasons including security. Further, that successfully achieving a paperless sea trade depends on well drafted rules and regulations; its continuous existence and use greatly depends on the shippers.

To address and overcome the challenges preventing the use of electronic commerce, Electronic Bills of Lading, legislations should be enacted. These legislations should incorporate, amongst other things, provisions affording electronic bills of lading the same status as that of the paper bills of lading. That the Rotterdam Rules should be amended in accordance to accommodate all the party's needs. Lastly, that there must be ways of ensuring secure electronic trading to eliminate the element of fraud.

## Chapter 1:

A bill of lading is defined as a document given to a shipper by, or on behalf of the carrier after the delivery of cargo for shipment.<sup>1</sup> A bill of lading is commonly issued in sets of three by a carrier to the shipper; upon endorsement of one copy the remaining copies are nullified.<sup>2</sup> The concept of a 'bill of lading' stems from the word 'lading' which refers to the handling and loading of cargo in a ship.<sup>3</sup> Therefore, this justifies the reason for the issuance of a bill of lading only after cargo has been loaded in a vessel.

### 1.1 Introduction

A bill of lading may be defined as a legal document between a shipper and a carrier detailing the type, quantity and destination of the goods being carried.<sup>4</sup> Depending on the method of payment chosen by the parties, a bill of lading, and other necessary complying documents as per request of the seller, may serve as a guarantee that payment would be made to the seller in exchange for delivery of goods to the buyer. This is particularly the case where a documentary credit method of payment is adopted.<sup>5</sup>

The Hamburg Rules defines a bill of lading as follows:

'Bill of lading is a document which evidences a contract of carriage by sea and the taking over or loading of the goods by the carrier, and by which the carrier undertakes to deliver the goods against surrender of the document. A provision in the document that the goods are to be delivered to the order of a named person, or to order, or to bearer, constitutes such an undertaking'<sup>6</sup>

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<sup>1</sup> D Marek "Problems and Possibilities for Using Electronic Bills of Lading as Collateral." (2005) *Arizona Journal of International and Comparative Law* 437 at 440.

<sup>2</sup> S M Williams "Something old something new: the bills of lading in the days of EDI." (1991) 1 *Transnational Law & Contemporary Problems* 555 at 550.

<sup>3</sup> *Online Oxford dictionary* available at <https://www.oxforddictionaries.com> accessed on 22 December 2016.

<sup>4</sup> L Rouhshi "Replacing the paper bill of lading with an electronic bill of lading: problems and possible solutions." (2000) 5 *International Trade and Business Law Annual* 159 at 159.

<sup>5</sup> *Ibid.*

<sup>6</sup> United Nations Convention on the Carriage of Goods by Sea (1978) (hereafter referred to as the Hamburg Rules) Article 1.



From this provision a bill of lading serves the functions of being a receipt, evidence of a contract and also as a document of title, thus enabling the owner to sell the goods whilst in the carriers care.

Generally, for a document to qualify as a bill of lading, it must serve three basic functions.<sup>7</sup> Firstly, it serves as evidence of the contract between a shipper and a carrier with regard to the carriage of goods; Secondly, it serves as a receipt that the goods were received by the carrier for shipment to the agreed port of destination and consignee; lastly, it is a document of title.<sup>8</sup> The document of title function means that the bill of lading is 'negotiable and transferable'.<sup>9</sup> As mentioned above, this allows for the owner of the goods to dispose the goods whilst such goods are in the custody of the carrier at sea.

Lastly, a bill of lading is an evidence of the existence of a reciprocal duty which is a promise by the carrier to transport the goods to the port of destination and a promise by the shipper to remunerate the carrier in accordance with the terms contractually agreed on.<sup>10</sup>

## **1.2 Types of Bills of Lading**

### **1.2.1 *Bearer Bill***

This is a form of bill of lading in which a carrier is to make delivery of cargo to the holder of the bill regardless of whether that holder's details appear on the bill of lading as a consignee or an endorsee.<sup>11</sup> Another distinctive feature of this type of bill of lading is that, through endorsement, a bearer bill is capable of being transformed into a different form of bill.<sup>12</sup>

### **1.2.2 *Negotiable bills of lading***

'Negotiable' is equivalent to 'transfer' for the purposes of bills of lading.<sup>13</sup> This means that a negotiable bill of lading is a bill of lading capable of transferring possession of

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<sup>7</sup> Rouhshi (See note 4:159).

<sup>8</sup> Ibid.

<sup>9</sup> G Treitel...et al. *Carver on Bills of Lading*. 3rd ed. (2011) 329.

<sup>10</sup> Ibid at 10.

<sup>11</sup> Aikens...et al. *Bills of Lading*. 2<sup>nd</sup> ed. (2010) 20.

<sup>12</sup> Ibid.

<sup>13</sup> Aikens (See note 11:19).

and title in respect of the cargo in question. The effect of this is that the carrier is then obliged to make delivery of the goods to the identified transferee.<sup>14</sup> On the face of the bill, a negotiable bill can be identified by features of the wording such as 'to order' or 'to X or his order'.<sup>15</sup> Also, any other wording that can be said to have a similar effect and imply an intention to have the bill of lading transferable or negotiable may be used by the parties.<sup>16</sup>

The value of a negotiable document is based on the fact that it enables a party to access the cargo in question easily, quickly and without any expenses.<sup>17</sup> The bill of lading as a document of title:

'It represents the goods, allowing the buyer to deal with the goods while they are at sea; (b) it transfers constructive possession of the goods; (c) it may operate to transfer property in the goods if it is the intention of the parties to do so.'<sup>18</sup>

In addition, a negotiable bill of lading is of importance when 'a number of resale's are contemplated; the seller needs the security of a document of title; and when payment is by documentary credit, as in a letter of credit transaction.'<sup>19</sup> The bill of lading will only stop being a negotiable document once the delivery of the goods is done to their lawful owner according to the contract.<sup>20</sup>

### 1.2.3 *Non-Negotiable bills of lading*

Non- negotiable means that the bill of lading cannot be transferred, in the sense that such bill cannot be indorsed for the purposes of transferring the title to a new holder of the bill.<sup>21</sup> However, a non-negotiable bill of lading can only be used to transfer possession of the cargo.<sup>22</sup>

One important feature which differentiates a negotiable from a non-negotiable is that the former transfers both possession and title in respect of goods, whereas the latter

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<sup>14</sup> Aikens (See note 11:19).

<sup>15</sup> Aikens (See note 11:19).

<sup>16</sup> Aikens (See note 11:19).

<sup>17</sup> Marek (See note 1:444).

<sup>18</sup> Williams (see note 42:561).

<sup>19</sup> Williams (see note 42:562).

<sup>20</sup> Marek (see note 1:442).

<sup>21</sup> Aikens (See note 11:19).

<sup>22</sup> Aikens (See note 11:19).

does not transfer title, but only possession. Therefore, the effect of this is that regardless of the holder being named in the bill of lading, it does not necessarily mean that he has the title in respect of the goods. A simple scenario explaining this would be in a case where a company has branches in two different states. Branch A in country X decides to make delivery of certain goods to branch B in country Y. From this scenario, it is evidence that branch A is merely transferring possession to branch B because it already belongs to the company, just different branches.

#### 1.2.4 *Order bills*

An order bill is a bill in which the delivery of the cargo is to be made to a named person. In addition, the bill may contain words that confers a meaning that delivery is to be made to the named persons 'order and/or or assigns'<sup>23</sup>

#### 1.2.5 *Straight bills and sea way bills*

A brief distinction between a straight bill and a seaway bill is made. Depending on the jurisdiction, the meaning of a straight bill may have dissimilar interpretation.<sup>24</sup> Under English law, a straight bill is not negotiable.<sup>25</sup> They are not transferable through endorsement or by endorsement and delivery.<sup>26</sup> In contrast, under the Federal Bills of Lading Act<sup>27</sup> of the United States, a straight bill is a negotiable but not transferable document.<sup>28</sup> Furthermore, these documents are commercially regarded as being non-negotiable.<sup>29</sup> Straight bill of lading characteristics are that, they direct that good be delivered to a named person.<sup>30</sup> They often contain words such as 'to order or assigns' or 'not transferable or not negotiable', prohibiting further transfer.<sup>31</sup> Therefore it can be concluded that cargo will only be deliverable to the named person in respect of a straight bill of lading.<sup>32</sup> Under a straight bill of lading: '...the named consignee cannot confer the right to the delivery through endorsement and delivery or impose on the

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<sup>23</sup> Aikens (See note 11:20).

<sup>24</sup> Aikens (See note 11:13-14).

<sup>25</sup> Ibid at 14.

<sup>26</sup> Ibid.

<sup>27</sup> Act 49 of 1994.

<sup>28</sup> Aikens (See note 11:15). Aikens further explains that this Act substantially draws its distinction from the Federal Bills of Lading Act of 1916 it replace. This act defined a straight bill as a bill that 'stated that the goods are consigned or destined to a specified person'.

<sup>29</sup> Aikens (See note 11:13).

<sup>30</sup> Aikens (See note 11:13).

<sup>31</sup> Aikens (See note 11:13).

<sup>32</sup> Aikens (See note 11:13).

carrier any legal obligation to deliver the goods to a new party. Also, the shipper can only redirect the delivery of the goods but cannot compel the carrier to deliver the goods to someone other than the named person through endorsement and delivery'.<sup>33</sup> This was evidence from the case of *Borealis v Stargas*<sup>34</sup> where it was ruled that further transfers or endorsements of a straight bill by a consignee are null and void.<sup>35</sup> Furthermore, that an endorsement has no effect because a straight bill places a duty on a carrier to make delivery of the cargo only to the consignee.<sup>36</sup>

On the other hand, a sea way bill is not transferable because they also specify that goods are to be delivered to the named person.<sup>37</sup> Moreover, words 'not negotiable' are found on the face of the bill, which also puts an emphasis on their non-transferable characteristic.<sup>38</sup> From the above characteristics of both the straight bill of lading and a seaway bill of lading, it is evidence that these bills behave in a similar manner.<sup>39</sup>

Article 1 of The Carriage of Goods by Sea Act<sup>40</sup> states that:

1. (2) 'References in this Act to a bill of lading—

(a) Do not include references to a document which is incapable of transfer either by indorsement or, as a bearer bill, by delivery without indorsement...'<sup>41</sup>

(3) 'References in this Act to a sea waybill are references to any document which is not a bill of lading...'<sup>42</sup>

From the above provisions, it may be concluded that a seaway bill document is not equivalent to a bill of lading.<sup>43</sup> However, the parties are at liberty to elect a type of bill of lading suitable for their needs. Thus the parties' intention can be deduced from the wording used in the bill of lading to determine whether or not it is negotiable.

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<sup>33</sup> Aikens (See note 11:15).

<sup>34</sup> [2002] A.C 205, 219-220.

<sup>35</sup> Aikens (See note 11:20).

<sup>36</sup> Aikens (See note 11:20).

<sup>37</sup> Aikens (See note 11:20).

<sup>38</sup> Aikens (See note 11:20).

<sup>39</sup> Aikens (See note 11:20).

<sup>40</sup> Act of 1992.

<sup>41</sup> Act of 1992; Article 1(2).

<sup>42</sup> Act of 1992; Article 1(3).

<sup>43</sup> Act of 1992; s 1(3). The reason for it not being a bill of lading is because, the Carriage of Goods by Sea Act expressly states that a bill of lading does not include 'a document that is incapable of transfer either by endorsement or, as a bearer bill, by delivery without endorsement'.

Growth in sea trade and electronic commerce create challenges to the use of the existing laws and the traditional modes of concluding contracts. Globalisation requires that most of the commercial transactions be concluded electronically to bridge the geographical separation of the respective parties. This thus induces a need for the shipping industry to conform to international trade by adopting electronic trading tools such as electronic bill of lading and do away with paper based bill of lading.<sup>44</sup> Today ships are said to arrive at the destination port prior to the arrival of the paper bill of lading, resulting in port congestions and unnecessary delay and costs.<sup>45</sup> Thus a new method of expeditiously transiting bill of lading is required, and this method entails changing the nature of the bill of lading into electronic bill of lading.

This study will make a comparison between the paper bill of lading and electronic bill of lading, particularly the negotiability function in an electronic bill of lading. This will be done through analysing the proposed legislations and conventions regulating the documents relating to the carriage of goods by sea. Systems such as Bolero will be investigated as to whether they can adequately regulate the use of electronic bills of lading. Firstly, the dissertation examined the meaning of a bill of lading in general. Secondly, it will critically examine the history and developments of the bill of lading. It will look at the functions of the paper bill of lading, taking into account the principal purpose of the bill of lading, the 'document of title' function. In addition, it will look at the advantages and disadvantages of the paper bills of lading.

Furthermore, the concept of the electronic bills of lading would be analysed. In doing so, addition, it will analyse systems that aimed at facilitating electronic bill of lading, (such as the Bolero system and the Mandate system) together with their shortcomings, functions of the electronic bills of lading and whether the paper bills of lading functions, particularly that of transfer of ownership can be adequately replicated in an electronic bill of lading.

In addition, the study will address the lack of adequate regulatory regimes and look at whether the Rotterdam Rules satisfactorily address issues associated with the use of electronic bills of lading.

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<sup>44</sup> Williams (See note 2:560).

<sup>45</sup> Ibid.

Finally an evaluation of whether Africa is ready to deal with paperless sea trade or it is only the developed states which are ready and conclusion will be made.

The purpose of this study is to explain the concept of the bills of lading, particularly the electronic bill of lading; Moreover, to examine the feasibility in replacing the paper bill of lading with an electronic bill of lading.

The relevance of the study stems from the fact that law is generally accepted as being dynamic, with a need to be simplified and restructured to meet the demands of modern society. The same philosophy can be utilised for shipping regulations, as it would be a sad thing if the industry were to be static.<sup>46</sup> Hence there has been drastic changes in the shipping industry in the past 25 years, including an alignment with technological advancements from ship build to the way shipping transactions are concluded.<sup>47</sup>

This dissertation would be of value in that it will add on the research available; moreover, it will fill the gap since the research available is out-dated as most of it is up to year 2010, a year after the Rotterdam Rules were drafted and signed. It will add on the existing literature by extensively discussing how the negotiability function on an electronic bill of lading can be achieved. Furthermore, it will determine if states should adopt the Rotterdam Rules. Lastly, it will illustrate whether local and international laws should be enacted for the electronic bills to be successfully accepted in the shipping industry.

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<sup>46</sup> Williams (See note 2; 560).

<sup>47</sup> Williams (See note 2; 564).

## CHAPTER 2:

### 2.1 The Historical Background of the Bills of Lading

This chapter will briefly look at the historical background of the development of the traditional paper bill of lading. It will look at the document used by the merchants before the emergence of the paper bill of lading and the laws that were used to govern the use of this document. It will thereafter look at when each function of the paper bill of lading came into being.

Originally there was no documentation involved in the transportation of the goods by sea because the merchants accompanied their goods and in most cases, the merchant and the ship master was the same person.<sup>48</sup> Du Toit argues that the origins of the bill of lading are greatly connected to the *lex mercatoria*.<sup>49</sup> The first type of documentation was initiated because of the escalation of sea trade.<sup>50</sup> Furthermore, with merchants beginning not to accompany their goods, some form of documentation was required as proof of what was actually shipped, thus preventing potential disputes.<sup>51</sup> However, the documentation involved was not the bill of lading as understood today.<sup>52</sup>

In the eleventh century, the *ship's mate*<sup>53</sup> informally recorded on the *ship's register*<sup>54</sup> the condition and the weight of the cargo shipped.<sup>55</sup> This document served the receipt function and was no way intended to be a document of title.<sup>56</sup> An increase in trade led to a need for rules to regulate the functioning of the processes involved in recording the information on the ship's register.<sup>57</sup> These developments led to promulgation of the Ordonnance Maritime of Trani.<sup>58</sup> Its purpose was to regulate the carriage of goods

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<sup>48</sup> S F Du Toit "Evolution of the bill of lading" (2005) 11 *Fundamina* 12 at 13.

<sup>49</sup> *Ibid* at 12.

<sup>50</sup> G Treitel...et al. *Carver on Bills of Lading*. 3rd ed. (2011) 1.

<sup>51</sup> Du Toit (see note 48; 13).

<sup>52</sup> Du Toit (see note 48; 13).

<sup>53</sup> This refers to an on-board scribe accompanying the master.

<sup>54</sup> Aikens (see note 11:15) 'It is ordinarily anything more than evidence that the goods have been received on board'. Therefore, this is a document that is used in order to account for the merchant's cargo loaded on-board the ship.

<sup>55</sup> Treitel (see note 50; 13).

<sup>56</sup> Treitel (see note 50; 2)

<sup>57</sup> Du Toit (see note 48; 13).

<sup>58</sup> See Maritime Ordinances of Trani (1063 A.D), available at [www.admiraltylawguide.com/documents/trani.html](http://www.admiraltylawguide.com/documents/trani.html) accessed on 5 September 2016.

by sea during the 1063's. It was drafted and used in France under the time in power of Louis XIV. One of the provisions, in ensuring that the information in respect of the goods recorded is true, was that the chosen scribe had to make a sworn statement that he shall be loyal.<sup>59</sup> The provision was as follows:

‘... Every master ought to take a scribe, who ought to be sworn in his commune to be honest and loyal. And the said master may not make him write anything which he has transacted with any merchant, unless the said merchant be present or some other witness. And the same case and terms shall be observed with the other mariners. And if he shall do or write otherwise or to the contrary, his register or book shall not be of any value, nor shall any faith be given to it; and if that scribe shall have received any merchandise from the merchants and it should be missing, let that scribe be responsible to make it good; and the said register ought to be covered with parchment.’<sup>60</sup>

This paved a way for the development of the *Collection de Loix Maritimes* statute in the 1350's which also had a similar provision in trying to build and maintain a good relationship between the shipper and the carrier.<sup>61</sup> One of the provisions found in this statute stated that:

‘...if the register had been in the possession of anyone but the clerk, nothing that it contains should be believed, and that if the clerk stated false matters therein he should lose his right hand, be marked on the forehead with a branding iron, and all his goods be confiscated, whether the entry was made by him or by another’.<sup>62</sup>

It should be noted that the above mentioned statutes, the Ordonnance Maritime of Trani and the *Collection de Loix Maritimes* did not regulate the functioning of the bill of lading but the ship's register.<sup>63</sup> An inclusion of the terms of the contract later took place, giving rise to the second function of the register, later of the ‘bill of lading’, evidence of the contract of affreightment.<sup>64</sup> Before this contract was issued, it specified the persons to whom the delivery of the goods is to be made.<sup>65</sup> Normally, delivery was made to the buyer and the documentation made provision for an alternative consignee, so there was no need for endorsement.<sup>66</sup> Research has shown that there is no precise

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<sup>59</sup> Ibid at XVI.

