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Aviation Accidents: CRM to Maintaining the Share of Airlines Case Study on accidents Airlines in China

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Abstract
We present Aviation Cost Risk management (CRM) methodology designed for Airlines Company, who needs to run projects beyond their normal. These airlines are critical to the survival of these organizations, such as the development and performance. The Aviation crisis can have considerable impact upon the value of the firm. Risk managers must focus special attention to their prevention and risk neutralization. Recently, demonstrated that large losses can have a very negative impact on shareholder wealth in an efficient stock market. This crisis shows that on the day that a loss occurred, returns of a negative.The goal of cost risk management (CRM) is to maximize shareholder wealth and protected airlines company, since it has been recently demonstrated that shareholder wealth can be negatively impacted by losses, risk management must be viewed in its relationship to the overall wealth of the company. The loss exposures become a critical financial management function, mostly in firms with considerable exposures to such losses.
Keywords: Aviation risk management, Aviation insurance Accident, fluctuation shareholders

Acknowledgement
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1. Introduction

The Aviation Cost Risk management is becoming a widely important function in Airlines Company; the initial risk management is challenging one of the most aspects of identification, interpretation and explains of threats. ACRM are presented continually with a big of input and information on scope events, small abnormality and suspense.in these problems how should be distinguishing and explain the various risks on airlines company. Distinguish; interpreting of problems and organization that mean are fundamental tasks.

In recently these tasks have become formalized arrangement the information that organizational workers and employees by ARCM. This system allows information on organizational execution to be analyzed and collected to distinguish and manage risks. Analysis of past event explains how carefully these tasks can be Warning signs may seem clear after a damage or accident with the benefit fully.

(Carl, 2009) note in his study that cost risk management airline are working at the safety reviewing, explain and interpreting a lot of near incident documents and information.

The prime working processes used interpret to identify and explain treated are, along with the assumptions, knowledge and think that are allowed in supporting the analyzed processes. This concludes analysis of proficient practice allows the early, to examine risk Airlines Company and make and provide solution.

This research would indicate that each risk manager's airlines should be study the specific of the industry aircrafts before deciding the best and most economical way to deal with big risk losing .in this study we provide finding to show firm's value airplanes when make accident.

1.1 global Air Transport

According to the International Air Transport Association (IATA) more than 3.3 billion common travel safely by airline Company on 38.0 million flights. In 2014 the global accident rate was 0.23, concerning one accident for every 4.4 million flights and the lowest rate in history. The 2013 accident rate was 0.41[A hull loss is an accident in which the aircraft is damaged or basically destroyed and is not repaired] .in 2014 There are 73 accidents in the world on eastern and western aircraft less than from 81 in 2013. the big accident in July 17, 2014 A Malaysia Aircraft company was destroyed and shot down by fighting in sky on Ukraine And became the worst deadliest crash in history, with 298 tragedy. On the other hand in March 8, 2014 Malaysia Airlines Flight 370 en route to Beijing disappeared on with 239 fatality without know the reasons.

1.2 Aviation accidentss

(Triant and Paul 2009) discussed Aviation accidents, the possibility have to result in wide damages, accident and a high number of fatalities although infrequent. The financial and strategic consequences of aviation accidents for the affected airlines. For example, study accident announcement the following reaction and stock price of

airlines from accident. (John, 2010) Added that In order to create a culture of safety, it is essential to identify what are problems about air travel. The threat has been specified obviously; however (Triant and Paul, 2009) dealt a root cause analysis of reasons airline accidents. This study evaluates air accidents in all fatal and nonfatal .The aviation insurance document market has large changes in recent years contain that ,withdrawal of numerous insurance policies among other things, immediately after the events of 9/11, the leaving of a lot of insurers and reinsurers from the airlines insurance market. reformulation of previously disaster story, redrafting of several old insurance clauses to new address war the creation of a new drafting body for insurance clauses, the and terrorism risks, the, and an active discussion among airlines, insurers.

(Zhou and Hud2012) submit a study on china airline and mention republic China has made preventive measures to protect and airplanes in the safeguard of potential risks, any terrorist or crisis and the formation advanced of a communications network with different countries of the world to exchange information about problems and potential threats.

Civil aviation of China had owned more than 30 Airlines Company in the end of 2009. And more airlines have acquired certificate to fly on plateau airports. Average boost speed of air travel has been up to 6.7 percent. With the deeply development of west regions, civil aviation of china will have more development.

1.3 Aviation crisis, guarantee and Shareholder Wealth

The aviation industry is considered one of the important sectors of the global economy has become a major tributary of the transport sector and through this sector has become the world a small village linked to a complex web of airlines and on this basis is facing big problems, both physical profits related to a human disaster-related Airborne.

The September 11 terrorist attacks resulted in dramatic changes in essential in the universal aviation and warranty industries. This industry has faced increasing challenges over the past decade, such as natural disaster, and high fuel prices. These economic and political events have caused sharp financial big losses. For that, a wide number of Airline Company and insurance companies have either gone or restructured bankrupt new airline or airport security requirements and riders worry about flight safety caused a decline in passenger demand. According to (Yi, Yu Hern,2008), to discuss These disasters have a negative effect on the exchange market furthermore the loss of travelers and stock exchange decline and competition by airline company ,on the risk management Aviation must take its role in dealing with financial crises to react to a painful accident.

1.4 Insurance liability Aviation

(Wallace and N. Davidson, 1987) studied insurance liability aviation there are three ways may the airline firms, its shareholders can pain a loss an aircraft crashes the first is the tangible Damage loss to the airplane itself. The second is liability losses suffered by the aircraft as a result of the damage. These liability losses include responsibility for property accident bodily injury or death to ridership or none-travelers such as common people on the land and to property either on the plane, cargo and baggage, or on the land. The third potential kind of loss of goodwill, market share or passenger ridership due to safety problems on the part of the aircraft company as perceived.

(Robin L. and Dillon's Blake E1999) added in same topic that we develop and apply a method designed to address this accident from a financial point view. The basis of the method is a set of comparisons between the actual market responses to crisis events and evaluate of the full cost document information response to the event, which we great ex post with the benefit of the show and hindsight available after the fact.

When studied the stock market reaction. Big cost information response to a big damage or crisis event, all publicly ready document information from the disclosures made by the airline company which experienced the accident and by other well-informed parties over the period time following the event are compiled and evaluated, and their cost estimates are brief into an total cost assessment for the damage event.