<sup>60</sup> Ordinances of Trani, XVI.

<sup>61</sup> Treitel (see note 50; 1).

<sup>62</sup> Collection de Loix Maritime.

<sup>63</sup> J.F Wilson *Carriage of Goods by Sea*. 7<sup>th</sup> ed. (2010) 115.

<sup>64</sup> Ibid.

<sup>65</sup> Treitel (see note 50; 2).

<sup>66</sup> Ibid.



date of when the bill of lading emerged.<sup>67</sup> In the early fourteenth century, the merchants still travelled with their cargo and the document involved still performed the receipt and evidence of contract functions.<sup>68</sup> It is therefore safer to argue that the first bill of lading emerged in the late fourteenth century because the full use of the bill of lading took place during this time.<sup>69</sup> The first bill of lading reflected a few details regarding cargo, such included the quantity of goods shipped and at times with the condition in which they were shipped under.<sup>70</sup> Information incorporated in the bills of lading became even more detailed during 1549 and some laws were later established in the 1800's for the purposes of regulating the use of the bills of lading.<sup>71</sup>

In respect of the negotiability characteristic of the bill of lading, some author's argue that this function of the bill of lading came into existence in the 14<sup>th</sup> century but only became popular in the sixteenth century.<sup>72</sup>

From the above research, it is evident that initially, there was no bill of lading, but the writer submits that the origin of a BOL was, because of developments in sea trade, a document such as a bill of lading had to be created for the purposes of making sea trade more desirable, attractive and convenient. Initially at its conception, a bill of lading did not have all three functions, but through the evolution of the bill of lading from merely evidence of the receipt of goods it matured to a document of title. The writer thus concludes that the evolution of a paper BOL with the demands of the shipping industry proves that the transition to electronic BOL is imminent as the shipping industry has adopted electronic trade.<sup>73</sup> The following chapter will discuss the three functions of a bill of lading.

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<sup>67</sup> J Hare *Shipping Law and Admiralty Jurisdiction in South Africa*. 2nd ed. (2009) 689.

<sup>68</sup> Treitel (see note 50; 2).

<sup>69</sup> Wilson (see note 63; 115).

<sup>70</sup> D E Murray "History and Development of the Bill of Lading" (1982) 37 *University of Miami Law Review* 689 at 690.

<sup>71</sup> *Ibid* at 691.

<sup>72</sup> Williams (See note 2:557).

<sup>73</sup> Hare (see note 67; 689).

## CHAPTER 3:

The traditional paper bill of lading has three indispensable functions.<sup>74</sup> It serves as receipt by the carrier in respect of the goods sold, evidence of a contract for the carriage of goods and finally, as a document of title in the form of a partly negotiable bill of lading in terms of English law and a completely negotiable bill of lading under US and civil law.

This chapter defines a traditional bill of lading by discussing these three functions. The analysis of the third function, namely, the document of title, considers the first case that ruled that transfer of the bill of lading is equivalent to transfer of ownership. Other cases that confirmed this principle, thus creating a stronger precedent, are also briefly discussed. The essential elements required for transfer of ownership are also examined. Finally, the chapter analyses the consequences of a negotiable bill of lading.

### 3.1 The Bill of Lading as evidence of the carriage of goods contract

The bill of lading confers rights and obligations on the parties to a contract.<sup>75</sup> It constitutes evidence of the contractual terms the parties agreed upon and is not the actual contract. Rather, a charter party is the actual contractual agreement of the carriage of goods.<sup>76</sup> 'Since a bill of lading is not the actual contract but merely an evidence of the contract, it therefore follows that a party who accepts such bill of lading from the master, is not necessarily bound by all the obligations stemming from it.'<sup>77</sup>

The shipper is not bound by the contractual terms on the bill of lading. This is due to the fact that it is produced by or on behalf of a carrier; therefore, only the carrier has knowledge of the exact terms in the bill of lading. Such terms only come to the attention of the shipper after he has submitted the cargo for shipment. It was for this reason that in the case of *Ardennes v SS Ardennes*<sup>78</sup>, the court ruled that the shipper could lead evidence that the bill of lading did not reflect the true terms of the contract.

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<sup>74</sup> G I Zekos "Electronic bills of lading and negotiability." (2001) 4(6) *The Journal of World Intellectual Property* 977 at 977.

<sup>75</sup> Rouhshi (See note 4:162).

<sup>76</sup> Williams (See note 2:561).

<sup>77</sup> Wilson (See note 63:129).

<sup>78</sup> [1951] 1 KB 55.

On the other hand, the carrier is allowed to lead evidence that some of the important terms are not incorporated in the bill of lading.<sup>79</sup> In *The Ardennes* case, the claimant, the shipper, contracted to ship mandarins to London from Cartagena. The shipper and the carrier orally agreed that the shipment would reach London before 1 December.<sup>80</sup> The carrier agreed to sail directly to London but later changed the route, resulting in the cargo reaching the port of destination on 4 December. When the shipper claimed damages from the carrier, the carrier relied on the liberty clause to justify his deviation from the orally agreed route.<sup>81</sup> The court ruled that:

‘...the bill of lading does not amount to a contract between the ship-owner and the shipper of goods, but is an excellent evidence of the terms of the contract. The contract came into existence before the signing of the bill of lading. Should the shipper find that the bill of lading contains terms in which he did not agree to during the formation of the contract, nothing prevents him from leading evidence of the terms agreed on before the bill of lading was signed and issued to him.’<sup>82</sup>

Furthermore, it was ruled that the shipper was entitled to damages for breach of contract in that the carrier had verbally agreed not to deviate from the orally agreed route.<sup>83</sup> The detailed terms of the contract are often found at the back of the bill of lading form.<sup>84</sup> Where the terms in the bill of lading do not reflect those orally agreed on, the shipper is allowed to lead oral evidence on such terms.<sup>85</sup>

While some scholars such as John Hare refer to a bill of lading as evidence of the contractual terms agreed between the shipper and the carrier, others, such as George Zekos, are of the view that it is the actual contract.<sup>86</sup>

In line with the above discussion, it can be argued that a bill of lading is not the actual contract but evidence of the terms and conditions that the shipper and carrier agreed on. The charter party is the actual contract of carriage of goods. This is due to the fact that a charter party is concluded before a bill of lading is issued. In the highly unlikely

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<sup>79</sup> Rouhshi (see note 4:162).

<sup>80</sup> *Ardennes* (see note 78)

<sup>81</sup> *Ibid.*

<sup>82</sup> *Ardennes* (see note 78: 59-60).

<sup>83</sup> *Ibid.*

<sup>84</sup> Wilson (see note 63:129).

<sup>85</sup> *Ibid.*

<sup>86</sup> Zekos (see note 74: 977).

event that there is no charter party, this would mean that the shipper had used verbal or other communication to request a carrier to transport his goods. For his part, the carrier would have used verbal or other communication to signal his intention to perform as per the shipper's request. George Zekos' argument is thus incorrect.

*The Ardennes* case supports the argument that a bill of lading is not a contract but evidence of the terms and conditions of a contractual agreement between the shipper and carrier, thus setting a firm precedent.<sup>87</sup>

It can therefore be concluded that, in order to serve as evidence of a contract, an electronic bill of lading must first be in the form of a receipt issued to the shipper by or on behalf of the carrier.<sup>88</sup> Secondly, the receipt must serve as evidence of the contract; thus, it must reflect the terms that the shipper and the carrier initially agreed on.<sup>89</sup>

### **3.2 The Bill of Lading as Receipt of Goods**

The Hague Visby Rules place the onus on the carrier to issue a bill of lading should the shipper request one.<sup>90</sup> The bill of lading does not necessarily provide evidence that the goods were shipped, but that they were received for shipment.<sup>91</sup> It can be argued that this is the reason it is issued after the vessel has sailed.<sup>92</sup> It 'establishes the title' that cargo was surrendered but does not prove that it was actually shipped.<sup>93</sup>

However, this raises concerns as to the validity of this argument. The fact that the goods were received by the master implies that they were in fact loaded on the vessel and shipped to the agreed destination. This could be supported by the fact that, upon receipt of a bill of lading by a consignee, it becomes conclusive evidence against the party that signed it, normally the master, that the goods were shipped. If this is the case, it can be argued that proof that the bill of lading is conclusive evidence begins when the shipper presents the goods for shipment. Thus, it is evidence that the goods were shipped to the shipper and the consignee.

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<sup>87</sup> *Ardennes* (see note 78: 59-60).

<sup>88</sup> J Senekal *The Electronic bill of lading: A legal perspective* North-West University (LLM Thesis, North-West University 201) 19.

<sup>89</sup> *Ibid.*

<sup>90</sup> Article 3 rule 4.

<sup>91</sup> S Beecher "Can the Electronic Bill of Lading Go Paperless?" (2006) 40 *International Lawyer* 627 at 631.

<sup>92</sup> *Ibid.*

<sup>93</sup> *Ibid.*

Furthermore the bill of lading attests to the nature, order and condition of the goods received for shipment by the carrier.<sup>94</sup> It includes weight, leading marks, quantity and other important details that are vital in identifying the cargo.<sup>95</sup> The carrier has an obligation to deliver the cargo to the consignee as described in the document.<sup>96</sup> The bill of lading is conclusive evidence of the nature of the goods for the third party that accepts it in good faith and for value. Thus, the shipper is estopped from denying that the goods were loaded in the condition reflected in the bill of lading in respect of the leading marks, weight and condition.<sup>97</sup> This is according to both common law and the International Convention for the Unification of Certification Rules of Law relating to Bills of Lading<sup>98</sup> (hereinafter referred to as The Hague Visby Rules) that provide that a bill of lading is prima facie evidence of the quantity, condition and the leading marks and conclusive evidence once transferred to the consignee or endorsee.<sup>99</sup>

In the case of *Silver v Ocean Steamship*<sup>100</sup> a clean bill of lading confirming that the goods were in good order and condition was issued by the master in respect of the shipment of cans of frozen eggs.<sup>101</sup> Upon arrival at the destination, they were found to have been damaged while in transit. The carrier was prevented from rejecting liability based on the clean bill of lading that he issued upon receipt that the shipment was in good order. Furthermore, the court reasoned that such damage could be discovered through a practical external examination of the goods.

This case suggests that statements describing the condition of the goods refer to the outward condition of the cargo based on a reasonable assessment as per the judgment of a carrier. The condition is not that of the actual goods, but of the packaging. Furthermore, in assessing the carrier's liability, it should be considered that he has limited knowledge of the goods in question.

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<sup>94</sup> Marek (See note 1:441).

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

<sup>97</sup> Rouhshi (See note 4: 160).

<sup>98</sup> The Hague Visby Rules; Article 3 Rule 4.

<sup>99</sup> Wilson (See note 63: 120 –121).

<sup>100</sup> The Aeneid: *Silver v Ocean Steamship* [1929] All ER 611 (CA); J Hare. *Shipping Law and Admiralty Jurisdiction in South Africa*. 2nd ed. (2009) 696.

<sup>101</sup> Hare (See note 67: 59)

Since a bill of lading constitutes conclusive evidence of the condition of the goods, it is in the carrier's interests to note defects in cargo awaiting shipment and issue a 'claused' bill of lading instead of a clean one.<sup>102</sup>

Thus, in order to fulfil the receipt function, an electronic bill of lading would have to ensure that the receipt reflects the condition of the cargo.<sup>103</sup> Furthermore, it should reflect that the recipient, the consignee, received cargo of the weight, quantity and condition reflected on such bill of lading.<sup>104</sup> If these two conditions are met, the electronic bill of lading would constitute conclusive evidence to the recipient.

### 3.3 The bill of lading as a document of title

In the case of *Snee v Prescott*<sup>105</sup> the shipper endorsed a blank bill of lading, which was later indorsed by the consignee to the assignees, the defendants in this case.<sup>106</sup> While the cargo was still in transit, the shipper endorsed another copy of a bill of lading in relation to it to a new endorsee.<sup>107</sup> The reason was that the consignee had failed to make the agreed payment due to bankruptcy.<sup>108</sup>

The court ruled as follows:

'...the endorsement did not absolutely transfer the property in the goods, in the event of the consignee's becoming a bankrupt before the arrival of the goods; that as the goods had been stopped *in transitu* by order of the consignor, he had a right to detain them till the sum which he was in advance to the consignee on account of them was paid; and that the surplus arising from the produce of the goods should be paid to the endorsees of the consignees.'<sup>109</sup>

From this case, it is evident that, initially, a bill of lading did not completely transfer title in respect of the goods through endorsement. That endorsement was subject to the other party fulfilling his contractual obligations.

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<sup>102</sup> Rouhshi. (See note 4: 161).

<sup>103</sup> Senekal (See note 88:19).

<sup>104</sup> Senekal (See note 88:19).

<sup>105</sup> (1743) 1 Atk 245, 26 ER 157.

<sup>106</sup> [1787] 2 TR 63, 100 ER 35, para 65.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Ibid.

This precedent was overturned in *Lickbarrow v Mason*<sup>110</sup> where the court emphasised the fact that as long as the new holder accepted a bill of lading in good faith and for value, he was the legal holder.

The transfer of the bill of lading was thus first recognized in *Lickbarrow v Mason* in 1794 as being equivalent to transfer of ownership. In this case, the consignee of the cargo on board the Endeavour vessel, dispatched by Turing & Sons was declared insolvent before making the agreed payment to the shipper. Before becoming insolvent, the consignee was in possession of two of the four bills of lading that were signed by the master, all making goods deliverable 'unto order or assigns'.<sup>111</sup> Two were blank and were indorsed to the consignee; one remained in the possession of the master and the fourth was with the shipper. The consignee subsequently indorsed the bills of lading to the plaintiff who accepted and paid the purchase price (to the consignee and not the shippers) for the listed cargo. The defendant then demanded that the cargo be collected from the carrier and kept by their agent on their behalf until payment was made by the consignee. This was done even though the cargo had been sold to the plaintiff.<sup>112</sup> The court decided as follows:

'...through the assignment of the bill of lading, the legal property does pass...and where the legal property vests on the plaintiff, entitling the plaintiff to retain the property in question, and that puts a total end to the defendant's rights in respect of the property...'<sup>113</sup>

The decision was upheld by the House of Lords that further accepted that:

'...bills of lading, expressing goods or merchandise to have been shipped by any person or persons to be delivered to order of assigns, have been, and are at any time after such goods have been shipped, and before the voyage performed, for which they have been or are shipped, negotiable and transferable by the shipper or shippers indorsing such bills of lading with his, her or their name or names, and delivering or transmitting the same so indorsed, or causing the same to be so delivered or transmitted to such other person or persons; and that by such endorsement and deliver, or transmission,

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<sup>110</sup> [1794] 5 TR 683.

<sup>111</sup> *Lickbarrow* supra.

<sup>112</sup> Aikens (See note 11:7).

<sup>113</sup> Ibid at 7-8.

the property in such goods hath been, and is transferred and passed to such other person or persons.’<sup>114</sup>

The plaintiff was successful in demanding delivery of the goods in question.<sup>115</sup> In this decision, the bill of lading gained its legal function of being a document of title in which property could be transferred from the shipper to the consignee or to an endorsee.<sup>116</sup> This meant that transfer of the bill of lading had the effect of terminating the transferor’s rights to the goods in question.<sup>117</sup>

It can thus be argued that, where the transfer of a bill of lading takes place with the intention of transferring the property described in it, and the recipient accepts such endorsement of the bill of lading in good faith and for value, the property is deemed to have been delivered to the new recipient. The transferor’s rights to the property are then null and void.

It follows that the House of Lords defined the bill of lading as ‘a symbol of possession’<sup>118</sup> in *Barber v Meyerstein*.<sup>119</sup> A similar stance was taken in *Sanders v Maclean*<sup>120</sup> where the court confirmed that a bill of lading was a symbol and representation of the cargo in transit.<sup>121</sup> The court stated: ‘It is a key which in the hands of a rightful owner is intended to unlock the door of the warehouse, floating or fixed, in which the goods may chance to be.’<sup>122</sup> These decisions confirm the characteristic and function of the bill of lading as a document of title. Furthermore, it was stated that it is impossible to deliver the actual physical cargo while aboard the vessel and in transit to the destination port, and that the cargo can be constructively delivered by indorsing the bill of lading representing those goods.<sup>123</sup>

These cases show that a legal holder of a bill of lading would be entitled to delivery of the goods regardless of how the previous owner acquired it. Irrespective of the fact that the previous bill of lading holder failed to honour the contractual duties between him and the original owner of the bill of lading (a shipper in this case), if a consignee

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<sup>114</sup> Aikens (see note 11: 8).

<sup>115</sup> Ibid.

<sup>116</sup> Ibid.

<sup>117</sup> N Curwen “The bill of lading as a document of title at common law” (2007) 140 available at <http://ssudl.solent.ac.uk> accessed on 12 June 2016.

<sup>118</sup> Ibid at 141.

<sup>119</sup> [1870] LR 4 HL 317.

<sup>120</sup> [1883] 11 QBD 327.

<sup>121</sup> Curwen (see note 117: 141).

<sup>122</sup> Williams (See note2:557).

<sup>123</sup> Aikens (see note 11: 7-8).



performed his contractual obligations, he would be entitled to delivery of the cargo. Furthermore, it is obvious that being in possession of a bill of lading is the same as being in possession of the actual goods that are being shipped; the holder of a bill of lading is deemed to be in possession of the cargo and thus has full control over it.

In the nineteenth century, the bill of lading began incorporating more information in respect of the contractual agreement between the shipper and the carrier.<sup>124</sup> It also protected the carrier from potential liabilities arising from the voyage while the goods are in the carrier's possession.<sup>125</sup> Thus, the bill of lading became 'the heart of the international sea trade'.<sup>126</sup> Through the bill of lading, traders, carriers, freight forwarders and banks are able to effectively protect their interests when contracting with parties from different jurisdictions governed by different rules.<sup>127</sup> Hare writes that:

'The bill of lading is the cardinal document of the carriage of goods by sea. It is the cornerstone of effective international trade, recognized by the courts as a document of dignity, the integrity of which demanded judicial protection.'<sup>128</sup>

It can be concluded that the main reason for the negotiability function 'was simplicity personified in the sense that it allowed for the recognition of an ordinary piece of paper to be accorded negotiable status and constituting an authority to pay to the holder a sum certain on a fixed date and time.'<sup>129</sup>

Thus, an electronic bill of lading should be capable of being transferred from one party to another through endorsement for the purposes of transferring ownership of goods. In addition, the way in which the bill of lading is negotiable is highly dependent on commercial and trade practices.<sup>130</sup> This could prove a challenging requirement because has been in use for over a hundred years.<sup>131</sup>

Again, it is obvious from the *Lickbarrow v Mason* case that a court of law plays an important role in conferring the document of title function on a bill of lading. Therefore, for an electronic bill of lading to be considered to have this function, the courts would

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<sup>124</sup> Curwen (see note 117: 140).

<sup>125</sup> Aikens (see note 11; 8).

<sup>126</sup> Hare (See note 67:688).

<sup>127</sup> Beecher (See note 91:627).

<sup>128</sup> Hare (see note 126; 688).

<sup>129</sup> V Ermeson "UK: The Concept of negotiability and the electronic bills of lading- an overview." (2001) 3 *Journal of Electronic Commerce law and Practice* 4.

<sup>130</sup> Senekal (See note 88:20).

<sup>131</sup> Ibid at 21.

have to rule that it can be endorsed from one party to another and is thus capable of changing ownership in the same way as a paper bill of lading.

### 3.3.1 Essential elements for the transfer of ownership

Under South African law, two elements are required for transfer of ownership of goods. These are possession and *animus possidendi*, intention to possess.<sup>132</sup>

In respect of sea trade, possession of goods is achieved through the use and possession of a bill of lading.<sup>133</sup> This is the reason for the submission that, being in possession of a bill of lading is equivalent to being in possession of the cargo described in the bill. This also supports the fact that delivery of a bill of lading is construed as delivery of the cargo.<sup>134</sup> These submissions were supported by Boshoff J in the case of *Garavelli and Figli v Gollach and Gomperts*<sup>135</sup> where he stated that:

‘During the period of transit and voyage the bill of lading is, by the law merchant, recognised as the symbol of the goods described in it, and the endorsement and delivery of the bill of lading operates as a symbolic delivery of the goods.’

Possession alone does not transfer ownership. Transfer of the bill of lading must be made with the intention to transfer ownership. Since transfer of a bill of lading is achieved through endorsement, such endorsement must be executed with the intention to transfer the ownership of cargo described in it.<sup>136</sup> In the case of *Garavellia and Figli v Gollacha and Gomperts* it was further stated that:

‘Property in the goods passes by such endorsement whenever it is the intention of the parties that the property should pass, just as in similar circumstances the property would pass by actual delivery of the goods. The holder of the bill of lading is entitled as against the shipper to have the goods delivered to him to the exclusion of other persons.’

It is apparent that the transferor must intend to transfer both possession and ownership.<sup>137</sup> This is because it is possible to transfer possession only, causing the consignee to gain the right to accept only delivery of the goods upon their arrival.

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<sup>132</sup> Hare (see note 67: 699).

<sup>133</sup> Hare (see note 67: 699).

<sup>134</sup> Hare (see note 67: 699).

<sup>135</sup> 1959 (1) SA 816.

<sup>136</sup> Hare (see note 67: 699).

<sup>137</sup> Hare (see note 67: 699).

From the above, it can be concluded that, since a bill of lading as document of title may be used for the purposes of transferring ownership of the cargo, it confers two rights on the consignee, the right to control the goods and possession of the goods described in it; and serves as security to banks in the case of documentary credit sales.<sup>138</sup> Thus, an electronic bill of lading must be capable of transferring ownership by transferring possession through endorsement. Secondly, the transferor must intend to transfer ownership of the cargo through endorsement of an electronic bill of lading.

### **3.4 Consequences of a negotiable bill of lading**

A bill of lading is an interesting and attractive document because it is a document of title. A negotiable bill of lading performs the following functions:

Firstly, it provides evidence of the owner of the cargo, ensuring the sale of goods between several merchants before the cargo's arrival at its destination.<sup>139</sup> This is evident in the endorsements from one holder to another, with each conferred all the rights and responsibilities in respect of the cargo in question.<sup>140</sup> Secondly, merchants seeking financial assistance would submit a bill of lading to financial institutions such as banks for security purposes.<sup>141</sup> Should the owner of the goods fail to reimburse the bank, the bank has the right to sell those goods by indorsing the bill of lading to a new holder.<sup>142</sup> Finally, the transfer of a bill of lading is equivalent to a transfer of rights. This is because a bill of lading represents the rights that a holder has against a carrier, an insurer or any other party that may be held liable for loss or damage of cargo, should such occur.<sup>143</sup>

'Firstly, it must be capable of being transferred and without notice; secondly, it must pass a full and legal title that is free from all equities upon delivery to a subsequent holder; third, its negotiable status must be ascertainable by an examination on the face of the document without the additional burden of referring to any other document; fourth, the words contained on the document constitutes a formal promise against the maker and becomes liable to be performed if the promisee relies on it in good faith; fifth, the document and the promise contained thereon constitute an independent transaction that

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<sup>138</sup> Senekal (see note 88: 16).

<sup>139</sup> Ermeson (See note 129:2).

<sup>140</sup> Ibid.

<sup>141</sup> Ibid.

<sup>142</sup> Ibid at 3.

<sup>143</sup> Ibid at 3.

is autonomous and isolated from the transaction that generated its use; and lastly, it must be tangible instrument which is capable of physical manifestation of the intangible promise thus, it must be a physical item that can be dealt with in any manner.<sup>144</sup>

Thus, it can be concluded that the consequences of a negotiable bill of lading rely on two factors, namely, the applicable law and the parties' intention.<sup>145</sup> Under civil law, the overall consequences of a negotiable bill of lading are that, a party in possession of a bill of lading is taken to be in possession of the actual goods.<sup>146</sup> Therefore, the holder has control over them through the bill and can transfer the goods represented by the bill to another party. Finally, the holder has rights and responsibilities including rights to delivery and to sue in respect of the goods.<sup>147</sup>

Thus, for an electronic bill of lading to have the same consequences as a paper bill of lading, it must be capable of being indorsed which means that it must have the document of title function. If this is the case, it could be used to transfer rights in respect of the property detailed in the bill. It could also be used as security for financial assistance from a bank. However, this is dependent on our courts ruling that an electronic bill of lading is a document of title and on the electronic trading systems adopted.

The following chapter discusses the advantages and disadvantages of the paper bill of lading.

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<sup>144</sup> Ibid at 4.

<sup>145</sup> Ibid at 5.

<sup>146</sup> Ibid at 5.

<sup>147</sup> Ibid at 5.

## Chapter 4:

Approximately eighty per cent of transactions between companies are concluded using paper documentation; this includes shipping documents and payment information.<sup>148</sup> In international trade, goods are often bought and sold while in transit from the port of shipment. By the time they reach the port of destination, the owner has changed at least once. During sales, exchange of information between the carrier and a shipper and the carrier and a buyer, is mainly via paper documentation.<sup>149</sup> The same is true of the payment process, where the buyers and seller's bank use a letter of credit or documentary credit sales; this depends on the payment method agreed upon by the parties.<sup>150</sup> This process is discussed in chapter five. Time frames are usually set for each party involved in processing documents to ensure a smooth and successful transaction.<sup>151</sup>

Paper documents offer both pros and cons. The disadvantages include delays and the high probability of errors in the documents.<sup>152</sup> On the other hand, the advantages are the existence of statutory law, case law and standard clauses, making it easier for the parties and the courts to interpret and find resolutions to any disputes.<sup>153</sup> These benefits and their implications are discussed in this chapter. It also proposes solutions to the disadvantages.

### 4.1 Advantages of a traditional paper bill of lading

#### 4.1.1 *Availability of precedent*

Firstly, the traditional paper bill of lading has been around for centuries.<sup>154</sup> Thus, there are numerous precedents, both case law and statutory law is available and disputes stemming from the use of paper bills of lading can be easily resolved.<sup>155</sup> Statutory law includes The Hague Rules and The Hague Visby Rules as contained in the South

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<sup>148</sup> N C Hill "Electronic Data Interchange: A definition and perspective." Available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.44.771&rep=rep1&type=pdf> ,Accessed on 23 December 2016.

<sup>149</sup> Ibid at 1.

<sup>150</sup> Ibid at 1.

<sup>151</sup> Ibid at 5.

<sup>152</sup> Ibid at 5.

<sup>153</sup> Ibid at 9.

<sup>154</sup> A Holtzhausen *Electronic Bills of Lading* (LLM thesis, North-West University 2006) 5.

<sup>155</sup> Ibid.

African Carriage of Goods by Sea Act 1 of 1986 schedule which is in force in the country.<sup>156</sup>

There is thus international uniformity with regard to the use of paper bills of lading and it is therefore easier for parties from different jurisdictions to deal with each other. On the other hand, there is no statutory law regulating electronic bills of lading.

#### *4.1.2 Availability of standard clauses*

Secondly, due to the availability of prepared clauses, there are no barriers in respect of language and interpretation of such clauses and their general understanding by parties from different jurisdictions.<sup>157</sup> In contrast, since electronic bills of lading are not as common, no standard clauses have been formulated to facilitate uniformity and the smooth operation of such bills of lading between parties.

### **4.2 Disadvantages of a paper bill of lading**

#### *4.2.1 Delays*

The main delay is usually in respect of 'transportation delays'.<sup>158</sup> This refers to delays in the delivery of goods from the shipper or from the seller to the buyer or consignee.<sup>159</sup> This is because a paper bill of lading and other related important documents must be physically transferred from one party to another.<sup>160</sup> Issues include delays in respect of loading and discharging cargo, resulting in increased costs, for example, demurrage.<sup>161</sup> Furthermore, the delays involved in the physical transportation of the paper bill of lading lead to collation, billing and payment postponements, and thus poor client service.<sup>162</sup>

Finally, the processes involved in the manufacture of paper bills of lading renders this a very long and slow process to transfer title to a new party, making it impossible to

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<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

<sup>158</sup> Hill (see note 148: 6).

<sup>159</sup> Hill (see note 148: 6).

<sup>160</sup> Hill (see note 148: 6).

<sup>161</sup> Electronic bill of lading: Another step forward! available at [www.hellenicshippingnews.com](http://www.hellenicshippingnews.com) accessed on 6 January 2017.

<sup>162</sup> Hill (see note 148: 6).

satisfy demand and the quality of services expected by the customers in the twenty-first century.<sup>163</sup>

Besides incurring demurrage, some of the cargo waiting at the warehouse for collection may be destroyed. For example, perishable goods such as fruit may deteriorate.<sup>164</sup>

#### 4.2.2 *High costs*

This refers to the labour or administrative costs involved in manual processing of the paper bill of lading and other documents.<sup>165</sup> Manual processing includes ensuring that the presented documents reflect those contractually agreed on and the exact conditions on which the parties agreed.<sup>166</sup> Costs may include the transportation (from the envelopes used to courier charges), storage and recovery of the documents.<sup>167</sup> They might also be lost during transportation to a buyer or consignee at the port of discharge.<sup>168</sup>

Therefore, it can be argued the electronic bills of lading would reduce costs, making sea transport more attractive for the carriage of goods between different jurisdictions. This is because only one or a few parties would be involved in the processing of an electronic bill of lading. However, the costs involved depend on the choice of electronic trading system. Some systems do not involve the use of a third party as a regulator. The parties only pay subscription fees for the electronic trading system and for the internet, which is less costly than a paper bill of lading.

#### 4.2.3 *Susceptible to errors*

Approximately three to four per cent of the invoices issued by distributors contain errors.<sup>169</sup> Studies show that this is due to the same bill of lading or document being entered more than once and by different parties.<sup>170</sup>

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<sup>163</sup> Hill (See note 148: 5)

<sup>164</sup> Ibid at 7.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.

<sup>168</sup> 'Electronic bill of lading: Another step forward!' available at [www.hellenicshippingnews.com](http://www.hellenicshippingnews.com) accessed on 6 January 2017.

<sup>169</sup> Hill (see note 148: 5).

<sup>170</sup> Hill (see note 148: 5).

#### 4.2.3 *Susceptible to fraud*

Traditional paper bills of lading are susceptible to fraud because they can be easily copied by an unlawful holder and deceitfully presented to a carrier for the purposes of accepting delivery.<sup>171</sup> A paper bill of lading and other documents are altered by many different parties to a contract to ensure that it aligns with their needs and to regulate its use.<sup>172</sup> Thus, it is easy for one of the parties to fraudulently insert small changes without the others noticing. This is possible in respect of an amount on an invoice.<sup>173</sup> However, this does not occur frequently because the parties' legal advisors and brokers scrutinize documents.<sup>174</sup>

South Africa is ranked as the nation with the third highest incidence of cyber-crime victims.<sup>175</sup> Approximately forty-eight per cent of cyber-crimes occur due to system failures, leading to security breaches.<sup>176</sup> Thus, electronic bills of lading are also prone to fraud. However, most electronic trading systems allow merchants to be hands on in facilitating transfer of electronic bills of lading. They can approve almost everything with combination codes and encryption keys. They also have third party registries. It can thus be concluded that it is easier to create fake bills of lading with paper bills of lading than with electronic ones. With paper bills of lading, it is easier to forge documents; the carrier then runs the risk of delivering to the wrong person.

#### 4.2.3 Solutions to the disadvantages

The cost of electronic communication equipment such as computers and the internet to facilitate computer or online communication has decreased substantially in recent years.<sup>177</sup> Furthermore, electronic equipment is advancing on a virtually daily basis.<sup>178</sup>

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<sup>171</sup> See note 168.

<sup>172</sup> Hill (see note 148: 6).

<sup>173</sup> Hill (see note 148: 6).

<sup>174</sup> Hill (see note 148: 6).

<sup>175</sup> '20 Eye-opening cyber-crime statistics' 16 November 2016, Available at <https://securityintelligence.com>. Accessed on 9 March 2017.

<sup>176</sup> Ibid.

<sup>177</sup> Hill (see note 148: 9).

<sup>178</sup> Hill (see note 148: 11).



The use of electronic bills of lading would thus substantially decrease the production costs of a bill of lading as well as administrative and labour costs.<sup>179</sup>

Electronic bills of lading would also reduce delays since time consuming paper processing would be eliminated, further reducing administrative and labour costs<sup>180</sup> and enhancing service delivery to merchants. Electronic bills of lading also offer several advantages to merchants.<sup>181</sup> However, there are disadvantages in using electronic bills of lading; these are discussed in chapter six.<sup>182</sup>

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<sup>179</sup> Hill (see note 148: 11).

<sup>180</sup> Hill (see note 148: 11).

<sup>181</sup> Hill (see note 148: 11).

<sup>182</sup> Hill (see note 148: 11).

## Chapter 5:

In light of technological progress and the fact that electronic devices have been used for some time in the shipping industry to ensure that vessels' equipment and machinery meet required standards, the time is ripe to shift to negotiable electronic bills of lading.<sup>183</sup>

An electronic bill of lading is defined as a 'series of electronic messages' that transmit information on the goods in question.<sup>184</sup> Data is electronically transmitted and exchanged between the shipper and the carrier, as well as the new consignee.<sup>185</sup>

Apart from electronic data exchange, an electronic bill of lading's features are similar to those of a paper bill of lading.<sup>186</sup> Aikens describes it as being more or less like an e-mail.<sup>187</sup> It enables the parties in a sea trade contract to exchange information without human intermediaries.<sup>188</sup>

'For an electronic bill of lading to be commercially operative, it must replicate the three roles found in a paper bill of lading, most importantly, the negotiability function, to allow merchants to sell their goods while in transit.'<sup>189</sup>

Early attempts to introduce electronic bills of lading are investigated in this chapter. It explores international instruments such as the Sea Docs system, the Committee Maritime International (CMI) Rules, the Bolero system, the UNCITRAL Model Law on Electronic Commerce adopted in 1996 and the e-Title. It also analyses South Africa's Electronic Communications and Transactions Act<sup>190</sup> and critically considers whether or not an electronic bill of lading can replicate the three functions found in the traditional paper bill of lading. Finally, the chapter analyses whether the 'negotiable transport

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<sup>183</sup> G F Chandler "The Electronic Transmission of Bills of Lading." 20 (1989) 20 *Journal of Maritime Law and Commerce* 571 at 571.