1.5 Aviation Cost Risk Management Safety

Aviation Cost Risk management safety is the implement of strategic management systems to the identification and identification, Understanding and monitoring of risk Aviation s safety. administration systems are a comprehensive workers set of acts, procedures, regulations, strategic planning , and controls safety to include that measures to block and mitigate main aviation damage or accidents are in place in use, effective and successful this research by (Ove and oivind,2010).

(Thomas and Dolruedee, 2005) added though airlines company and manufactures firms are generally insured against such claims, we find that aviation firms crisis cause important price declines for both parties. We debate that legal cost, conversion of rising insurance, management time, premiums, and repair or replacement costs for the broken aircraft, and loss of passengers confidence by little bookings represent real costs for the concern company. We are researches the shareholders reaction to the events accident of 9/11. We quite anticipate airline company and airplane manufacturer group stocks to drop after a disaster. What interests us

from an academic point of view is whether investors are able to quickly prophesy the adjusted price of airline stock holders after accident and crash, by the efficient market hypothesis.the challenges of different risks for airlines risk management costs to remove the negative impact both the dangers of finances by placing the protection of the financial system programs or notice humanity through safety programs and deal with insurance global or native companies to reduce crisis market. The objective of this research is to test the impact on airline shareholders when commercial airplanes aviation industry makes accident. This paper is divided of five parts. In the next part, we will discuss the data and which has been adopted. In part 4, we will discuss report our methodology and empirical results. In the last section, we will submit our finding.

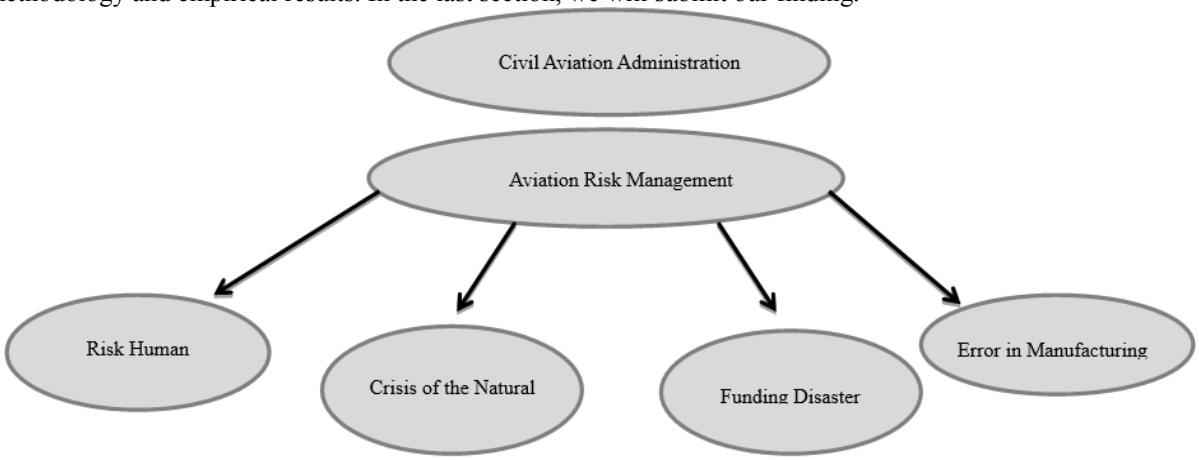

Fig (1) by author show the Aviation Risk management tools

2. Literature

Many researchers and scholars studied aviation accidents. in order to interest of this topic, we will submit and study some researchers that dealt in this subject, some studies that are concerned in this subject a studied aviation accidents from the United States, Europe or Asia ,researchers in this paper to be useful.

2.1 Expansion of air transport and safety

Alot of literature theoretical research in Aviation risk management debate that Airline Company can boost shareholders value by passenger's behavior analysis. (Jochen and Christopher, 2014) in their paper the rise air ridership in a global world to develop and increment that my make likelihood of the peril. In 2012, approximately more than 2.3 million people in the world passengers carried out by commercial aircraft company and near of 174 million were carried by air company in Germany Although airline passengers is security, persons factors in passengers as well as the number of passengers aboard bigger airplane and long-route flights make risk increasingly more probable.

(Yi, Yu Hern, 2008) add in this matter In 50 years ago, the number of international passengers boosted more ever, it is think that the number around more than one billion person by 2020 . Air travel plays a main part in this wide movement of individuals. In same field, the most crucial requirement is ever security. Because airlines companies have high technologies, provided comfortable travel and movement to safety, as well as efficient and boosted going of persons across borders and countries is one of the component bases modern globalization.

2.2 Aviation Accident

Examining (Carlos and others 2010)air travel crisis and accident researches by the air Travel and airline traffic they said that, Airplane company accidents are a main issue in the modern airline industry, as they have an important impact on demand for air travel, affecting the funded of airplanes companies. If passengers think that an air travel accident is a casual event, they will pay a few attentions to it, since it does not detect any further information on air travel safety. However, if they think that it is not a casual accident, air ridership is perceived as risk and travelers switch to a safer airplane or selected an alternative means of departure and travel. (Jerry and Mei, 2012) Discussed the airline accidents and its effect on the comprehensive case, examine the impact of aviation disasters on the stock exchange prices of the crash airlines and their rival airlines. Results show that the crash airlines experience deeper negative abnormal returns as the degree of fatality and severe injuries increases. The shareholder's prices of the rival airlines also suffer in wide-scope disasters.

Researchers (Wen and Don,2008) add a study the dangers of aircraft by errors persons where he said the investigation of the role of persons error in airlines accidents, but This research analysis 41 airline accidents occurring to airplanes recorded in the China (ROC) between 1999 and 2006 The finding offer statistically

important relationships between errors at the operational level and higher levels in the organization .The observed in the data-base from this analysis of civil aviation aircraft accidents show same to that observed in the analysis of military damage or accidents.

2.3 reactions Stock Market and Aviation Insurance

Several previous studies examine insurance airlines and Loss Stock Market**,** The researcher (KAILIN,2015) has to submit his study of the literature of aviation insurance and stages of expansion and development in the beginning of the last century to the current time also provide kinds of customer insurance services by companies warranty to airlines firms, airports and travelers (SEVERIN AND MARTIN ,2015) add that We examining when a main damage or accident happen the losses incurred by owners and shareholders. Airlines company load insurance against many of the costs of a damage or crash, such as fatality, equipment damage and tort liability. and then, insurance companies must update the information about the security of airlines to avoid the decline in firm value comes from those losses that are non-insured and from the big insurance costs that might result about it (JEAN, E. WOODROW,1998)add We studied shareholders market reactions to commercial aircraft companies damage to proof the study that a firms respond by shift to compete airlines and concentrate on the shareholders reactions of aircraft companies not engaged in the damage or crash. If switching occurs, non-crash airlines should benefit to the extent that they are direct competitors of the crash airline. In addition, the aviation risk management is working through their tools to maintain the market value for airlines in the event of financial problems.