<sup>184</sup> Aikens (See note 11:35).

<sup>185</sup> "Bill Of Lading as a Negotiable or Transferable Document of Title." (2013) available at <http://www.lawteacher.net/free-law-essays/commercial-law/bill-of-lading-as-a-negotiable-or-transferable-document-of-title.php?cref=1>, accessed on 27 December 2016.

<sup>186</sup> Aikens (see note 11: 35).

<sup>187</sup> Aikens (see note 11: 35).

<sup>188</sup> B Alain "Towards paperless international trade: EDI and EDIFACT." (1991) 3 *International Trade FORUM* 1 at 1.

<sup>189</sup> Wilson (See note 2: 167-168).

<sup>190</sup> Act 25 of 2002.

document' under the Rotterdam Rules is equivalent to a document of title as in the paper bill of lading.

## 5.1 Early initiatives to implement an electronic bill of lading

### 5.1.1 *The Sea Docs system*

The Sea Docs system was the first system to attempt to electronically replicate bills of lading.<sup>191</sup> Jointly initiated by Chase Manhattan Bank and the International Association of Independent Tanker Owners,<sup>192</sup> this system rested on a central registry, Sea Doc Ltd, based in London.<sup>193</sup> Sea Doc Ltd acted as an agent for all parties involved in a contract of carriage of cargo.<sup>194</sup> The original paper bill of lading issued by the carrier to the shipper was held by Sea Doc Ltd, and the shipper was given a unique key code.<sup>195</sup> Should the shipper wish to transfer ownership of the cargo in question to the buyer or an endorsee, he had to communicate his intention to do so to Sea Doc Ltd and thereafter give that buyer or an endorsee some part of the code.<sup>196</sup> Sea Doc would then conduct the following security checks:

'(i) each party's message must be confirmed by at least one or more other messages (ii) messages are re-filed to the presumed sender and must be re-acknowledged, and (iii) each message has a header code which is unique to sender and message as it must contain an element from the prior sender and from the computer acknowledgement message...'<sup>197</sup>

Having confirmed that the key code used by the buyer or an endorsee matched that of the shipper, the buyer or endorsee would be entered in the registry as the new legal holder of the cargo.<sup>198</sup> An electronically generated bill of lading would be issued to the new legal holder, allowing him to take delivery of the goods upon arrival at the port.<sup>199</sup>

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<sup>191</sup> Marek (See note 1:449).

<sup>192</sup> A Delmedico "EDI Bills of Lading: Beyond Negotiability" (2003) 1(1) *Hertfordshire Law Journal* 95 at 96.

<sup>193</sup> Ibid.

<sup>194</sup> Ibid.

<sup>195</sup> Ibid.

<sup>196</sup> Ibid.

<sup>197</sup> R Chris "Authenticating Electronic Mail Messages—Some Evidential Problems." (1989) 52.5 *The Modern Law Review* 649 at 655.

<sup>198</sup> Ibid.

<sup>199</sup> Delmedico (see note 192: 96).

However, the Sea Doc project failed during its trial run<sup>200</sup> due to both practical and legal considerations.<sup>201</sup> These included the fact that traders' information recorded in the central registry was available for inspection by the tax authorities and competitors.<sup>202</sup> Banks' competitors also had access to this information.<sup>203</sup> The system did not provide for transfer of the contractual rights and liabilities to the buyer or an endorsee.<sup>204</sup> Finally, this system was not automated in its entirety because communication between the bank and its users was via a telex; it thus still relied on paper-based documents.<sup>205</sup>

It can thus be concluded that the central registry should not have been entrusted with overall control of the process as it operated as a closed system of registration.<sup>206</sup> Furthermore, only limited information should have been made available on the system, with the rest given to interested parties on request.<sup>207</sup>

#### 5.1.1.1. *Does the Sea Doc replicate the three functions of a bill of lading?*

In terms of the Sea Doc system, the traditional paper bill of lading is issued by a carrier to the shipper.<sup>208</sup> Thus the 'receipt for the shipment of cargo' function of the paper bill of lading is accomplished. Furthermore, the consignee would be able to ascertain the description, condition, quality and quantity of the cargo from the paper bill of lading delivered by Sea Doc.<sup>209</sup>

In respect of evidence of the contract, the paper bill of lading deposited with Chase Manhattan Bank serves as evidence of the carriage contract between the parties.<sup>210</sup> This is so because it is the original paper bill of lading initially issued by a carrier, and paper bills are *prima facie* evidence of the contract.<sup>211</sup>

The third function is the document of title function. In order to effect endorsement, the shipper needs to communicate his intention to endorse the bill to Sea Doc together

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<sup>200</sup> Chris (see note 197: 655).

<sup>201</sup> Delmedico (see note 192: 96).

<sup>202</sup> Marek (see note 1: 450).

<sup>203</sup> Marek (see note 1: 450).

<sup>204</sup> Marek (see note 1: 450).

<sup>205</sup> Delmedico (see note 192: 96).

<sup>206</sup> Marek (see note 1: 450).

<sup>207</sup> Marek (see note 1: 450).

<sup>208</sup> Senekal (See note 88: 44).

<sup>209</sup> Ibid.

<sup>210</sup> Ibid.

<sup>211</sup> Ibid.

with some part of the private code.<sup>212</sup> The buyer is also required to communicate that he accepts the transfer and Sea Doc is required to confirm that the part of the code provided conforms to that of the buyer.<sup>213</sup> If this is the case, the endorsement is approved. It can thus be concluded that the process of transferring the Sea Doc is the same as that of the paper bill of lading except that in a Sea Doc, the central registry system intervenes.<sup>214</sup>

However, since the Sea Doc is not a 'commercial custom' like paper bills of lading because it was used for approximately a year, it does not satisfy the document of title function.<sup>215</sup>

### 5.1.2 *Comite Maritime International (CMI) Rules for electronic bills of lading*

The Comite Maritime International Rules for Electronic Bills of Lading (hereafter referred to as the CMI Rules) were adopted in 1990<sup>216</sup> with the aim of introducing electronic bills of lading.<sup>217</sup> The prerequisite was that the parties to a contract of carriage of goods had to agree that the CMI Rules would regulate the electronic bill of lading in question.<sup>218</sup>

Upon delivery of the cargo to be shipped to a carrier by the shipper, instead of issuing a paper bill of lading, the carrier sends an electronic bill of lading to the shipper's electronic address.<sup>219</sup> The electronic receipt contains information such as the shipper's name;<sup>220</sup> the condition of the cargo being transported;<sup>221</sup> the location and date on which the goods were received by the carrier;<sup>222</sup> the terms and conditions agreed to by the carrier;<sup>223</sup> and the Private Key which is a code created to enable the legal holder of the goods to control them.<sup>224</sup> The Private Key is the most important detail as it

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<sup>212</sup> Ibid.

<sup>213</sup> Ibid.

<sup>214</sup> Ibid at 45.

<sup>215</sup> Senekal (see note 88:44).

<sup>216</sup> J Livermore "Electronic bills of lading: a progress report." (1997) 28 *Journal of Maritime Law and Commerce* 55 at 57.

<sup>217</sup> Ibid.

<sup>218</sup> K R Brett "The CMI Charts a Course on the Electronic Data Interchange: Rules for Electronic Bills of Lading." (1991) *Tulane Maritime Law Journal* 352 at 362.

<sup>219</sup> "The Comite Maritime International Rules for Electronic Bills of Lading" (hereafter referred to as the CMI Rules), Rule 4(d) available at [comitemaritime.org/Rules-for-Electronic-Bills-of-Lading/0,2728,12832,00.html](http://comitemaritime.org/Rules-for-Electronic-Bills-of-Lading/0,2728,12832,00.html) Accessed on 20 November 2016.

<sup>220</sup> CMI Rule 4(b) (i).

<sup>221</sup> CMI Rule 4(b) (ii).

<sup>222</sup> CMI Rule 4(b) (iii).

<sup>223</sup> CMI Rule 4(b) (iv).

<sup>224</sup> CMI Rule 4(b) (v).

regulates the transfer of the cargo. Under Rule 2 of the CMI Rules, the Private Key is a combination of numbers, and/or letters which the parties agree to in order to secure the authenticity and integrity of transmission.<sup>225</sup> It allows the legal holder of the electronic receipt to conclude transactions in respect of the cargo in transit. Furthermore, it permits transfer of ownership from the legal holder to the buyer or consignee.<sup>226</sup> The buyer or consignee will only become a legal holder once he is in possession of the Private Key and is thereafter entitled to the rights listed in CMI Rule 7. The electronic receipt 'has the same force and effect' as the paper bill of lading.<sup>227</sup> Therefore, the holder of the electronic document enjoys the same rights and responsibilities as that of a paper bill of lading. These include but are not limited to taking delivery of the goods;<sup>228</sup> transferring ownership and control rights to someone else;<sup>229</sup> and issuing instructions to the carrier in relation to the goods as long as it is within the scope of the contract.<sup>230</sup> This leads to the issue of how the CMI Rules duplicate the negotiability function of electronic bills of lading.

A contract of sale can be concluded while goods are in transit.<sup>231</sup> The legal holder of the Private Key must transfer his rights to a carrier by sending the latter the Private Key.<sup>232</sup> This indicates intention to transfer the cargo to the new holder. As noted above, the transferor of the Private Key must be a legal holder of the electronic bill of lading and have the Private Key in order to authorise the transfer rights of ownership.<sup>233</sup> The carrier is required to confirm receipt of notification from the legal holder (the original shipper).<sup>234</sup> A carrier will be expected to provide the shipper's name, details of the cargo, the date and place where the goods were received by the carrier and finally, information on the contract of carriage.<sup>235</sup> The purpose is to confirm acceptance with the intended new holder. In turn, the intended new holder is required to confirm with the carrier that he accepts the transfer of the goods, rights, and responsibilities, including ownership rights from the original shipper.<sup>236</sup> This enables the carrier to issue

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<sup>225</sup> CMI Rule 2.

<sup>226</sup> Livermore (see note 3216: 57).

<sup>227</sup> CMI Rule 4(b) (d).

<sup>228</sup> CMI Rule (7) (a) (1).

<sup>229</sup> CMI Rule (7) (a) (3).

<sup>230</sup> CMI Rule (7) (a) (4).

<sup>231</sup> Brett (see note 218:364).

<sup>232</sup> Brett (see note 218:364).

<sup>233</sup> CMI 7(a) (3).

<sup>234</sup> Brett (see note 218:364).

<sup>235</sup> Brett (see note 218:364).

<sup>236</sup> Brett (see note 218: 364).

a new Private Key, hence allowing further contracts to be concluded in respect of the goods.<sup>237</sup>

However, the CMI Rules fail to address important issues such as what amounts to receipt of an offer and of acceptance.<sup>238</sup> In addition, the rules do not make provision for cases where the system fails.<sup>239</sup> Therefore, the parties have to ensure that their contractual agreement contains clauses that clearly address all possible difficulties that might arise.<sup>240</sup> In other words, they would have to have a 'master agreement', which is impossible.<sup>241</sup>

#### 5.1.2.1. *Do the CMI Rules replicate the three functions of a bill of lading?*

The first requirement of 'receipt for the shipment of cargo' is met through Article 4, which requires the carrier to issue a receipt in respect of the goods received for shipment. This should include a description of the cargo 'in the same tenor as would be required if a paper bill of lading were issued...'<sup>242</sup> It can thus be concluded that the CMI Rules ensure that an electronic bill regulated by its rules has the receipt function.

Secondly, Article 4(b) (iv) of the CMI Rules requires that the receipt refer to the contract of carriage's terms and conditions to which the parties agreed.<sup>243</sup> The CMI Rules therefore facilitate electronic replication of the 'evidence of the contract of carriage' function found in the paper bill of lading. Moreover, Article 4(d) gives life to the abovementioned functions by stating that the electronic bill of lading issued under the CMI Rules is to have 'the same force and effect as if the receipt message were contained in the paper bill of lading.'<sup>244</sup>

Finally, under the CMI Rules, an electronic bill of lading is transferred from the shipper to the consignee by means of the shipper communicating his intention to transfer the electronic bill of lading.<sup>245</sup> The shipper has a duty to provide the carrier with the details necessary for the transfer of an electronic bill of lading.<sup>246</sup> Such a bill of lading would

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<sup>237</sup> Brett (see note 218: 364).

<sup>238</sup> Livermore (see note 216: 57).

<sup>239</sup> Livermore (see note 216: 57).

<sup>240</sup> Brett (see note 218: 366).

<sup>241</sup> Brett (see note 218: 366).

<sup>242</sup> Rule 4 (b) (iv).

<sup>243</sup> Rule 4(b) (iv).

<sup>244</sup> Rule 4(d).

<sup>245</sup> Rule 7 (4) (b).

<sup>246</sup> Ibid.

be deemed to have been transferred or negotiated to a new party when the carrier issues a private code in respect of the electronic bill of lading to the consignee.<sup>247</sup> Once the new private code has been issued, that held by the original shipper becomes ineffective.<sup>248</sup> Since the CMI Rules have been proven to facilitate smooth regulation of an electronic bill of lading, should they remain in existence for a longer period, they would satisfy the 'commercial custom' requirement for an electronic bill of lading to be a document of title.<sup>249</sup> Therefore, it can be concluded that the electronic bill of lading under the CMI Rules is currently not a document of title.<sup>250</sup>

### 5.1.3 *The Bolero System*

It should be noted from the outset that the electronic document produced under the Bolero System is not an electronic bill of lading but a 'Bolero Bill of Lading' (hereafter referred to as BBL).<sup>251</sup> This is so mainly because this electronic document does not contain the elements found in a standard bill of lading.

The Bolero system is said to be a closed system since only registered members can access information.<sup>252</sup> It is best defined as a transcript that contains the terms and conditions of a contract of carriage, together with a registry record.<sup>253</sup> Furthermore, it is a third party intercessor, a central registry for electronic transactions supported by a group of carriers, shippers, banks and insurers.<sup>254</sup>

The Bolero system involves an interchange of electronic messages between a carrier, shipper, freight forwarders, banks and an online registry.<sup>255</sup> The parties are provided with data on the contract of carriage through a computer workstation.<sup>256</sup> They are not permitted to communicate directly with one another, but exchange information via the

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<sup>247</sup> Ibid.

<sup>248</sup> Senekal (See note 88:35).

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> Ibid at 38.

<sup>252</sup> P Jones "A New Transport Convention: A Framework for E-Commerce." (2002) 9 *Electronic Communication Law Review* 145 at 157.

<sup>253</sup> Ibid at 162.

<sup>254</sup> Rouhshi (See note 4:177).

<sup>255</sup> Livermore (See note 216:58).

<sup>256</sup> Ibid.



registry.<sup>257</sup> The purpose of the registry is to ensure the validity of the messages exchanged between users.<sup>258</sup>

The negotiability function is accomplished by means of users of the system sending a notification to the Bolero system of intention to transfer the cargo in question to a new party.<sup>259</sup> The contract between the carrier and the shipper comes to an end and a new contract is created between the new consignee and the carrier; the same procedure is adopted during further transfers.<sup>260</sup>

While the Bolero system offers several advantages, including its ability to replicate the negotiability function, it was not that successful at first.<sup>261</sup>

#### 5.1.3.1 *Does the Bolero System replicate the three functions inherent in the paper bill of lading?*

Under the Bolero System, the receipt function is met when the carrier electronically issues a BBL to the shipper after the shipper has made delivery of the cargo to him.<sup>262</sup> The BBL contains a description and the characteristics of the cargo that are vital for its identification.<sup>263</sup> When the shipper transfers the BBL to the buyer or a new consignee, the BBL becomes conclusive evidence of the cargo that was shipped.<sup>264</sup>

The BBL also serves as evidence of the contract of carriage.<sup>265</sup> The contractual terms contained in an electronic document signed by the parties have the same effect as those in a traditional paper bill of lading and are admissible in a court of law.<sup>266</sup> This is evident from the Bolero Rulebook, Part 2, which states that ‘each user agrees that a Signed Message or a portion drawn from a Signed Message will be admissible before any court of law as evidence of the message or portion thereof’.<sup>267</sup>

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<sup>257</sup> Wilson (See note 63:170).

<sup>258</sup> Livermore (See note 216: 58).

<sup>259</sup> Ibid.

<sup>260</sup> Ibid.

<sup>261</sup> Beecher (See note 91:637).

<sup>262</sup> Senekal (See note 88: 39).

<sup>263</sup> Senekal (See note 88: 39).

<sup>264</sup> Senekal (See note 88: 40).

<sup>265</sup> Senekal (See note 88: 40).

<sup>266</sup> Senekal (See note 88: 40).

<sup>267</sup> “The Bolero Rulebook” available at [www.bolero.net/integration/rulebook](http://www.bolero.net/integration/rulebook) accessed on 23 March 2017.

However, the BBL is not is document of title.<sup>268</sup> As noted above, for a (an electronic) document to be regarded a document of title, commercial custom must be established. In respect of the BBL, research shows that in as much as several companies signed up to the Bolero System, only one incident has been reported involving the use of this system and the application of its rules.<sup>269</sup> To be regarded as a document of title, the BBL would have to be used more frequently in international trade and also remain in use for a longer period.<sup>270</sup>

#### 5.1.4 *The UNCITRAL Model Law on Electronic Commerce*

Chapter 1 of The UNCITRAL Model Law on Electronic Commerce (hereafter referred to as the Model Law), which was adopted in 1996, provides for electronic commerce. It thus sought to replace earlier conventions that did not provide for electronic documents.<sup>271</sup> The Model Law aims to enable and facilitate electronic commerce and provide national policymakers with a set of rules that meets international standards.<sup>272</sup> It also seeks to remove legal obstacles and enhance the legal predictability of electronic commerce.<sup>273</sup>

Article 17 of the Model Law provides for transfer of rights in electronic commerce. It allows merchants to use electronic bills of lading instead of paper ones. Article 17 (3) establishes the *uniqueness and reliability* of the method used as a requirement to transfer rights and obligations by means of a data message.<sup>274</sup> It refers to 'the use of a reliable method to secure that data messages purporting to convey any right or obligation of a person might not be used by, or on behalf of, that person inconsistently with any other data messages by which the right or obligation was conveyed by or on behalf of that person'.<sup>275</sup>

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<sup>268</sup> Senekal (see note 88: 42).

<sup>269</sup> Senekal (see note 88: 41).

<sup>270</sup> Senekal (see note 88: 41).

<sup>271</sup> Marek (See note 1:440).

<sup>272</sup> UNCITRAL Model Law on Electronic Commerce (hereafter referred to as The Model Law) (1996) Available at [http://www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/1996Model.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html) Accessed on 1 September 2016.

<sup>273</sup> Marek (See note 1: 440-441).

<sup>274</sup> The Model Law; Article 17(3).

<sup>275</sup> The Model Law; Article 17 (3).

#### 5.1.4.1 Does the UNCITRAL Model Law on Electronic Commerce replicate the three functions inherent in the paper bill of lading?

The Model Law makes provision for and satisfies the receipt function.<sup>276</sup> An electronic bill of lading issued under this Law serves as a receipt for the shipment of cargo. Article 17 states that:

‘...where the law requires that any action referred to in Article 16 be carried out in writing or by using paper document, that requirement is met if the action is carried out by using one or more data messages’.<sup>277</sup>

Moreover, Article 5 provides that an electronically generated bill of lading serves as a receipt and *prima facie* proof of the goods received.<sup>278</sup> Furthermore, the description of the goods on the electronic bill of lading in the hands of a consignee is conclusive evidence of the goods received by a carrier.<sup>279</sup> Thus, the electronic bill of lading would be as valid as a paper bill of lading. This is so because ‘Information shall not be denied legal effect, validity, or enforceability solely because it is in the form of data message’.<sup>280</sup>

Article 17 also satisfies the contract of carriage function.<sup>281</sup> This is further facilitated by Article 5, which ensures that an electronic bill of lading issued under the Model Law is acceptable, valid and enforceable irrespective of the fact that it is in the form of a data message and not a paper document.<sup>282</sup>

However, although an electronic bill of lading regulated by the Model Law can be negotiated or transferred to a new consignee, it is not a document of title.<sup>283</sup> This is also due to the fact that electronic bills of lading issued under the Model Law have not been widely used; thus, commercial custom has not been established.<sup>284</sup>

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<sup>276</sup> The Model Law; Article 17.

<sup>277</sup> The Model Law; Article 17. According to Article 1 of the Model Law, “Data Messages” means information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange, electronic mail, telegram, telex or telecopy.’

<sup>278</sup> The Model Law; Article 5.

<sup>279</sup> Senekal (See note 88: 9).

<sup>280</sup> The Model Law; Article 5.

<sup>281</sup> The Model Law; Article 17.

<sup>282</sup> The Model Law; Article 5.

<sup>283</sup> Senekal (See note 88: 31).

<sup>284</sup> Senekal (See note 88: 31).

However, the electronic bill of lading is capable of being endorsed to another party, thus transferring the rights and responsibilities associated with the cargo described.<sup>285</sup> Article 17(3) states that:

'If a right to be granted to, or an obligation is to be acquired by, one person and no other person, and if the law requires that, in order to effect this, the right or obligation must be conveyed to that person by the transfer, or use of, a paper document, that requirement is met if the right or obligation is conveyed by using one or more data messages, provided that a reliable method is used to render such data message or messages unique'.<sup>286</sup>

It can thus be inferred that a data message should be used for the successful and valid transfer of rights and that a 'reliable and a unique' method of generating the data message is used.<sup>287</sup> The method used should thus be one that has been previously employed and is deemed reliable.<sup>288</sup>

## 5.2 The South African perspective

### 5.2.1 *The Electronic Communications and Transactions Act*<sup>289</sup>

South Africa has not yet adopted legislation that regulates and provides guidelines in respect of electronic bills of lading. However, electronic transactions are covered by the Electronic Communications and Transactions Act<sup>290</sup> (hereafter referred to as the ECTA) which, because of its objectives, can be assumed to be applicable to electronic bills of lading.<sup>291</sup> This Act aims to:

'provide for the facilitation and regulation of electronic communications and transactions; to provide for the development of a national e-strategy for the Republic; to promote universal access to electronic communications and transactions and the use of electronic transactions by SMMEs; to provide for human resource development in electronic transactions; and to provide for matters connected therewith'.<sup>292</sup>

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<sup>285</sup> The Model Law; 17(3).

<sup>286</sup> The Model Law; Article 17(3).

<sup>287</sup> Hendrik (see note 66: 31-32).

<sup>288</sup> Senekal (See note 88: 32).

<sup>289</sup> Act 25 of 2002.

<sup>290</sup> Ibid.

<sup>291</sup> J Coetzee "Incoterms, electronic data interchange, and the Electronic Communications and Transactions Act." (2003) 15. *South African Mercantile Law Journal* 1 at 13.

<sup>292</sup> ECTA; the Preamble.

It can thus be concluded that the Act also regulates the functioning of electronic transactions and data messages which promote paperless trading.<sup>293</sup> While its scope of application does not extend to electronic bills of lading, it sets the requirements for such including an electronic signature and written communication.<sup>294</sup>

‘For an electronic bill of lading to be commercially effective, it must replicate the three functions of the negotiable paper bill of lading in order to allow merchants to sell their goods while in transit.’<sup>295</sup>

### *5.2.2 Does the Electronic Communications and Transactions Act replicate the functions of a bill of lading inherent in the paper bill of lading?*

If the ECTA were to be applicable to electronic bills of lading, the ‘receipt for the shipment of cargo’ function would be met. This is so because section 11 of the Act states that ‘Information is not without legal force and effect merely on the grounds that it is wholly or partly in the form of a data message’.<sup>296</sup>

Thus, an electronic document in the form of a data message is legally valid in terms of the ECTA.

The ECTA allows for a data message to be accepted as evidence of the contractual terms that the parties agreed to.<sup>297</sup> This is acceptable on condition that the data message is a reliable source of evidence of such terms. Section 15 states that, ‘in any legal proceedings, the rules of evidence must not be applied so as to deny the admissibility of a data message, in evidence... (a) on the ground that it is constituted by a data message’.<sup>298</sup>

With regard to the electronic document or data message issued in terms of the ECTA being a document of title, the Act does not address the transfer of electronic documents or data message.<sup>299</sup> Since electronic trading systems rely on different forms of electronic signatures for the transfer of an electronic document and data message, under the ECTA, a bill of lading would be transferable in terms of s13(2)

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<sup>293</sup> ECTA; s 4.

<sup>294</sup> Coetzee (see note 291: 13).

<sup>295</sup> Wilson (See note 63:167-168).

<sup>296</sup> ECTA; s 11.

<sup>297</sup> Senekal (see note 88:52).

<sup>298</sup> ECTA: s 15 (a).

<sup>299</sup> Senekal (see note 88: 53).

that stipulates that an 'electronic signature is not without legal force and effect merely on the ground that it is in electronic format'.<sup>300</sup>

It can thus be inferred that the ECTA regulates electronic bills of lading on the basis that section 4 states that the Act is applicable to electronic transactions and/or data messages.<sup>301</sup> An electronic bill of lading results from electronically concluded transactions and takes the form of a data message created by a carrier and transferred to a shipper. Furthermore, the Act clearly outlines the documents to which the Act is not applicable.<sup>302</sup> Electronic bills of lading are not listed; as such, it can be deduced that it is applicable to electronic bills of lading.

### 5.2.3 *The Sea Transport Documents Act*<sup>303</sup>

Whilst the scope of ECTA does not boldly extend to transfer of electronic bills of lading, Sea Transport Documents Act does cover it.<sup>304</sup> The Sea Transport Documents Act (hereinafter referred to as STDA) is one piece of legislation specifically designed to advance the use of bills of lading.

The STDA provides for the negotiability and transferability of bills of lading.<sup>305</sup> The wording of the Act clearly shows that such also includes electronic bills of lading. S 3 of the Act states that:

'A sea transport document may be transferred by the holder, either—

- (a) by delivery of the document, endorsed as may be necessary; or
- (b) subject to section 9(1) (a), through the use of a telecommunication system or an electronic or other information technology system.'<sup>306</sup>

It is obvious that the STDA was created in a manner as to make it possible for the bill holder to transfer the bill of lading to a third party.<sup>307</sup> Further, the fact that s 3(b) stipulates that such bill of lading may be transferred through the use of electronic

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<sup>300</sup> ECTA; s 13(2).

<sup>301</sup> ECTA; s4.

<sup>302</sup> ECTA; Schedule 2.

<sup>303</sup> Act 65 of 2000.

<sup>304</sup> s 3(1) of the STDA.

<sup>305</sup> S 3 of the STDA.

<sup>306</sup> S 3(1) (a) and (b). According to s 1(a) 'Sea transport document' also mean a bill of lading.

<sup>307</sup> s 3(b) of STDA

or other related systems, an inference may be drawn that the STDA is also applicable to electronic bills of lading.<sup>308</sup>

The use of STDA is however limited in that, its use is restricted to the jurisdiction of South Africa.<sup>309</sup> For this Act to be applicable, the bill of lading must have been issued in the Republic.<sup>310</sup> Alternatively, the goods involved must at least be destined to the Republic.<sup>311</sup> This does not bring about any disadvantage on the use of the Act. It in fact aims at simplifying the use of bills of lading for domestic merchants. However, this would be achieved provided that the draftsman of was mindful of the fact that the domestic statute is to give effect to international conventions; to international uniformity.<sup>312</sup>

Furthermore, the applicability of the Act on the electronic bills of lading is subject to the Minister of Transport enacting regulations stipulating essentials for a valid and an acceptable bill of lading.<sup>313</sup> To date, the Minister has not yet promulgated any regulations. As a result, the purpose of the Act is not fulfilled; the said legislation can be said to be futile in relation to the use electronic bills of lading.

Therefore, it be concluded that, inasmuch as the STDA is promising on the regulation of and the use of electronic bills of lading, it cannot be used simply because of the failure on the part of the Minister of Transport to enact regulations giving effect to the transferability and negotiability of an electronic bills of lading. As such, the STDA does not make provision for all three functions found in a paper bill of bill of lading. Until the Minister promulgate the relevant regulations, a lacuna remains in the South African law and the use of electronic bills of lading.

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<sup>308</sup> Ibid.

<sup>309</sup> S 2 (1) (a) and (b).

<sup>310</sup> S 2 (1) (a).

<sup>311</sup> S 2 (1) (b).

<sup>312</sup> D Donelly An Examination Of The Application Of The Sea Transport Documents Act 65 Of 2000 To Title To Sue Under Contracts Of Carriage Evidenced By Sea Waybills And Straight Bills Of Lading (LLM thesis, University of KwaZulu-Natal 2013)107.

<sup>313</sup> S 9(1) (a) of STDA. This section provides that "Subject to subsections (2) and (3), the Minister may make regulations—

(a)prescribing the circumstances in which and the conditions subject to which a record or document produced by a telecommunication system or an electronic or other information technology system, and effecting transactions such as those effected by any sea transport document, is to be regarded as a sea transport document;"

## 5.3 Recent systems

### 5.3.1 *E-Title*

'E-Title is a patented, peer-to-peer technology that enables the creation and transfer of title and negotiable documents, including the bills of lading'.<sup>314</sup> This electronic trading system was approved by the International Group of P&I Clubs in 2015.<sup>315</sup> E-title's focus is to facilitate electronic negotiation and passing of a title through electronic endorsements, thus enabling pure electronic trade. It relies on a digital signature to ensure secure transfer of title amongst parties and avoid fraudulent use of electronic bills of lading.<sup>316</sup>

To prevent parties from illegally accessing data stored on the data base and other software codes necessary to access the data required for one to accept delivery of cargo at the destination port, the "Hardware Security Module" accredited in terms of the FIPS 140" standards are used.<sup>317</sup>

#### 5.3.1.1 *The functioning of an e-title*

Instead of issuing a paper bill of lading on the spot, the carrier would send a bill of lading to the e-title electronic trading system which 'creates and electronically signs the electronic title'.<sup>318</sup> The purpose of digitally signing the electronic title is to ensure authenticity in transferring the electronic bill of lading.<sup>319</sup> After being electronically signed, the electronic title is registered in the 'Hardware Security Module'<sup>320</sup>, which strengthens security and ensures that it can only be accessed and used by the shipper.<sup>321</sup> The electronic title is then sent back to the carrier. The electronic bill of lading and the electronic title are sent to the shipper via email or any other method

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<sup>314</sup> "E-title" available on [www.e-title.net.index.php.com](http://www.e-title.net.index.php.com) 01 April 2016

<sup>315</sup> Electronic bill of lading: Another step forward!' available at [www.hellenicshippingnews.com](http://www.hellenicshippingnews.com) accessed on 6 January 2017.

<sup>316</sup> "E-title" (See note 303)

<sup>317</sup> Ibid.

<sup>318</sup> Ibid.

<sup>319</sup> Ibid.

<sup>320</sup> Ibid.

<sup>321</sup> Ibid.



chosen by the parties.<sup>322</sup> This process satisfies the receipt function of an electronic bill of lading.

The shipper's trade application receives the electronic bill of lading together with the electronic title and verifies the authenticity of the signature using an E-Title ETS.<sup>323</sup> If the signature is authentic, the electronic title is registered with the 'Hardware Security Module'. The bill of lading and the electronic title are capable of transfer by the shipper to a new party.<sup>324</sup> In this case, the electronic bill of lading would serve as conclusive proof of the cargo received by the carrier for shipment.

It should be noted that an electronic bill of lading is issued in the same manner as a printed bill of lading.<sup>325</sup> However, the process to secure the electronic bill of lading and its delivery are different from that of a paper bill of lading.<sup>326</sup> It can thus be inferred that, an electronic bill of lading issued by a carrier contains the terms of the contract of carriage and other necessary information. The electronic bill of lading is thus evidence of the contract of carriage of cargo.

#### 5.3.1.2 *How an electronic bill of lading is transferred under e-title*

The shipper only identifies the party to whom he wishes to transfer the bill of lading and electronic title.<sup>327</sup> The trade application endorses the bill of lading to the identified party on behalf of the shipper by accessing the E-Title ETS. This is to ensure that the shipper is the registered holder of the electronic title and the bill of lading in question.<sup>328</sup> Thereafter, the E-Title electronically endorses the electronic title and updates the changes made in the 'Hardware Security Module'.<sup>329</sup> These updates are crucial in that they prevent further transfers of the electronic title and the bill of lading.

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<sup>322</sup> "E-tittle" (See note 303)

<sup>323</sup> Ibid.

<sup>324</sup> Ibid.

<sup>325</sup> Ibid.

<sup>326</sup> Ibid.

<sup>327</sup> Ibid.

<sup>328</sup> Ibid.

<sup>329</sup> Ibid.

The electronic title and record of the endorsement are sent by the E-Title to the trade application which merges the documents with the electronic bill of lading and delivers it to the consignee or a bank when documentary credits are involved.<sup>330</sup>

However, despite the fact that the electronic bill of lading generated using the E-Title system is capable of endorsement, it is not a document of title as it has only recently been introduced and has not been widely used; it has thus not established the commercial custom requirement.

In conclusion, most electronic trade systems fail because they rely heavily on a central registry. Some also use paper documents in cases where certain requirements for a successful contract cannot be met electronically. For example, the reasons why Sea Doc failed include the fact that it still relied on the use of paper documents.

### 5.3.2 *Electronic Shipping Solutions (“Ess”)*

Ess was founded in 2003.<sup>331</sup> Its functioning and legal validity is dependent on the use of a user agreement called the Databridge Services and Users Agreement (hereafter referred to the DSUA).<sup>332</sup> It is a multilateral agreement between its users and users of the Exchange.<sup>333</sup>

#### 5.3.2.1 *The functioning of an Ess*

To use the EssDocs system, parties first accept the DSUA and ensure that they comply with it.<sup>334</sup> An electronic bill of lading is issued by the master or carrier and is sent to the system.<sup>335</sup> The system verifies the authenticity of the shipper’s electronic signature on the bill of lading with that of the buyer. If the two signatures match, the system generates the electronic bill of lading.<sup>336</sup>

An electronic bill of lading issued under the DSUA is equivalent to a paper bill of lading in that it can be endorsed to a new consignee together with all the rights stemming

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<sup>330</sup> Ibid.

<sup>331</sup> ‘essDOCS Paperless Trade Solutions’ available at <https://www.essdocs.com>, accessed on 24 April 2017.

<sup>332</sup> Ibid.

<sup>333</sup> Ibid.

<sup>334</sup> H Loannidi, *ELECTRONIC BILL (S) OF LADING: A PRACTICAL “TOOL” OR NOT?* (MSc in Shipping Management, Alba Graduate Business School, 2015) 10.

<sup>335</sup> Ibid.

<sup>336</sup> Ibid.

from the bill of lading, for example, the right to possession of the goods in question.<sup>337</sup> Furthermore, an electronic bill of lading can be amended to suit the parties' agreement and needs. Finally, should one of the parties prefer a paper bill of lading, the electronic bill of lading under the DSUA can be converted into one.<sup>338</sup>

#### 5.3.2.2 *How an electronic bill of lading is transferred under Ess*

The carrier electronically issues a bill of lading to the shipper with the shipper's digital signature.<sup>339</sup> The system verifies the signature together with that of the consignee. When the parties' signatures have been proved to be authentic, an electronic bill of lading is sent to the shipper and confirmation that the two signatures matched and that the bill of lading has been transferred to the shipper is forwarded to the carrier.<sup>340</sup>

Should the shipper wish to negotiate the electronic bill of lading in question, he is required to notify the system in order for it to register the details of the new intended consignee.<sup>341</sup> The same procedure is applicable every time ownership is passed to a new consignee.