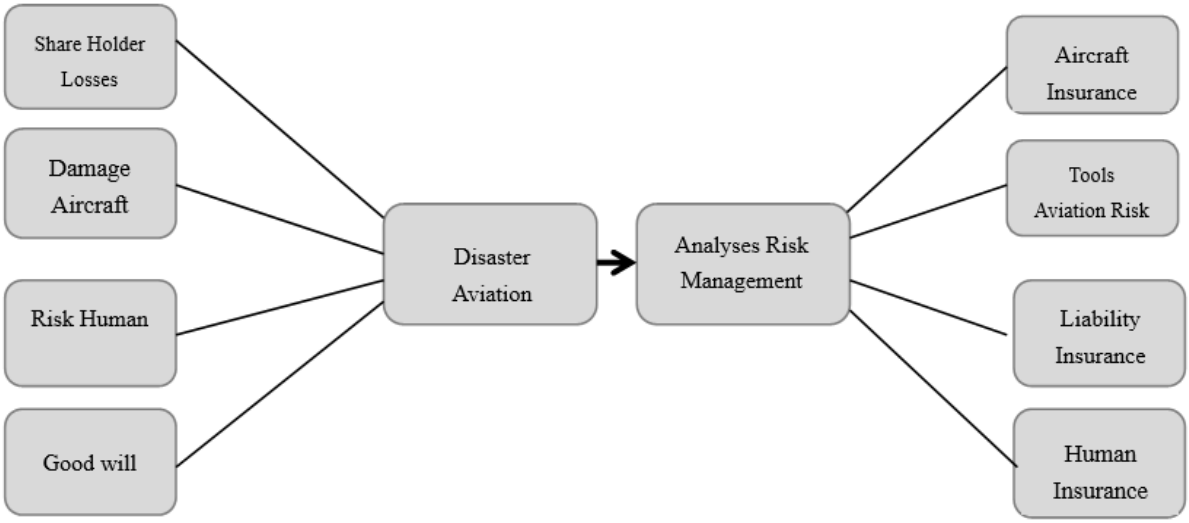

Fig (2) by author show the Aviation Risk and tools ACRM

3. Expansion of aviation and air accidents

In this section, we review the accident Malaysia airline for example that an importance global economy and the impact of large losses in the event of an air disaster like this crisis.

3.1Airline stocks fall in wake of Malaysia Airlines crash

After Malaysia Airlines crash the Airliner shares were broadly lower Thursday in the wake of news that a Malaysia Airlines jet crashed in eastern Ukraine. Some Wall Street analysts cautioned airline investors not to overreact to what could end up being a one-off event by selling out of the sector, which they believe continues to show upside potential.

3.2 Analyses stock holder after crash Airlines

The date is 8 March 2014. Operator Malaysia Airlines Aircraft type Boeing777-200ER Boeing. Registration 9M-MRO to Beijing Capital Airport International. Crew 12 traveler's 227fatalities all. It was one of the worst days on air travelers and airlines and Exchange Commission. The airplane disappeared from air traffic controllers' radar screen at 1.21pm, was carrying 12 Malaysian crew, 227 travelers. After a reached bad news of the Malaysia Airlines tragedy, The Arca Airline index slowdown in -2.2%. Between the airline industry more-active components sector. American Airlines AAL -4.43% slic 2.1%, United Continental UAL, -4.82%dropped 2.4%,Delta Air Lines DAL -3.78%shed 2.6%, JetBlue Airways JBLU -2.13% lost 1.2% and Southwest Airlines LUV -1.92% declined 1.1%. JetBlue, Southwest stockholders of Delta loss 2.1% percent after Malaysia Airlines news. the financial analyst said the reason to sell airline shareholders on the Malaysia Airlines bad news would

be suppose it leads to a of negative events, in which the incident leads to much turmoil, which leads to a rise in oil prices, Financial market turmoil on the other hand, some analyst said the in the sector can be viewed as a buying opportunity.

Fig (3) show that the Shares of airline companies were broadly lower after news that a Malaysia Airlines crash

3. 3 history of the Chinese Civil Aviation Authority CAAC

After the founding of the People's Republic of China in short time Chinese Civil Aviation Authority [CAAC] was established on November 2, 1949, to manage all kind of aviation in the country, to provide commercial and general flight service . Initially It was managed by Army Air. In 1963, China leave Marxist policies of self-adequacy and a purchase of six aircraft from England followed in 1971 four Hawker Suddenly Trident aircraft from Pakistan Airlines. Nixon visit to China country ordered to sell 10 new Boeing 707 in 1972 and 1973 it took the new step of borrowing [40] million from Europe and USA banks to fund the purchase of 15 additional jets. In 1980 the government has transferred to the direct control the of airline. [CAAC] was split into number airlines in 1987, each named after the province of. Since then, Chinese Civil Aviation Authority slowly as a government proxy and no longer provides commercial flight service. In March 2008, CAAC was made a branch of the new essential Ministry of Transport, and its official Chinese name was slightly adjusted to reflect it being no longer a ministry-level agency. Civil Aviation of china has kept official English name.

3.4 Expand of china airlines

In China 2013 There are 15 known airlines that planning to launch or have launched in last year, the next year could see about a 50% increase in its number of ridership airlines this rapid growth comes as China ease restrictions on new carriers that have been in place since end of last decade . They have airlines big which are among the world's 10 largest airlines. In end of 2013 three airlines entered the passenger market- Loong Airlines, Donghai Airlines and Qingdao Airlines There are a another 12 known airlines hoping to launch by the end of 2014, jointly by launch 15 new airlines.

According to Geneva (IATA) released an airline industry traffic forecast showing that airlines anticipate to more than 200 million ridership in china from 2015. China (CAAC) supply secure and quality service for peoples. And transportation services, a route to 970 domestic regular flights. With Beijing as the center, an air transport grid concerned more 44 domestic air routes to 130 cities around the country and has 1,227 airplanes and 132 airports.