### 5.2 Functions of an electronic bill of lading

#### 5.2.1 *An electronic bill of lading as evidence of the carriage of goods contract and receipt of goods*

If appropriate security and verification measures are in place, details of the cargo received by a carrier for shipment together with the terms regulating the carriage of goods contract can be electronically transmitted.<sup>342</sup> These two functions have not proved difficult to replicate electronically. It can thus be concluded that the first two features of the paper bill of lading, the receipt and evidence functions, are easily replicated in an electronic bill of lading.<sup>343</sup>

To replicate the 'evidence of the contract of carriage of goods' bill of lading function, the Model Law states that an electronic document's validity should not be rejected as

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<sup>337</sup> Ibid

<sup>338</sup> Ibid at 11.

<sup>339</sup> Ibid at 11.

<sup>340</sup> Ibid at 11.

<sup>341</sup> Ibid at 11.

<sup>342</sup> See note 185

<sup>343</sup> Ibid.

evidence or as a document on the grounds that it is a data message.<sup>344</sup> A data message refers to any material that is transferred, produced or stored by electronic means.<sup>345</sup>

However, the Hamburg Rules<sup>346</sup> and the Hague Visby Rules do not make provision for the use of electronic documents.<sup>347</sup> None of their provisions refer to an electronic bill of lading or an electronic document issued in terms of the Hague Visby or Hamburg Rules being equivalent to paper bills of lading.<sup>348</sup> Therefore, the validity and acceptance of electronic documents, more specifically, bills of lading, as evidence of the carriage and receipt of goods by a carrier is an innovation in the Rotterdam Rules.<sup>349</sup>

### 5.2.2 *An electronic bill of lading as a document of title*

In an attempt to replicate this function, different Electronic Trading Systems (ETS) create user agreements to which the parties to a transaction that have agreed to the use of an electronic bill of lading are bound.<sup>350</sup> In most cases, ETSs produce electronic bills of lading with all the characteristics and details found in a traditional paper bill of lading.<sup>351</sup> Like the e-title ETS, most of these systems can reproduce an electronic bill of lading that can be negotiated or endorsed to a new holder.<sup>352</sup>

Most importantly, the electronic bill of lading can be transformed into a paper bill of lading for the purpose of allowing trade with parties that prefer the use of the latter or did not sign up to use electronic bills for any reason.<sup>353</sup> For example, the e-title ETS makes provision for electronic-paper hybrids. In this case, the paper bill of lading is

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<sup>344</sup> UNCITRAL Model Law on Electronic Commerce (hereafter referred to as The Model Law) (1996) available at [http://www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/1996Model.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html). accessed on 1 September 2016.

<sup>345</sup> Livermore (See note 216:56).

<sup>346</sup> The United Nations Convention on the Carriage of Goods by Sea, 1978. Available at [unctad.org/en/PublicationsLibrary/aconf89d13\\_en.pdf](http://unctad.org/en/PublicationsLibrary/aconf89d13_en.pdf) accessed on 29 November 2016.

<sup>347</sup> F Berlingieri "A comparative analysis of the Hague-Visby rules, the Hamburg rules and the Rotterdam rules." (2009) 5-6 *Paper delivered at the General Assembly of the AMD, Marrakesh* 57. Available at [www.amdadjusters.org](http://www.amdadjusters.org). Accessed on 01 April 2017.

<sup>348</sup> Ibid.

<sup>349</sup> Ibid.

<sup>350</sup> See note 331

<sup>351</sup> Ibid.

<sup>352</sup> Ibid.

<sup>353</sup> See note 168.

also secure and cannot be easily forged as hardware such as the HSM has been created to facilitate document security.<sup>354</sup>

Irrespective of the same bill of lading being replicated in a paper document and electronically, the e-title ETS ensures that a bill is not double traded.<sup>355</sup> Furthermore, the paper bill of lading is equivalent to the electronic bill of lading in terms of the functions served by the electronic bill of lading produced under the e-title ETS.<sup>356</sup> This is facilitated by the fact that the e-title ETS can process the paper bill of lading and create the necessary electronic title.<sup>357</sup>

The Baltic and International Maritime Council (BIMCO) adopted the following rules to facilitate the use of electronic bills of lading:

‘At the Charterers’ option, bills of lading, waybills and delivery orders referred to in this Charter party shall be issued, signed and transmitted in electronic form with the same effect as their paper equivalent; (b) For the purposes of Sub-clause (a) the Owners shall subscribe to and use Electronic (Paperless) Trading Systems as directed by the Charterers, provided such systems are approved by the International Group of P&I Clubs. Any fees incurred in subscribing to or for using such systems shall be for the Charterers’ account; (c) The Charterers agree to hold the Owners harmless in respect of any additional liability arising from the use of the systems referred to in Sub-clause (b), to the extent that such liability does not arise from Owners’ negligence’.<sup>358</sup>

However, as noted above, most of these attempts, including some of the systems discussed under section 5.1, fail because a third party that acts as a registry, is responsible for the legitimacy of the parties’ identity in a transaction as well as ensuring the validity of the data messages.<sup>359</sup> The registry receives and stores the necessary documents and data messages from the parties.<sup>360</sup>

To transfer rights, which includes the document of title right, and responsibilities in respect of cargo, the central registry electronically transfers the documents and data

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<sup>354</sup> “E-title” (See note 303)

<sup>355</sup> Ibid.

<sup>356</sup> Ibid.

<sup>357</sup> Ibid.

<sup>358</sup> “BIMCO charter party” available at <https://www.bimco.org/contracts-and-clauses> Accessed on 14 June 2016.

<sup>359</sup> Delmedico (See note 192:96).

<sup>360</sup> Ibid.

messages to the consignee.<sup>361</sup> Thereafter, the central registry registers the goods under the new party's name; transfer of title from one party to the new party is then complete.<sup>362</sup>

Regardless of the existence of these systems, statutory laws are necessary for the use of electronic bills of lading. The Rotterdam Rules is the first legislation to address the use of electronic bills of lading.<sup>363</sup> However, it is evident from the language used that they only refer to 'negotiable transport documents' as opposed to 'document of title'. This raises issues as to whether the Rotterdam Rules truly provide for the negotiability function.<sup>364</sup>

#### *5.2.2.1 Is the 'Negotiable transport document' under the Rotterdam Rules equivalent to a document of title as in the paper bill of lading?*

The Rotterdam Rules<sup>365</sup> were signed on 23 September 2009. They aim to regulate the use of written electronic instruments in the contract of carriage of goods.<sup>366</sup> The Rules are the first to address the use of electronic means for trading or commerce and the need for negotiable electronic documents at the international level.<sup>367</sup> Articles 1(17)-(22), 8 and 10 make provision for electronic records and the negotiability function of an electronic document.<sup>368</sup> However, while these Rules might be attractive, they cannot be relied on because to be in force, 20 states must ratify them; this has yet to occur.<sup>369</sup> The Britannia News Conventions argues that, the Rotterdam Rules are far from being recognised by a number of states.<sup>370</sup>

The Rotterdam Rules' main purpose is to regulate the contracts of carriage of goods; they also make provision for an alternative to the requirement of written signatures.

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<sup>361</sup> Ibid.

<sup>362</sup> Ibid.

<sup>363</sup> Aikens (See note 11:398).

<sup>364</sup> Ibid.

<sup>365</sup> Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (hereafter referred to as the Rotterdam Rules) (2009) available at [www.uncitral.org/pdf/english/texts/transport/rotterdam.../Rotterdam-Rules-E.pdf](http://www.uncitral.org/pdf/english/texts/transport/rotterdam.../Rotterdam-Rules-E.pdf) accessed on 06 June 2016.

<sup>366</sup> Ibid.

<sup>367</sup> Ibid.

<sup>368</sup> M Alba "Use of electronic records as collateral in the Rotterdam Rules: future solutions for present needs." (2009) 14 *Uniform Law Review* 801 at 801.

<sup>369</sup> Ibid.

<sup>370</sup> Ibid.

This is a positive step in establishing electronic commerce principles and rules.<sup>371</sup> These rules have been described as the “adolescent” stage of electronic commerce in maritime law.<sup>372</sup> They address the concept of a negotiable electronic document for the first time.<sup>373</sup> The first chapter of the Rotterdam Rules describes a negotiable transport document as:

‘A transport document that indicates, by wording such as “to order” or “negotiable” or other appropriate wording recognized as having the same effect by the law applicable to the document, that the goods have been consigned to the order of the shipper, to the order of the consignee, or to bearer, and is not explicitly stated as being “non-negotiable”’.<sup>374</sup>

The wording of this article suggests that a transport document is equivalent to a document of title. However, Aikens does not support this view and argues that regardless of the insertion of the word ‘negotiable’ before ‘transport documents’, the transport document is not a document of title that is capable of performing constructive possession of the goods because the definition of ‘negotiability’ varies.<sup>375</sup> Aikens’ view can be supported on the basis that none of the definitions and provisions in the Rotterdam Rules offers an accurate and detailed answer.<sup>376</sup>

It can be inferred that the use of a ‘negotiable transport document’ is equivalent to an instruction on how the document in question can be fashioned.<sup>377</sup> It can be argued that the legal effect of the word ‘negotiability’ depends on the circumstances in which it is used. It therefore does not have a single consistent meaning.<sup>378</sup> Aitkens concludes that a ‘negotiable transport document as defined in the Rotterdam Rules may, serve as a document of title, though this may not always be the case.’<sup>379</sup>

Negotiable transport documents in an electronic form, such as an ‘electronic transport record’ and ‘electronic communication’ issued under the Rules will have all three

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<sup>371</sup> Ibid at 801-802.

<sup>372</sup> Ibid at 801.

<sup>373</sup> Ibid.

<sup>374</sup> The Rotterdam Rules; Article 1 (15).

<sup>375</sup> Aikens (see note 11: 398).

<sup>376</sup> Alba (see note 357: 803-804).

<sup>377</sup> Aikens (see note 11: 398).

<sup>378</sup> Aikens (see note 11: 398). ‘This is evidence from the definition of a “holder” of a transport document in Article 1 (10); in respect of the rules regulating the replacement of a negotiable transport document with a negotiable electronic transport record; rules stipulating the carrier’s duty with regard to delivery, issuing of the transport document and the number of documents that must be issued; and rules dealing with the document as an evidence of the contract of carriage and the transfer of contractual rights.’

<sup>379</sup> Ibid.

functions that are inherent in a negotiable paper document, the bill of lading.<sup>380</sup> The chief function is transferring rights and responsibilities to the consignee.<sup>381</sup> The issue of rights and responsibilities is addressed in the following chapter that analyses whether an electronic bill of lading can comprehensively duplicate the contractual rights and responsibilities inherent in a paper based bill of lading. It is safe to argue that an electronic transport document under the Rotterdam Rules gives constructive possession of the cargo to the consignee.<sup>382</sup> This is because it is capable of transferring 'rights and legitimation'.<sup>383</sup>

Constructive possession is the most essential function of an electronic transport document.<sup>384</sup> The Rotterdam Rules seek to address the issue of taking possession of the cargo whilst in transit, i.e., constructive possession.<sup>385</sup> This means that the legal holder of the bill of lading has sufficient legal right to control goods in possession of the carrier, which is equivalent to the control he would have had were the goods in his physical possession.<sup>386</sup> In the Rotterdam Rules, this is achieved through the notion of 'exclusive control' which is comparable to possession.<sup>387</sup> Article 1(21) states that:

‘The “issuance” of a negotiable electronic transport record means the issuance of the record in accordance with procedures that ensure that the record is subject to exclusive control from its creation until it ceases to have any effect or validity’.<sup>388</sup>

Under the Rotterdam Rules, the contracting parties can choose between a non-negotiable and negotiable electronic or paper transport document.<sup>389</sup> Moreover, these transport documents can be used as collateral if the shipper and the consignee so desire.<sup>390</sup> It can thus be concluded that a person who relies on an electronic record

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<sup>380</sup> Alba (see note 357: 803-804).

<sup>381</sup> Ibid.

<sup>382</sup> Ibid

<sup>383</sup> Ibid at 805.

<sup>384</sup> See note 117.

<sup>385</sup> Ibid.

<sup>386</sup> Ibid at 142.

<sup>387</sup> Ibid.

<sup>388</sup> The Rotterdam Rules; Article 1(21).

<sup>389</sup> Alba (see note 368:804).

<sup>390</sup> Ibid. The author emphasises that all these documents are capable of having the same consequences. Furthermore, he notes that in respect of transport documents issued under the Rotterdam Rules, one needs to consider the wording and information in the document in question to identify it as being negotiable or non-negotiable.



needs to prove that he has exclusive control of the record in question.<sup>391</sup> This is achieved by transferring an electronic record to the new legal holder with the intention of transferring exclusive control.<sup>392</sup> While the Rules do not mention how intention to transfer exclusive control is achieved, it can be submitted that the wording of the transport document shows the transferor's intention.

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<sup>391</sup> Ibid.

<sup>392</sup> Ibid at 805.

## Chapter 6:

Supply and demand factors exert significant pressure on merchants, prompting the need to find new ways to address these issues.<sup>393</sup> Consumers and consignees require quick service at reasonable cost. This means that contracts should be promptly concluded and the cargo should be supplied on time to the merchant.<sup>394</sup> This chapter examines the advantages and disadvantages of using an electronic bill of lading and identifies the factors preventing the use of such.

### 6.1 Advantages of adopting an electronic bill of lading

#### 6.1.1 *Reduced operating time*

Using an electronic bill of lading would ensure timeous exchange of the information required to conclude a contract,<sup>395</sup> thus optimising the conclusion of contracts.<sup>396</sup> Goods can be thus be sold to more parties while in transit than would be the case with a traditional paper bill of lading.<sup>397</sup> This is due to the fact that process involved in transferring a paper bill of lading from one party to another is quite a long one.

The steps involved in a paper bill of lading are as follows: A letter of credit, in favour of the seller is opened by the buyer's bank, which is known as the 'issuing bank', with the seller's bank.<sup>398</sup> At the seller's request, the carrier issues a paper bill of lading to the seller upon receipt of the cargo. As per the request of the buyer's bank, the seller then presents the bill of lading and the paper documents to his bank.<sup>399</sup> The seller's bank forwards the bill of lading and other required documents received from the seller to the buyer's bank, which examines all the documents to ensure that, at face value, they appear to comply.<sup>400</sup> If they do, the buyer's bank makes the requisite payment to the seller's bank, which informs and pays the seller accordingly.<sup>401</sup> On the other side, the buyer's bank issues a bill of lading in return for payment. The buyer is then able to

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<sup>393</sup> M Hoogeweegen and B. H. P. J. Vermeer. "Academic Research on Electronic Commerce." (1995) 141 available at <https://www.tue.nl/en/university/library/education-research-support/scientific-publishing/research-output-registrationuploading/implementing-pure/using-pure/> accessed on 12 January 2017.

<sup>394</sup> Ibid.

<sup>395</sup> Ibid at 142.

<sup>396</sup> Ibid at 142.

<sup>397</sup> Ibid at 142.

<sup>398</sup> Holtzhausen (See note 154:16).

<sup>399</sup> Ibid.

<sup>400</sup> Ibid.

<sup>401</sup> Ibid.

receive and accept delivery of the goods from the carrier.<sup>402</sup> In contrast, with electronic bills of lading, a message is sent electronically; all communication is electronic and there are thus no delays.<sup>403</sup>

#### 6.1.2 *Reduced operating costs*

Besides being time consuming to process, paper bills of lading are also costly. The seller or the buyer must pay all the parties involved to ensure that the process involved in transferring a bill of lading from one party to another is successful.<sup>404</sup> These parties include, but are not limited to the issuing bank, the negotiating bank and the confirming bank acting on behalf of the seller and the buyer.<sup>405</sup>

Electronic bills of lading would decrease costs since the parties would only use internet facilities.<sup>406</sup> All that is required is an internet connection, which in this day and age is not expensive.

#### 6.1.3 *Increased flexibility*

The use of an electronic bill of lading would also ensure flexibility in the parties' dealings with each other.<sup>407</sup> Merchants' demand would be met far more quickly than if paper bills of lading were to be used. Speedy supply of goods, shipping and delivery at less cost enhance flexibility.<sup>408</sup> Roger Bons defines flexibility as follows: "to quickly respond to the existing demands in the context of supply and demand"<sup>409</sup> and refers to this as agility. Flexibility and agility are important elements in commerce.<sup>410</sup> An electronic bill of lading is a flexible means of communication<sup>411</sup> because, in international trade, the bill of lading and other related documents serve as a means of

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<sup>402</sup> Ibid.

<sup>403</sup> Hoogeweegen (See note 393: 142).

<sup>404</sup> Hoogeweegen (See note 393: 148).

<sup>405</sup> ICC Uniform Customs and Practice for Documentary Credits (Hereafter referred to as UCP 500) Article 13(b). Available at [court-inter.us/sites/default/files/users/user8/uniform\\_customs\\_93.pdf](http://court-inter.us/sites/default/files/users/user8/uniform_customs_93.pdf) accessed on 13 December 2016.

<sup>406</sup> Hoogeweegen (See note 393: 149).

<sup>407</sup> Hoogeweegen (See note 393: 141).

<sup>408</sup> Hoogeweegen (See note 393: 142).

<sup>409</sup> Hoogeweegen (See note 393: 142).

<sup>410</sup> Hoogeweegen (See note 393: 142).

<sup>411</sup> Hoogeweegen (See note 383: 141).

communication by exchanging information.<sup>412</sup> Bons describes this as a *performative* type of communication.<sup>413</sup>

Freight forwarders would also benefit because the time required to process the information would be reduced when electronic data interchange is adopted.<sup>414</sup>

The most attractive feature of an electronic bill of lading is that it will facilitate review and finalising of the bill of lading by banks in cases where they are used to finance cargo.<sup>415</sup> Another convenient feature of an electronic bill of lading is that it can be easily stored and recovered. Storage equipment includes smart-card chips and IT hard drives or online applications such as 'cloud storage'.<sup>416</sup>

Finally, banks would be able to approve the draft bill of lading before it is issued to other parties, saving the time and costs involved in the long process of exchanging the bill of lading with concerned parties.<sup>417</sup>

#### 6.1.4 *Fraud*

Unlike traditional paper bills of lading, which are easy to replicate by making copies, thus enabling them to be fraudulently pledged to a carrier, electronic bills of lading are less susceptible to fraud.<sup>418</sup> This is due to the fact that they can only be electronically accessed by a legal holder using a combination code or private key.<sup>419</sup> An electronic bill of lading is even more secure when the electronic trading system has a central registry as this ensures the authenticity of the data messages capable of transferring the bill of lading and thus guarantees that the delivered cargo is accepted by the rightful holder.<sup>420</sup> 'Technical methods used to ensure high security levels of an electronic bill of lading are said to have so much perfection that is beyond human imagination.'<sup>421</sup>

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<sup>412</sup> Hoogeweegen (See note 393: 128).

<sup>413</sup> Hoogeweegen (See note 393: 128).

<sup>414</sup> See note 168

<sup>415</sup> Ibid.

<sup>416</sup> The 21st Birthday of the Electronic Bill of Lading: With Age Comes Maturity Available at [www.inter-lawyer.com/lex-e-scripta/articles/electronic-bills-of-lading.htm](http://www.inter-lawyer.com/lex-e-scripta/articles/electronic-bills-of-lading.htm) Accessed on 6 January 2017.

<sup>417</sup> (See note 405).

<sup>418</sup> Ibid.

<sup>419</sup> Ibid.

<sup>420</sup> Ibid.

<sup>421</sup> (See note 405).

In conclusion, the above-mentioned characteristics render an electronic bill of lading attractive and more convenient to use than paper bills of lading. Shippers and buyers would be able to fulfil their contractual duties promptly, and banks would be able to facilitate and pre-approve documentary credits and review and finalise bills of lading.

## **6.2 Disadvantages of using an electronic bill of lading**

Some scholars are of the view that some of the disadvantages associated with the use of an electronic bill of lading should not really be classified as disadvantages.<sup>422</sup> An example is the security risks associated with non-payment and non-delivery of cargo.<sup>423</sup> They argue that such concerns are more psychological than real and that this is normal when radical change occurs. Considering that the custom paper bill of lading has been in use for centuries, it is normal for merchants to react in this way. However, for the shipping industry to move with time, electronic bills of lading should be adopted.<sup>424</sup>

### *6.2.1 Changing standards*

Research has shown that new, improved standards in respect of the use of electronic data interchange are created almost every year, and new, enhanced electronic trading systems are created to keep up with technological advancements.<sup>425</sup> This makes the use of electronic bills of lading burdensome.

A major concern lies in respect of a case where parties in a trade are registered under different organisations that support different electronic trading systems.<sup>426</sup> Another is when one organisation is using an outdated version of the available trading systems and the other, the latest version.<sup>427</sup> Hence, the parties in a trade agreement are forced to become familiar with all these systems. Furthermore, the central registries working within an electronic trading system and other employees would have to continuously adapt to changing standards, which means that they can never become experts in a specific electronic trading system.<sup>428</sup>

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<sup>422</sup> See note 185.

<sup>423</sup> Ibid.

<sup>424</sup> Ibid.

<sup>425</sup> Hill (See note 148)

<sup>426</sup> Ibid.

<sup>427</sup> Ibid.

<sup>428</sup> Ibid.

### 6.2.2 *Payment and delivery risks*

The parties involved, particularly the seller, as he is the party expecting payment from the buyer, are exposed to payment risks. A buyer may not make payment to the seller after the seller has delivered the goods. Alternatively, the buyer may commit fraud. However, the issue of fraud 'is not lightly inferred, mere misunderstanding, error or oversight, however unreasonable does not amount to fraud.'<sup>429</sup>

When a buyer makes payment to the seller as agreed, the buyer runs the risk of not receiving the goods as per the agreement.<sup>430</sup> This could take the form of the seller making no delivery at all, or delivering defective goods or the quantity and quality is not in line with that to which the parties agreed.<sup>431</sup> Thus, sellers are not keen to ship goods before receipt of payment, while buyers prefer to receive goods before they make payment.<sup>432</sup> This led to an introduction of the 'documentary credit procedure.'<sup>433</sup>

Under normal commercial transactions, the above risks are covered by the Uniform Customs and Practice for Documentary Credits (hereinafter referred to as UCP) rules through documentary credit payments.<sup>434</sup> 'This is whereby a bank issues a document to a seller as an undertaking to pay that seller on the condition that a complying presentation of the essential documents requested is made within a specific period as stipulated.'<sup>435</sup> The buyer's bank is strictly bound by its undertaking to pay the seller regardless of any defects later found by the buyer, as long as the presentation was a complying one.<sup>436</sup>

There are two versions of these rules, UCP 500 and UCP 600. Both cater for the above two risks by incorporating the 'documentary credit procedure' as a method of

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<sup>429</sup> Lomcraft v Fabrics Co v Nedbank Limited and Another 1996 (1) SA 812.

<sup>430</sup> Ibid.

<sup>431</sup> Ibid.

<sup>432</sup> Ibid.

<sup>433</sup> Ibid.

<sup>434</sup> Uniform Customs and Practice for Documentary Credits 500; and Uniform Customs and Practice for Documentary Credits 600. Available at Available at court-inter.us/sites/default/files/users/user8/uniform\_customs\_93.pdf. Accessed on 13 December 2016.

<sup>435</sup> Ibid.

<sup>436</sup> Ibid. 'This is referred to as the 'Doctrine of the Strict Compliance'. It protects the interests of the buyer and of the paying bank. When submitting the required documents, the law expects the seller to comply strictly with the requirements stated in the letter of credit. This assured the buyer that the will not pay the seller, unless the seller present documents that satisfy the requirements of the buyer. The bank is protected in that it is not required to make any judgement calls as to the relevance of the requirements contained in the letter of credit. However, the bank is not required to substantially comply with these requirements.'

payment.<sup>437</sup> However, although UCP 600 is the latest version, it does not make provision for the use of electronic bills of lading.<sup>438</sup> In fact, it expressly excludes them. Therefore, until a form of guarantee is available that payment would be made when using an electronic bill of lading, payment and delivery risks remain major obstacles in their adoption.

The UCP 500 was established in 2000 with the aim of setting acceptable rules to regulate documentary credit transactions.<sup>439</sup>

The documentary procedure laid down is that, an issuing bank analyses and approves documents, including the transport documents provided by the seller.<sup>440</sup> The documents must correspond with the material held by the buyer for the buyer's bank to make payment to the seller.<sup>441</sup>

It can thus be deduced that the UCP 500 makes provision for the use of an electronic bill of lading in documentary credit procedures.

However, as noted above, the UCP 600 only refers to tangible bills of lading and documents.<sup>442</sup> The 'Supplement to UCP 600 for Electronic Presentation' (hereafter referred to as eUCP) was published in 2007.<sup>443</sup> Its purpose is to simplify the use of electronic documents under commercial credits.<sup>444</sup>

According to the eUCP a transport document can be in the form of an electronic record 'created, generated, sent, communicated, received or stored by electronic means.'<sup>445</sup> This is subject to the requirement that the electronic record is labelled as being an original and is also signed.<sup>446</sup> A signature includes an electronic signature.<sup>447</sup> The

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<sup>437</sup> Ibid.

<sup>438</sup> Ibid.

<sup>439</sup> R Brunner *Electronic Transport Documents and Shipping Practice Not Yet a Married Couple* (LLM thesis, Balgristweg 2007) 42.

<sup>440</sup> Ibid.

<sup>441</sup> Ibid.

<sup>442</sup> J S Wood "Drafting Letters of Credit: Basic Issues Under Article 5 of the Uniform Commercial Code, UCP 600, and ISP98." *Banking Law Journal* 125 (2008) 133.

<sup>443</sup> Ibid.

<sup>444</sup> The Uniform Customs and Practice for Documentary Credits (Supplement for Electronic Presentation) (hereafter referred to as eUCP) Article e1.

<sup>445</sup> eUCP Art e3.

<sup>446</sup> UCP 500 Art 23(a).

<sup>447</sup> eUCP Article e3.

document may be signed by any other mechanical or electronic means of authentication.<sup>448</sup>

In terms of the eUCP, an electronic record presented as different documents and at separate times or all at once, would be valid and binding.<sup>449</sup> Should the parties agree to the presentation of more than one electronic record, the shipper has a duty to notify the bank to which the presentation is made, that the presentation is complete upon sending the final electronic document.<sup>450</sup> Failure to do so would result in the beneficiary's presentation being regarded as incomplete.<sup>451</sup>

Finally, the requirement that the shipper must issue a set of two or three paper bills of lading is met where only an original or a copy of an electronic record is presented.<sup>452</sup>

### 6.2.3 *Security risks*

Electronic commerce has not yet gained public trust.<sup>453</sup> This is the case in South Africa where technology is lagging behind in comparison to other jurisdictions. This will impact the use of electronic bills of lading.<sup>454</sup> One of the significant concerns in relation to electronic bills of lading is trust issues.<sup>455</sup> Trust would mean that the user of an electronic bill of lading accepts the fact that he would be susceptible to possible risks, known or unknown to him at the time of conclusion of the contract.<sup>456</sup> The main risk is that of a bill of lading being illegally electronically replicated.<sup>457</sup> Research has shown that electronic bills of lading can only be successful if merchants trust this system and this may only be achieved by coming up with a method that would ensure that illegal replication of an electronic bill of lading is not possible, or at least not easy.<sup>458</sup>

In as much as there are defects in the use of an electronic bill of lading, they should be used in tandem with the paper document, custom paper bills of lading. This is due to the fact that most of the defects found in electronic bills of lading are not necessarily

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<sup>448</sup> UCP 500 Art 3.

<sup>449</sup> eUCP Art e5(b).

<sup>450</sup> eUCP Art e5(c).

<sup>451</sup> eUCP Art e5(c).

<sup>452</sup> eUCP Art e8.

<sup>453</sup> T Yao-Hua, and T Walter "Formal aspects of a generic model of trust for electronic commerce." (2002) 33.3 *Decision Support Systems* 233 at 233.

<sup>454</sup> Ibid.

<sup>455</sup> Ibid.

<sup>456</sup> Ibid at 234

<sup>457</sup> Ibid.

<sup>458</sup> Ibid at 233.



disadvantages but are rather psychological issues. Traders fear change which is a normal reaction and it should be borne in mind that it will take time for electronic bills of lading to gain public trust.

These apparent disadvantages could be resolved through the enactment of legislation to regulate electronic bills of lading and electronic trading standards.

### **6.3 Obstacles to paperless sea trade**

Electronic commerce facilitates trade by reducing operating costs and time. The use of electronic bills of lading would offer similar benefits, including increased flexibility, and less time and costs in perfecting a contractual agreement in respect of international trade. However, successful adoption of electronic bills of lading requires that the following issues be addressed:

#### *6.3.1 Lack of adequate regulatory regime*

The lack of rules and regulatory regimes deprives parties of the opportunity to conclude a contractual agreement without having to first draft 'bilateral agreements' stating how the contract will be regulated, including the mode of exchanging information. This delays the conclusion of the contract.<sup>459</sup>

Furthermore, the lack of rules for electronic bills of lading means that parties to the contract can only hope that the other party will honour the contract as per the agreement solely created by them.<sup>460</sup>

Finally, the lack of laws regulating the use of electronic bills of lading means that parties have to opt for a specific model should they wish to conclude their contract electronically, thus producing an electronic bill of lading.<sup>461</sup> This means that they must first agree 'on the requirement on the technical implementation, the type of message to be used and look into measures to deal with security issues.'<sup>462</sup>

#### *6.3.2 Ineffectiveness of the Rotterdam Rules*

While the Rotterdam Rules were hailed as the first Convention to facilitate the use of electronic bills of lading, their provisions should be scrutinized in order to establish

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<sup>459</sup> Hoogeweegen (See note 393).

<sup>460</sup> Ibid.

<sup>461</sup> Ibid.

<sup>462</sup> Ibid.

whether they provide for efficient and effective use and regulation of electronic bills of lading.<sup>463</sup>

These Rules have proved to be of great value and, once adopted, would have a huge impact in the shipping industry in respect of the use of electronic bills of lading, particularly Articles 8 and 10.<sup>464</sup> However, like any other Convention, they have defects and some parts are ineffective.

Firstly, the loose drafting of Articles 3 and 8 could cause confusion as to what exactly the parties are consenting to. Article 3 requires consent to the use of electronic communication by any party that it is communicated to or will be communicated with. Such parties may include a carrier, a shipper and even a consignee.<sup>465</sup>

However, Article 8 requires *only* a shipper and a carrier to consent to the use of electronic transport documents.<sup>466</sup> If not carefully read and interpreted by the parties concerned, this could result in them mistakenly interpreting consent to electronic 'communication' as being applicable to electronic transport records. There is thus a duty on the parties to clearly state the purpose for which consent is given.<sup>467</sup>

Secondly, in terms of Article 8, electronic transport records may be used in place of paper transport documents if the parties to a trade (the shipper and a carrier) reach consensus on its use.<sup>468</sup> It can thus be concluded that any form of consensus would be valid.

However, this provision raises concerns because it does not stipulate whether consent should be implied or in writing. This is bound to lead to difficulties and possibly litigation.<sup>469</sup> Furthermore, failure to incorporate a 'documentary shipper' under Article 8 as one of the parties that may consent to the use of an electronic transport document was a grave error.<sup>470</sup> This is because, in most sales which incorporate FOB terms, a documentary shipper plays a vital role as a seller.<sup>471</sup> The effect of this provision is that

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<sup>463</sup> L Magklasi "Electronic transport records: Assessing the contribution of the Rotterdam Rules to e-commerce." (2013) 29.2 *Computer Law & Security Review* 120 at 120.

<sup>464</sup> Ibid.

<sup>465</sup> Article 3.

<sup>466</sup> Article 8(a).

<sup>467</sup> Magklasi (See note 463: 121).

<sup>468</sup> The Rotterdam Rules, Article 8.

<sup>469</sup> Magklasi (See note 463: 121).

<sup>470</sup> Magklasi (See note 463: 122).

<sup>471</sup> Magklasi (See note 463: 122).

a documentary shipper would be deprived of rights that he would have otherwise been entitled to had he been included.

Finally, regardless of the existence of Article 1(18), the Rotterdam Rules are silent on the precise format to be used when creating an electronic bill of lading that would precisely imitate the paper bill of lading.<sup>472</sup> Normally, a bill of lading is an A4 size document that contains details of the contractual terms and those of the parties.<sup>473</sup> These details may appear on either side or both sides of the document. An electronic bill of lading may consist of several records which may be received simultaneously by the recipient, and possibly, through different types of electronic equipment.<sup>474</sup> The effect of this is that the receiver of an electronic bill of lading would have to browse several systems to access the entire bill and compile it in rational order.<sup>475</sup>

### 6.3.3 *Inability to replicate the document of title function*

One important function of a bill of lading is that it is a document of title. This means that the named party or its holder is entitled to receive and take possession of the goods as specified in the bill of lading.<sup>476</sup> As discussed in chapter one under the types of bills of lading, such right is transferable. However, the issue of negotiability has proved to be the main obstacle preventing the use of electronic bills of lading.<sup>477</sup> The main reason for the inability to replicate this function is that, it would be difficult to differentiate the old electronic bill of lading from the new record, a 'copy', of an electronic bill of lading.<sup>478</sup> Thus, when the original owner transfers an electronic bill of lading to a new party, he will remain with the bill which is identical to the one he transferred; thus, he can still accept delivery of the goods from the carrier.<sup>479</sup> With a paper bill of lading, there are ways to cancel or make void copies of a bill of lading held by the original owner once it is transferred to a new party.<sup>480</sup> These include watermarks and signatures.<sup>481</sup> No method has been introduced to replicate this function

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<sup>472</sup> Magklasi (See note 463: 122).

<sup>473</sup> Magklasi (See note 463: 122).

<sup>474</sup> Magklasi (See note 463: 122).

<sup>475</sup> Magklasi (See note 463: 122).

<sup>476</sup> Hoogeweegen (see note 393: 128).

<sup>477</sup> Hoogeweegen (see note 393: 128).

<sup>478</sup> Bons, Roger, R. Lee, and R. Wagenaar. "Implementing international electronic trade using open-edi." (1994) *European Journal of Information Systems and Inter-Organizational Networks* 1 at 7.

<sup>479</sup> Ibid.

<sup>480</sup> Ibid.

<sup>481</sup> Ibid.

electronically. A secure method of replicating the negotiability function is necessary because the use of electronic bills of lading would open the door to the possibility of uncontrolled copying of electronic documents.<sup>482</sup> This obstacle is legal rather than general in nature.<sup>483</sup>

Article 8 of the Rotterdam Rules also states that, 'anything that is to be in or on a transport document under this Convention may be recorded in an electronic transport record, provided the issuance and subsequent use of an electronic transport record is with the consent of the carrier and the shipper.'<sup>484</sup> The words 'anything...in or on' as used in this provision may be interpreted to refer to an electronic transport document record capable of being electronically negotiated or transferred to a new party.<sup>485</sup> In addition, the word 'anything' may be interpreted to refer to electronic endorsements and a signature which is a prerequisite for the transfer of the documents or records. Should this interpretation be adopted by courts under different jurisdictions, it would prove the Rules to be effective in ensuring that an electronic bill of lading replicates all three functions found in a custom paper bill of lading.<sup>486</sup>

#### 6.3.4 *The 'document' and 'writing' requirement*

It is not clear whether or not the interpretation of the word 'document' include records that are procured electronically.<sup>487</sup>

Traditionally, agreements are to be in writing. Most jurisdictions impose the writing requirement for a contract to be valid. However, due to the increase in trade, orally concluded contracts are as valid and binding as those in writing, subject to a few exceptions.<sup>488</sup> The main reason why the writing requirement has proved to be difficult to replicate electronically is because different jurisdictions require different standards and forms of writing.<sup>489</sup>

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<sup>482</sup> Hoogeweegen (see note 393: 128).