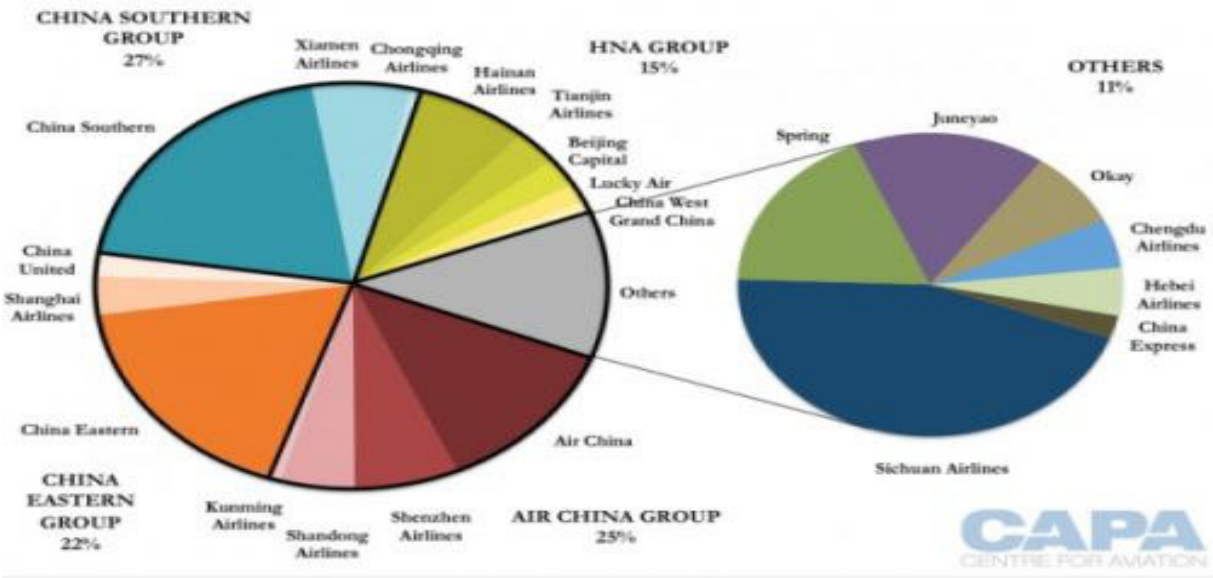

Fig (4) show Seat share of China's domestic market: Oct. 2014 by CAPA

4. Aviation Insurance

That of the costs of risk management & Outdoors is air insurance it provides protection varied since the beginning of trips to the end of these trips addition to securing airports, This tool is one of the most important inductors costs of aviation risk management is working to pay for damage to financial losses from airlines to insurance companies in exchange for payment of the premium simple versus the expected loss And maintain the market value of these companies and do not collapse in the capital market. The review of the history and types of air insurance in this section in order to give a clear picture of the work of this type of risk management of the costs of air.

4.1 History

In1911 Airlines Company Insurance was introduced in the last century. The first-ever aviation insurance policy was written by insurance firms Liod's in UK. The firm stopped writing aviation policies in 1912 after poor weather at an air meet reason accident, and yet losses, after this policies. The aviation insurance was underwritten by the marine insurance community. in 1942 The first flight insurers specialist featured in 1924. The first recognition of airline industry in 1929 as we know it today "Warsaw agreement". this agreement was an approval to establish it, terms and limitations of liability for carriage by insurance airline company (Wells, Chadbourne, 2007).

The China Insurance Regulatory Commission (CIRC) is an agency of authorized to regulate the insurance industry and services market and maintain legal and stable operations of insurance industry. It was founded on November 18, 1998, evolved from a organization to a founder ministerial in 2003, and currently has 31 offices in every county currently (www.ciec.gov.cn).

4.2 type airplane insurance

Airplane insurance is divided into several kinds of insurance coverage available

4.2.1 Public liability insurance

This coverage, often referred to as third party liability covers aircraft owners for damage that their aircraft does to third party property, such as houses, cars, crops, airport facilities and other aircraft struck in a collision. It does not provide coverage for damage to the insured aircraft itself or coverage for travelers hurt on the insured airplane. After an incident a warranty firm will recompense damaged for their casualties.

4.2.2 Travelers responsibility insurance

Travelers responsibility ensure passengers riding in the incident airplane who are damaged, died in a lot of countries this coverage is mandatory only for commercial airplane. Insurance cover is usually sold on all seat travelers.

4.2.3 Combined insurance Limit

The combines insurance is cover public liability and traveler's liability coverage into a single coverage with a single overall limit per accident. This kind of coverage provides more elasticity in paying claims for liability, particularly if passengers are hurt, but little damage is done to third party property on the land.

4.2.4 Land peril hull warranty not in movement

This supply covering for the insured plane versus damage when it is on the land and not in motion. This would provide protection for the aircraft for such events as fire, flood, animal damage, wind, hailstorms, and airplane striking the aircraft

The term of the insurance "hull" to refer to the insured airplane betrays the origins of aviation insurance in marine warranty.

4.2.5 Ground hazard body insurance in movement

This warranty is same to ground risk body insurance not in movement, but supply coverage while the airplane is Transportation by taxi, but not whilst taking off or landing. Naturally, coverage ceases at the start of the take-off roll and is in force only once the airplane has completed its subsequent landing. Because of disputes between aircraft shareholders and warranty firms about whether the incident plane was taxiing to take-off, this kind of covering has been stopped by a lot of insurance firms.

4.2.6 In-trip warranty

In- airline flight insurance cover protects an insured aircraft against hazard during all grade of flight and landing process, inclusively parked or stored. Usually, it is more expensive than not-in-motion coverage, since most airlines are get damaged whereas in movement.

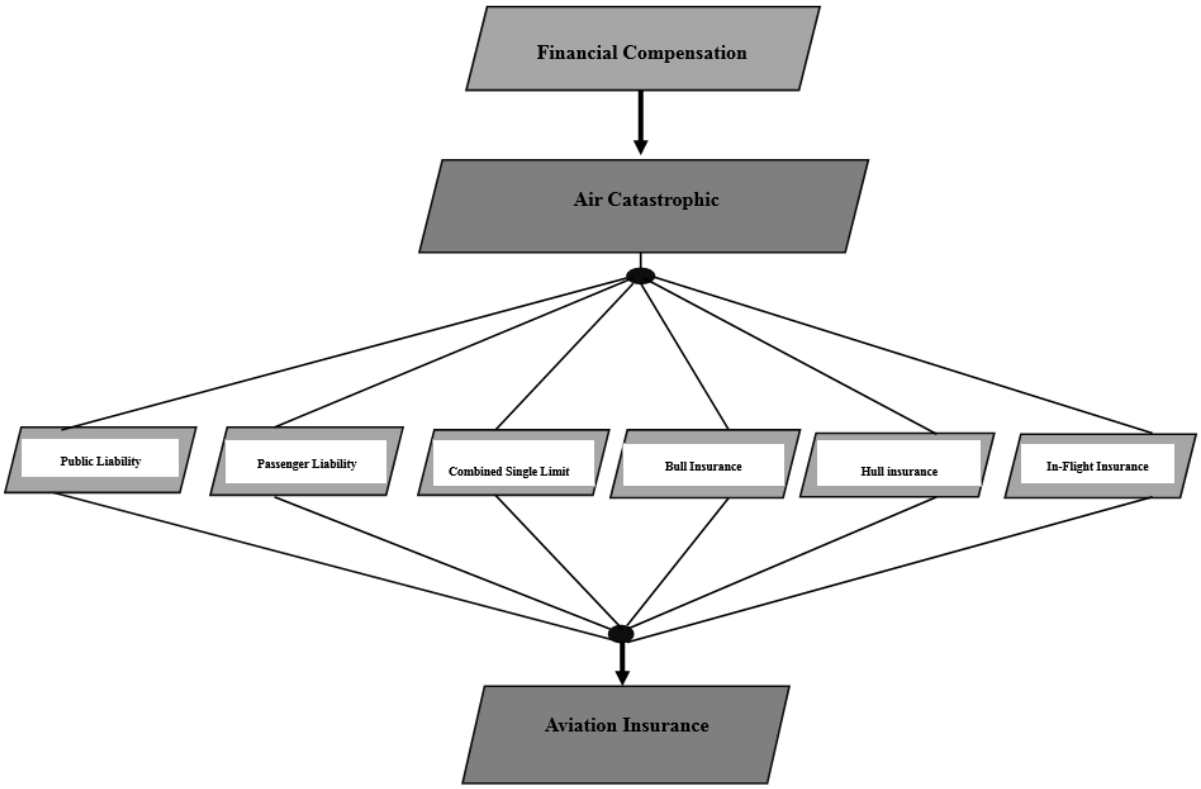

Fig (5) show the insurance tools ACRM by author

5. Methodology

When arrival this information about airline an accident to the capital market have a clear reflection in an active market, such as Shanghai stock exchange (Fama and Eugene F. 1970). Table (1) shows the of airplane companies accident in summary used in this research. The period chosen for the xamine was (2000-2013). There were sufficient numerals of accident (23) during this time to study the thesis that losses in the firms of airplanes have a negative impact on companies' magnitude. The crashes contain property damage, aircraft oneself added property on the land, and material injury accident. To be contained in this research, which data on returns were provided by (study Center in china market). These involved firms listed on the Shanghai Stock Exchanges.

By reference to Table (1) find that the sum of the companies that air accidents are recorded (10) More company are recorded incidents of (Air china airline) 6, 26% percent then (China eastern) 4 accident, 17 percent. These incidents contain the damage varied between death and physical injuries and material damage of the crash of the plane. The scientific method that we will use in this study is a measure Fisher It measures the return on stocks at the rate of accidents and the way for the safe return of these shares. we will use be measured Abnormal returns for a period of 5 days before the company aircraft damage to 30 days after the accident. The

calculation of abnormal returns by model market model that can be specified which measure the normal returns. By the following model:

$$ARit = \alpha + \beta iRmt$$

Where:

$ARit$ = the return on security i at time t; (1)

α = the alfa coefficient of the regression;

Bi = the beta coefficient of the regression;

Rmt = the return on the market index at time t;

RMt= close price-open price/open price (2)

CORRL=

$$r = \frac{\sum_{i=1}^{n} (X_i - \overline{X})(Y_i - \overline{Y})}{(n-1)S_x S_y} \quad (3)$$

Where:

Corrl = Pearson Correlation Coefficient

Xi = open price

X = close price

S= Standard Deviation

N= time

Numerator in this equation is the sum of the product of the difference between the value of each of the first variable, and the arithmetic average of the difference between the value of each variable and the second arithmetic average. The place is multiplied by the standard deviation for each of the variables in the number of data including incomplete one.

In summary the method followed in this research can be as follows. Time zero will be defined to be the day of the aircraft crash. Because of the event nature is unique; the damage must have not been expected by the market. we measured Abnormal returns in the period of 5 days before to the damage and for 55 days after the damage, from(t = - 5 to t = + 55) the market model shown The parameters of above are measured for each of the firms airlines in the samples by regressing the security returns against value market wallet as specified by the market model which the parameter estimates, alfa and Beta obtained from regression pass , are used to the actual market return (Rmt) for days t =(- 5 to t = + 55), to gain the normal returns for security i. These normal returns are compared to the actual returns for each of the i securities for days (- 5 to + 55) abnormal return is the difference between the actual returns and the normal returns for security i at time t.

5.1 Methodology CAR

$$\overline{ARt} = \frac{\sum ARTit}{N}$$

$\overline{ARt}$ shows on a private day related to the accident to market adjusted abnormal return. Of an ARt is safely different from zero, and then this is explain that the market reacted to the news of the accident. The cumulative abnormal return (CAR) also is computed for different time periods over the intervals T1toT2. T1 and T2 can be any sequent set of dates during the abnormal return estimation period.

CAR*t* is calculated as:

$$\overline{\sum_{t1}^{t2} ARt}$$

The security price will react at once to an accident (event) that affects essence value of a security in an efficient market. By the CAR To confirm the results acquired with this model will be random except upon receipt information or a news of an event. The CAR, if it is non-zero, we explain a ling reaction to an accident over an interval, as it see in the shareholders returns of the airlines companies affected by the event (zero). This model used to compute the normal return. The use of the average return model allows the computation of the abnormal returns and the cumulative abnormal returns without real unstable market.