<sup>483</sup> Hoogeweegen (see note 393: 128).

<sup>484</sup> The Rotterdam Rules Article 8(a)

<sup>485</sup> Magklasi (See note 463: 121).

<sup>486</sup> Magklasi (See note 463: 121).

<sup>487</sup> Senekal (See note 88:14).

<sup>488</sup> A Holtzhausen (See note154: 56).

<sup>489</sup> Ibid.

Per Holtzhausen, for an electronic record or transmission to be acceptable, there needs to be a method or legislation that clearly states that the electronic record or transmission is valid and has the same legal effect as that of a written document.<sup>490</sup> This is found in a few conventions that support the use of electronic bills of lading. For example, Article 17 of the UNCITRAL Model Law states that:

'Where the law requires that any action referred to in Article 16 be in writing or by using a paper requirement, that requirement is met if carried out by using one or more data messages.'<sup>491</sup>

This is similar to the Hamburg Rules that state that writing may include a telex or telegram.<sup>492</sup> Furthermore, in South Africa agreements that require writing for them to be valid would be valid in terms of the Electronic Communications and Transactions Act if the agreement is in the form of a data communication or message and is also accessible in a manner usable for subsequent reference.<sup>493</sup> An example is an email.

#### 6.3.5 *The 'signature' requirement*

A signature is a distinctive form of writing one's name.<sup>494</sup> It may even take the form of a mark, as long as the signatory made the writing or the mark with the intention that it be his signature.<sup>495</sup> Traditionally, the purpose of a signature is to identify a person and it is also an indication that the signatory is associated with or has knowledge of the content of a document and has agreed to be bound by it.<sup>496</sup>

A signature is of great importance for the purposes of authenticating the identity of a party.<sup>497</sup> In a contractual agreement, it serves to confirm that the party identified by the signature agrees and accepts the content in that document. In as much as electronic signatures would serve the same function as those of paper bills of lading, they have proved to be an obstacle in the use of electronic bills of lading. They raise issues in respect of authenticity, privacy and integrity. This is because an electronic bill of lading can be received at different times and in different records.

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<sup>490</sup> Ibid.

<sup>491</sup> Ibid at 58.

<sup>492</sup> the Hamburg Rules Article 1(8).

<sup>493</sup> ECTA s 12.

<sup>494</sup> *Harrison v Harrison* (1803) Ves Jun 185; 32 ER 324.

<sup>495</sup> *Harrison v Harrison* (1803) Ves Jun 185; 32 ER 324.

<sup>496</sup> The Uncitral Model Law on Electronic Signatures Guide to Enactment 2001 Available at <https://www.uncitral.org/pdf/english/texts/electcom/ml-elecsig-e.pdf>. Accessed on 14 July 2016.

<sup>497</sup> Hoogeweege (See note 393).

An electronic signature is:

'a data item which accompanies a digitally programmed message and which can be used to establish both the originator of the message and the act that the message has not been modified since it left the originator.'<sup>498</sup>

International and domestic laws have been adopted to facilitate the use of electronic signatures. At the global level, the Hamburg Rules state that:

'The signature on the bill of lading may be in hand writing or be in a mechanical or electronical form if such is not inconsistent with the laws of the country where such bill of lading is issued.'<sup>499</sup>

It can thus be submitted that the Hamburg Rules facilitate the use of electronic bills of lading if the jurisdiction's domestic laws permit its use. However, the small number of signatories to these Rules shows that there are slim chances of them ever being adopted.

Per the Electronic Communications and Transactions Act, a signature in an electronic form is a valid signature and has as much legal force as that physically written on a paper document.<sup>500</sup> The Act introduced two classes of electronic signatures. The first is the '*ordinary signature*' which is defined as 'data attached to, incorporated in, or logically associated with other data with an intention that it be a signature.'<sup>501</sup> The second type is an '*advanced electronic signature*' which is defined as an electronic signature which results from a process which has been accredited by the Authority as provided for in section 37 of the Act.<sup>502</sup> The difference between the two is that an advanced electronic signature is equivalent to an electronic signature whilst an electronic signature is not and can never be an 'advanced electronic signature.'<sup>503</sup> What differentiates these two signatures is that the advanced electronic signature is accredited by the Accreditation Authority of the authentication of products and facilities used to make it.<sup>504</sup>

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<sup>498</sup> Holtzhausen (see note 154: 60)

<sup>499</sup> the Hamburg Rules Article 14(3).

<sup>500</sup> ECTA s13(2) ;(3)

<sup>501</sup> ECTA s1.

<sup>502</sup> ECTA s37.

<sup>503</sup> Holtzhausen (see note 154: 60)

<sup>504</sup> Holtzhausen (see note 154: 60)

It is evident that, successful adoption of an electronic bill of lading and for merchants to rely on it, is dependent on the readiness of the courts to interpret the words 'document' 'writing' and 'signature' to include electronically generated documents and signatures.<sup>505</sup>

In conclusion, it is possible to achieve paperless sea trade using an electronic bill of lading that replicates all three functions found in a paper bill of lading. The advantages and disadvantages as well as the obstacles identified could be overcome through the enactment and adoption of legislation that thoroughly addresses them. Alternatively, the Rotterdam Rules could be adopted with amendments to address such obstacles.

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<sup>505</sup> Senekal (see note 88:15).

## Chapter 7:

### 7.1 Is Africa ready for paperless sea trade or, only the European countries are fully equipped and ready for paper less sea trade?

International trade plays a significant role in an economic development.<sup>506</sup> In order for African countries economy to grow, they need to participate in international trade and this indirectly requires Africa to be in keeping with the international trading means and standards. This means that both the laws regulating international trade and technology must meet the European standards. Adequate legal and regulatory structures are necessary to ensure a smooth participation to international trade.<sup>507</sup>

The advantages of moving to a more advance electronic trading means can be summed up as goods which can be purchased and services provided to parties even after the trading hours at the comfort of your home; decreases costs and fast the conclusion of contracts.<sup>508</sup>

However, irrespective of all the exciting opportunities and advantages that electronic commerce may contribute towards Africa's economy, it remains a critical issue as to how these transactions would be regulated. Thus, legal dispute relating to the use of technology in the conclusion of these contract may not be easily resolved due to failure of our law to recognise the use of such technology means.<sup>509</sup>

Africa is amongst countries that are behind when it comes to the use of electronic commerce. Most people prefer making payment using physical cash and meetings of the parties in a contract.

Africa, being the second largest continent in the world, both in terms of population and size, has the least percentage of internet usage.<sup>510</sup>

However, there has been an increase in the number of people using internet. About 13 percent of the population had access to internet in 2011 and that there were about

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<sup>506</sup> N Ewelukwa, N "Is Africa Ready for Electronic Commerce-A Critical Appraisal of the Legal Framework for Ecommerce in Africa." (2011) 13 *European Journal of Law Reform* 550 at 550.

<sup>507</sup> Ibid.

<sup>508</sup> Ibid at 554.

<sup>509</sup> Ibid at 555.

<sup>510</sup> Africa Internet Usage and Statistics: The current situation Available at [www.internetworldstats.com/stats1.htm](http://www.internetworldstats.com/stats1.htm) Accessed on 26<sup>th</sup> of June 2017.



15,6 percent internet users in 2012.<sup>511</sup> The increase on the number of people has escalated and is currently at 28, 3 percentage in 2017.<sup>512</sup>

From these figures, it is evident that there is a rapid growth in the internet usage in Africa. An inference can be drawn that, it is most likely that internet can, someday, become fully operational, thus there is a possibility of transactions being fully electronically concluded.

Before a proper regulatory structure and laws are created and implemented, Africans will continue to prefer and appreciate the use of paper documents when concluding contracts. They would be hesitant to use electronic means of communications and transactions due to the fact that there are not appropriate remedies should there be failure to fulfil the contractual obligations on either of the parties to a contract. Furthermore, they will look at the fact that they are prone to being exposed to the risk of cybercrime, which is quite challenging to prove in a court of law.<sup>513</sup>

Nnaemeka advanced an argument that African countries are very active when it comes to enacting laws and they have enacted and became parties to international statutes regulating electronic commerce.<sup>514</sup> However, these laws merely decorate statutory books. They are never used to create and facilitate effective environment for online electronic business transactions.<sup>515</sup>

I am in agreement with this argument. Only a number of states has legislations regulating electronic commerce. Even those that have enacted then, they have not taken an initiative to implement them. They are said to be decorating their statutory books.<sup>516</sup>

Furthermore, taking into account the constraints caused by the low level of expertise and limited knowledge of computers and other related software, an inference can be drawn that Africa is not yet ready for a paperless trade.

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<sup>511</sup> Internet Worlds Stats: Usage and Population Statistics. Available at [www.internetworldstats.com/africa.htm](http://www.internetworldstats.com/africa.htm) Accessed on 26<sup>th</sup> of June 2017.

<sup>512</sup> Ibid.

<sup>513</sup> Ewelukwa (See note 506: 559).

<sup>514</sup> Ewelukwa (See note 506: 569).

<sup>515</sup> Ewelukwa (See note 506: 569).

<sup>516</sup> Ewelukwa (See note 506: 563).

## 7.2 The way forward

In suggesting that there is a possibility for a full use of electronic bills of lading and a future for electronic commerce, it should be appreciated that certain jurisdictions continue to maintain rules that indirectly appreciate the use of paper document only.<sup>517</sup> For example, they have rules requesting for a hand-written signature on the documents which includes bills of lading.

### *Evolving the Legislation*

Therefore, in order to address and overcome challenges preventing the use of Electronic Commerce, thus Electronic Bills of Lading, legislations should be enacted. These legislations should incorporate, amongst other things, provisions affording electronic bills of lading the same status as that of the paper bills of lading. It must clearly state that an electronic bill of lading affords the shipper and the carrier the same rights, responsibilities and has the same effects as those of the paper bill of lading.

Furthermore, these legislations should address that an electronic signature is equivalent to a hand-written signature. For an electronic record or electronic transmissions to be acceptable, there needs to be a method or a legislation that would clearly state that the electronic record or transmission is valid and has the same legal effect as that of a written document.<sup>518</sup>

In addition to this, these legislations must allow for acceptance of a data message to be accepted as evidence of the contractual terms that the parties agreed to.<sup>519</sup> This would be vital in a case where there a dispute arises between parties and evidence is to be presented before court.

### *Security as assurance to shippers*

Moreover, security or trust is an essential element necessary for a successful use and implementation of an electronic bill.<sup>520</sup> Therefore, it is quiet vital to investigate issues pertaining to trust and security in electronic commerce. A reasonable person in the

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<sup>517</sup> Beecher (See note 91:646).

<sup>518</sup> Holtzhausen (See note 154:56).

<sup>519</sup> Senekal (See note 88:15).

<sup>520</sup> Yao-Hua (See note 453:233).

position of a shipper will agree to participate in electronic transactions only when his level of trust of electronic commerce are notably high.<sup>521</sup> In most cases, it also depends on the type of transaction being concluded. In a case where the value involved is a large sum, there are slim chances that the shipper will feel confident to electronically conclude his contract and rely on the electronic bill of lading received. This is due to the daily risks involved in electronic commerce.<sup>522</sup> Thus, drastic measures must be introduced in order for shippers to sufficiently trust electronic commerce and the use of electronic bills of lading. This can be achieved through legislation which makes provision for remedies available to a shipper in a case of fraud, cybercrime and where one of the parties fails to honour a contract. Before such is done, no party, more particularly in an international trade agreements, would be willing to subject himself to risks involved in electronic commerce and rely on an electronic bill of lading. Therefore, it is recommended that a legislation aiming at facilitating the use electronic bills of lading must address this issue as well.

#### *Eliminating the element of fraud*

Even though electronic bills of lading are said to be less susceptible to fraud as compared to the custom paper bills of lading.<sup>523</sup> More methods should be advanced in trying to ensure the authenticity of the data messages capable of transferring the bill of lading, accordingly warranting that delivery of cargo is accepted by a legal holder.<sup>524</sup>

Thus, the legislation in question, would also need to deal with the issue of differentiating an old electronic bill of lading from the new record, a 'copy', of an electronic bill of lading.<sup>525</sup> This is because when the original owner transfers an electronic bill of lading to a new party, he will remain with the bill which is identical to that he transferred, thus he can still accept delivery of the goods from the carrier.<sup>526</sup> In comparison with the paper bill of lading, there are methods used to cancel or make

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<sup>521</sup> Ibid.

<sup>522</sup> Ibid.

<sup>523</sup> See note 168.

<sup>524</sup> Ibid.

<sup>525</sup> Bons, (See note 478:7).

<sup>526</sup> Ibid.

void copies of a bill of lading with the original owner once some are transferred to a new party.<sup>527</sup> Such may include watermarks and signatures.<sup>528</sup>

### *The Document of title function*

Secondly, the electronic bill of lading must replicate all three functions found in a custom paper bill of lading. The document of title function is an important function. Without it, a bill of lading is futile. This is due to the function that it serves, allowing parties to sell their cargo whilst in transit. The issue of negotiability has proved to be the main obstacle preventing the use of electronic bills of lading.<sup>529</sup> There has not been any well accepted method introduced in trying to replicate this function electronically.

Thus a legislation that stipulates a method in respect how an electronic bill of lading of lading may be negotiated to a third party.

### *The Rotterdam Rules*

The Rotterdam Rules<sup>530</sup> are a convention that gives hope that it is possible to create a legislation regulating and facilitating electronic commerce. These rules aim to regulate the use of written electronic instruments in the contract of carriage of goods.<sup>531</sup> The Rules are the first to address the use of electronic means for trading or commerce and the need for negotiable electronic documents at the international level.<sup>532</sup> They make provision for electronic records and the negotiability function of an electronic document.<sup>533</sup> However, while these Rules might be attractive, they cannot be relied on because to be in force, they must be 20 states must indorsed by 20 States.

Taking into account the Rotterdam Rules, a recommendation is made that, instead of writing a new legislation addressing the issues of negotiability of an electronic bill of lading, signature, writing and other related provisions, rather, The Rotterdam Rules should be amended in accordance in order to accommodate all the party's needs.

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<sup>527</sup> Ibid.

<sup>528</sup> Ibid.

<sup>529</sup> Ibid at 128

<sup>530</sup> Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (hereafter referred to as the Rotterdam Rules) (2009) available at [www.uncitral.org/pdf/english/texts/transport/rotterdam.../Rotterdam-Rules-E.pdf](http://www.uncitral.org/pdf/english/texts/transport/rotterdam.../Rotterdam-Rules-E.pdf) accessed on 06 June 2016.

<sup>531</sup> Ibid.

<sup>532</sup> Ibid.

<sup>533</sup> M Alba (See note 368:801).

This would eliminate further postponements and amendments thus delays, involved in enacting laws regulating electronic commerce and the use of electronic bill of lading.

## Chapter 8:

### CONCLUSION

The use of electronic bills of lading would give rise to reduction of costs and of time delays since the time-consuming paper processing would be eliminated and there would be no administrative costs and labour costs involved.<sup>534</sup> Delays would be eliminated thus facilitating quality services to merchants. There are several benefits that the merchants can yield by using electronic bills of lading.<sup>535</sup> Therefore, electronic commerce, electronic bills of lading should be facilitated.

It is evidence that the use of electronic documents, electronic bills of lading is greatly dependant on how secure it is; its users must be convinced that they can trust it and that their goods are properly secured.<sup>536</sup> Therefore, they need to be given such an assurance and this cannot be done through legislations. Legislations regulating electronic bills of lading can only intensify and heighten the party's assurance in respect of security and trust.<sup>537</sup>

So long as the shippers feel that their goods are not properly secured, irrespective of paperless sea trade being successful, paper bills of lading will still be relied on and used by the parties. This is evidence from the conduct of the shippers who still prefer to receive a bill of lading in the form of a paper rather than electronic data message. As a result, carriers have no choice but to issue paper bills of lading in order to satisfy their clients. This is due to the fact that the needs and interests of the shippers drives the shipping companies and freight forwarders. Thus indirectly determines the position and success of an electronic bill of lading.

The Hague Rules and The Hague Visby Rules are approximately ninety-three years and forty-nine years respectively.<sup>538</sup> This is proof that they are no longer in line with the modern developments, as a result, they cannot meet the modern demands.<sup>539</sup> Therefore, contemporary rules and regulations must be enacted.

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<sup>534</sup> Hill (See note 148:11).

<sup>535</sup> Ibid.

<sup>536</sup> Marek (See note 1:465).

<sup>537</sup> Ibid

<sup>538</sup> A Dharamdaw *A Comparative Study on the Development of the Carrier's Obligation of Seaworthiness from the Common Law Doctrine of Strict Liability Perspective and the Applicable International Conventions* (LLM thesis, University of KwaZulu-Natal, Durban 2017) 72.

<sup>539</sup> Ibid.

Therefore, it can be concluded that practicability of successfully achieving a paperless sea trade depends on well drafted rules and regulations, its continuous existence and use greatly depends on the shippers. As such, the future of electronic bills of lading solely lies on the hands of the shippers and legislature.

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