In Table (1) shows the results that has been obtained using CAR model, as follows:

Name airline	Interval	CAR
Southern airline	-5 to -1	0.082
	0 to 10	-0.171
	0 to 20	-0.357
	0 to 30	- 0.520
Eastern airline	-5 to -1	0.073
	0 to 10	-0.169
	0 to 20	- 0.335
	0 to 30	-0.482
Hainan airline	-5 to -1	0.006
	0 to 10	- 0.127
	0 to 20	-0.249
	0 to 30	0.381
Air china	-5 to -1	0.157
	0 to 10	-0.282
	0 to 20	-0.553
	0 to 30	- 0.792

***Significant at 0.05 grade **Significant at 0.10grade**

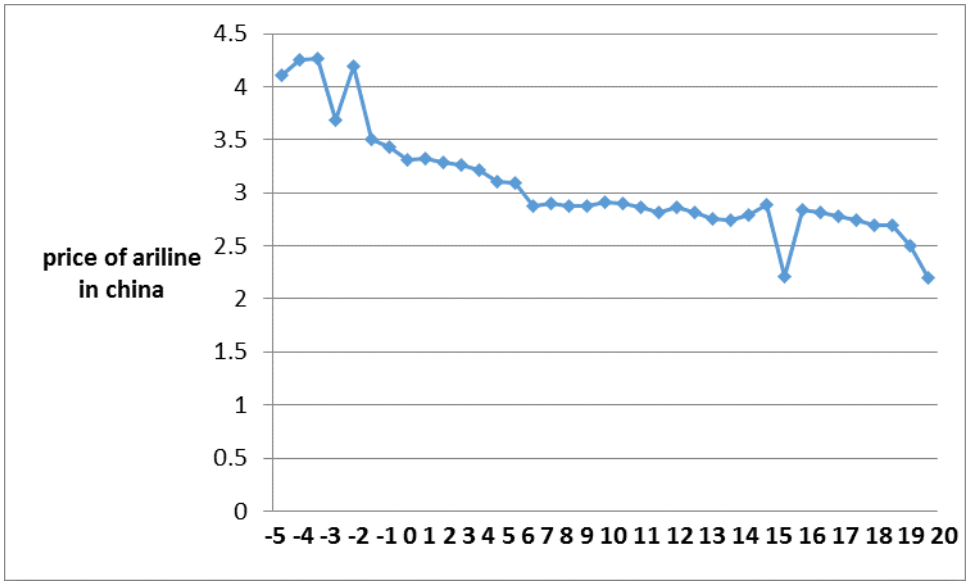

Fig (6) show airlines companies stock exchange index in shanghai after event

Red China Airlines	Aircraft Crashes / Accidents / Incidents	Route	Date
China Eastern Airlines	an Eastern Airlines aircraft overran the runway due to strong winds	Jiangsu to Shanghai	Jun 7, 2013
China Cargo Airlines Flight 237, Boeing 777F	tail-strike during landing	Beijing to Copenhagen	Apr 17, 2011
Tianjin Airlines (ERJ-190)	mechanical problems, accident	Nanjing to XiAn China (no rec. on Wikpedia)	Aug 26, 2010
Tianjin Airlines (ERJ-190, GS7441)	accident, airport closed for 1 hour	XiAn to HaiKou Hainan China (no rec. on Wikpedia)	Aug 25, 2010
HeNan Air (8387, ERJ-190)	crashed shortly before landing at Yichun Lindu Airport, about 1/2 people on board dead.	Harbin (Haerbin) to Yichun (伊春) China	Aug 24, 2010
China Southern Air B733	loss of cabin pressure	near Kunming China	Jul 17, 2010
Shang Hai Air FM833	smokes & gas leak (Boeing 737) ps: Wikipedia : zero accidents, fatalities or severe damage to its aircraft ... one of the safest airlines in Asia	ShangHai to Asia	Nov, 2008
CRJ7	plane damaged after landing	Guilin (桂林) to ZhengZhou (鄭州) China	Sep, 2008
Air china	cockpit (pilot-room) window broke	WeHan(武漢) to ChengDu(成都) China	Aug, 2008
Air China	emergency landing Moscow Russia	Paris to Beijing China	Jun, 2008
Air China	(1) gas smells before taking off (2) a hole on the wing shortly after taking off (10 min)	Beijing to YunNan China	Jun, 2008
China Eastern Airlines	smokes	Beijing to WuHan China	May 11, 2008
China Southern Airlines	an attempt to hijack and crash a flight... emergency landing at Lanzhou Airport	Urumqi to Beijing	Mar 7, 2008
China Eastern Airlines	pilots of 21 CEA flights returned their aircraft to the airport of departure	southern China, Yunnan	Mar 2008
Air China	thunder strikes	Beijing to YunNan China	Oct 27, 2007
China Southern Airlines	window crack	to Beijing	Aug 28, 2006
China Southern Airlines ,CZ325	turned back to Guangzhou for a note indicating a bomb was on board.	CZ325 from Guangzhou, China to Sydney, Australia	Aug 22, 2006
China Eastern Airlines (Mu5210, Bombardier CRJ-200(Reg. B-3072)	crashed in Inner Mongolia one minute after departure, all dead	BaoTou to Shanghai	Nov 21, 2004
Air China(CA 129), Boeing 767-200ER	crashed, killing 129 of 166 on board, recorded deadliest aviation accident in S. Korea	Beijing to Busan South Korea	Apr 15, 2002
China Northern Air,Flight 6136,McDonnell-Douglas MD-82 (Reg. B-2138)	crashed into the Yellow Sea, all dead a passenger committed suicide (started a fire)	Beijing to Dalian, China	May 7, 2002
China Northern Flight 6621,McDonnell-Douglas MD-82	attempted to hijack	Dalian to Shenyang	Apr 17, 2002
Air China747	was escorted by two U.S. F-15s onto the north runway at Vancouver International Airport during Operation Yellow Ribbon, apparently due to a communication problem.	Beijing to San Francisco, USA	Sep 11, 2001
WuHan Air 343	crashed & all dead, it was forced to circle for 30 minutes due to thunderstorms	Hubei (Enshi 恩施) to Wuhan China	Jun 22, 2000

Table (2) show airline accident in china2000-2013 by ACCA

5.2 Result study's

The consequence in this study that (23) crashes in china period 2000-2013 using different time for both the average return and model market model by observation (240). when the Day accident (zero) there is a negative abnormal return on it not the abnormal returns on the days after the damage, the statistically important at the 0.05 grade.in Table (3) and (4) show the result of this study:

Table (3) show result *Corrl* and *ARit*

Code No	Airline	*Corrl*	*ARit*
600115	Southern airline	0.986**	0.001*
600115	Eastern airline	0.984**	-0.009
600221	Hainan airline	0.998**	-0.005
601111	Air China	0.998**	-0.008

***significant at 0.005 grade, **significant at 0.10 grade**

Table (3) shows us the results of the use of financial statistical models. Southern airline has *Corrl* at 0.986**significant level , *Rit* at 0.001*significant While Eastern company recorded Statistical figures when *Corrl* at 0.984 grade and *Rit* at -0.009 Hainan added the data base *Corrl* at 0.984,*Rit* at -0.005 in the end air China has *Corrl* 0.998 and *Rit* -0.008. This statistical data has been studied in a plane crash Southern airline on June 7, 2013 by 5 days before the accident and 55 days after the incident to Table(2).

Table (4) show financial statistical airlines company open and close price

Airline	Mean	Var	Stdev	Max	Min [open price]
Southern	2.91	0.057	0.311	3.52	2.56
Eastern	2.616	0.057	0.238	3.07	2.33
Hainan	2.483	0.481	0.693	5.16	1.91
China	4.324	0.248	0.498	5.33	3.76

Airline	Mean	Var	Stdev	Max	Min [close price]
Southern	2.89	0.054	0.300	3.51	2.55
Eastern	2.61	0.054	0.233	3.07	2.55
Hainan	2.47	0.47	0.698	5.17	1.91
China	4.293	0.230	0.479	5.31	3.76

Table (5) show financial statistical airlines company by F-test, T-test

Airline	F-Test	T-Test
Southern	0.821*	0.801 *
Eastern	0.880*	0.798*
Hainan	0.948 **	0.956 **
China	0.809 *	0.775*

***significant at 0.5 grade, **significant 1 grade**

The financial statements of the test process by statistical methods provides data can be trusted in order to take appropriate decisions to address the phenomenon to be studied and take the appropriate decision her base .for example southern airline contain statistical results were as follows: The arithmetic mean of the opening price 2.91 and the price of closing 2.89, standard deviation of 0.311 at a price of Conquest and The closing price was 0.300 While the company recorded the highest price opened at 3.52 and closed at the price of 3.51 additive for the lowest open price at 2.56 and less closing price at 2.55.On the other hand that the F-test at a level of 0.821 and the T-test at a level of 0.801 is added by other tests, a rate of return and correlation coefficient integrated database uniquely be there in order to take decision.

5.3 Analysis form Eastern airline

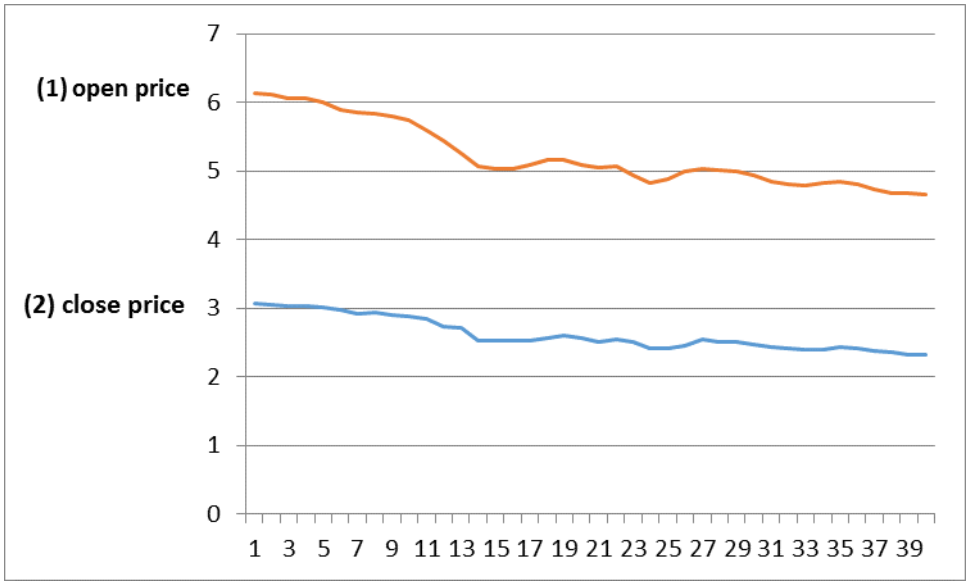

Fig (6) show Eastern airline when event accident day

When looking to fig(6) southern, that airline series (1)represents the opening price, while series (2)sequence represents the closing price. On June 7, 2013 incident, note the amount of the airline stocks lower prices. Shanghai Stock exchange has recorded price for southern airline (3.02) when the opening price and the closing price at(2.99).after ten days the price more down ,recoded(2.53) open price and(2.51) This indicates the great loss of the firm's shares , which calls for action by the risk management Aviation to reduce or prevent the decline in stock prices.

6. Conclusion

When a stock reaction to occur, the magnitude of the stock price must be changed. Financial study propose that the worth of a share of stock is the current magnitude of the airlines expected future dividends deducted at the risk rate of income For a share price to be influenced negatively by an incident , either the expected dividend must be boosted the airline risk reserve deduction rate must be increment. If either reaction occurs then shareholders would decline and the ARt would be negative following the appearance of report about the accident.

Many studied at losses shareholders in many industries without distinguishing feature between them. Maybe for certain industries big Losses stocks do not have any important impact on company value. Another concept, since great losses occur frequently in the airline industry, the stocks markets may expect their event. this is not to say that the actual date and place are predict, but instead that of likelihood the laws dictate that damage or losses will occur. If the stocks has regulated for this facts for the airplane industry. The difference in coverage insurance from airline to the other effect will be different at the time of the risk to their stockholders and owners. Airline company must to have liability insurance. This kind of insurance known a "compulsory coverage" risk managers aviation in Chinese airlines follow-up of cost pay insurance premiums to the insurance companies to avoid potential financial loss when an accident occurs. One of the main reasons for the follow-up and payment of insurance premiums by the airlines is to strengthen the financial position of the company and attract more investors and cash flows that help growth and rising airline stocks listed prices otherwise, otherwise an airplane company decrease in magnitude may be ridership loss in future, not to pay the company's ability to distribute shares profits, low market value, unattractive to investors.

This study has tested the influence of losses on the returns of shareholders in the china airplane Listed in the Shanghai market. In an influential stock, the losses, if any, should be comeback soon in the safety returns. It is probability have a negative influence on the returns of market. This research is contain on a sample of (10) airline in china companies which had(23) accident over the period 2000 to 2013. The impact of lower stock prices by using statistical and financial analysis in the time of the accident should risk managers from the administration to address this problem to maintain the financial value of the company.

The implementation of the cost risk management aviation from the results in this study is Firstly; risk director aviation should assess the special characteristics of the airlines industry their company is in to determine if damage or losses could impact the shareholders china airlines listing. Secondly; companies whose worth's are negatively impacted by decline shares my look greater confirmation on damage precaution and monitoring. Firms, such as airlines, whose shareholders are not negatively impacted by losses my focus on risk financing, insurance, risk control tools.

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Appendix

All of Southern, Hainan and China airline has recorded the opening price the stock exchange on the day event as follows: (3.43), (2.41) and (5.22) respectively while the closing price of the same companies (3.37),(2.41),and(5.11) respectively. After 10 days the same firms has recorded the opening price on (2.81),(2.08)and (4.2) Respectively while the closing price on (2.78),(2.06) and(4.16) at the same company.

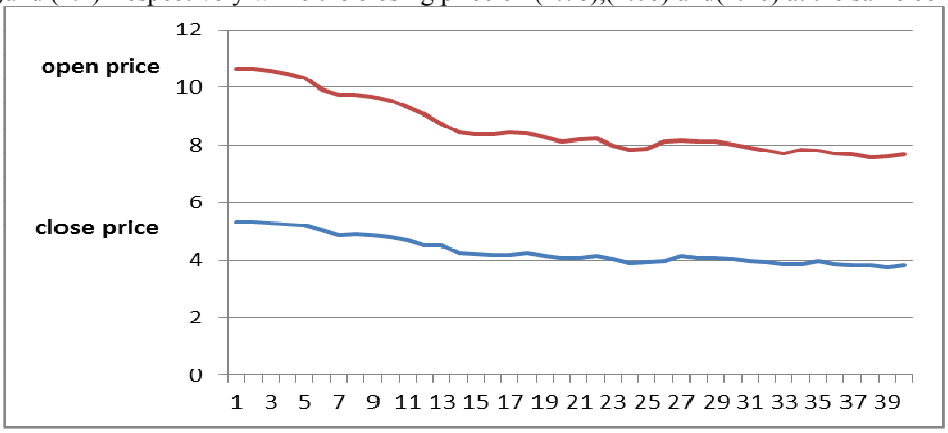

Fig (7) show low price in the accident day to china airline

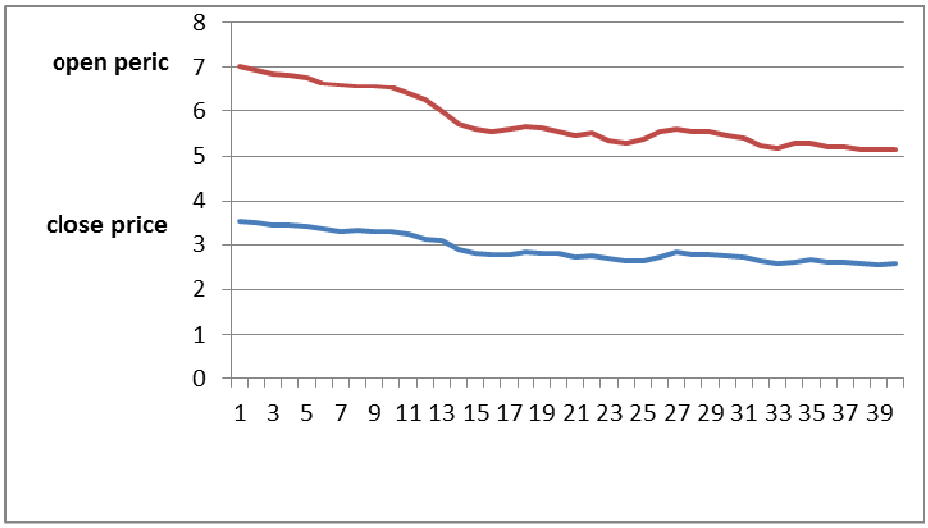

Fig (8) show low price in the accident day to Southern airline

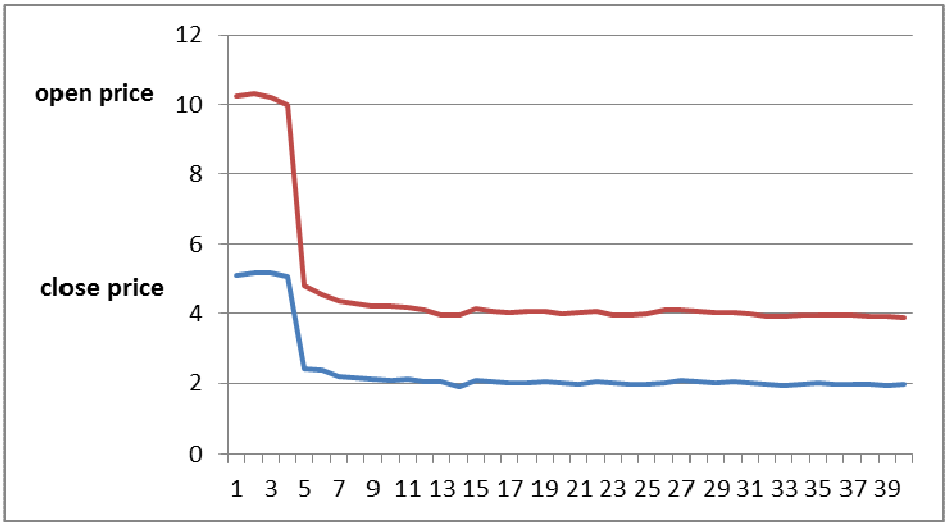

Fig (9) show low price in the accident day to Hainan airline

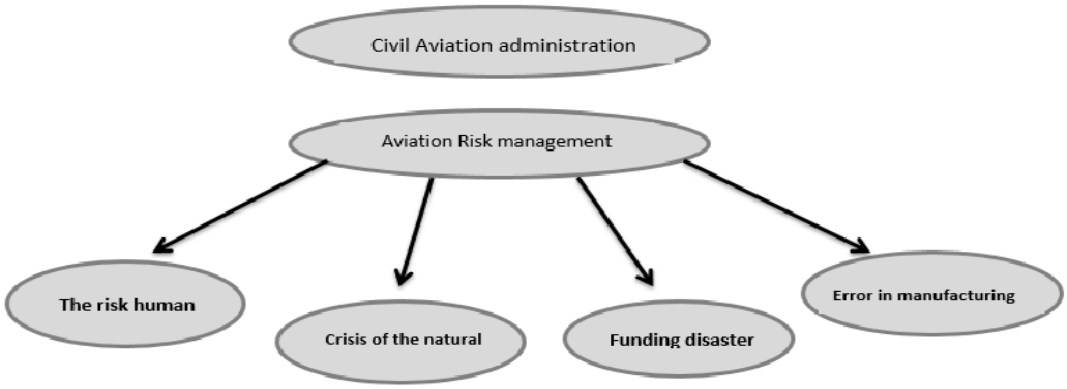

Fig (1) by author show the Aviation Risk management tools