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Crisis Marketing: The McDonnell Douglas DC-10

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CRISIS MARKETING:
THE McDONNELL DOUGLAS DC-10

by

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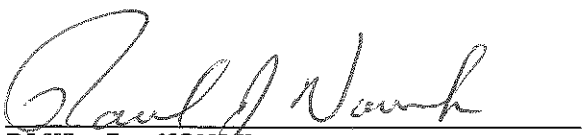
This Independent Study report submitted by Scott F. March in partial fulfillment of the requirements for the Degree of Master of Business Administration from the University of North Dakota is hereby approved by the advisor under whom the work has been done.



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ABSTRACT

The McDonnell Douglas DC-10 aircraft has been plagued by a series of problems throughout its history that has shaken customer confidence and resulted in many cancelled orders. Since the DC-10 represents a large portion of the corporation's revenue, it is essential that the firm continue to sell the aircraft near previously projected rates. This has created a case of crisis marketing for the company.

This study will use the DC-10 case to present a general crisis marketing model. This model will be a step-by-step framework that can be applied to most crisis marketing situations.

By using this model and seeing it applied to the DC-10 case, managers should now be able to approach a crisis marketing situation in a more logical and organized manner.

CHAPTER I

THE RESEARCH PROJECT

Introduction

The McDonnell Douglas DC-10 has experienced a series of problems since its introduction into the commercial aircraft market during the early 70's. There have been four major crashes since 1974. The disaster at Chicago's O'Hare Airport in 1979 resulted in a costly grounding of the DC-10 while specific design certifications were studied. A resulting inspection program revealed other damaged aircraft of this type. In addition, several other less severe incidents involving the DC-10 have also occurred throughout its history.

This research project examines the case of the DC-10 in terms of marketing efforts which followed this string of accidents. This is the basis for the term "crisis marketing"; the attempt to market a product after extreme negative publicity, conspicuous failure, or any other event which injures customer relations and general public opinion to a high degree. This case is used as a model to derive general conclusions about crisis marketing and to provide an example with which other firms involved in crisis marketing can use to

make comparisons.

Chapter I will introduce the project and state the problem. This will be followed by a discussion of the scope, limitations, and justification of the project. Chapter II will be review of the literature. The purpose is to build the case by presenting facts concerning the McDonnell Douglas Corporation, the DC-10 aircraft and its history, and the results of the DC-10 problems with respect to specific customers and the public. Chapter III will present a general crisis marketing model. The DC-10 case will then be applied to this framework. Chapter IV will review and summarize the project.

Statement of Problem

The DC-10 accidents and related events have served to shaken the confidence of established customers. McDonnell Douglas also has had orders for the DC-10 cancelled as a consequence of the Chicago crash and resulting publicity. The Federal Aviation Administration (FAA) investigations and several court battles in the summer of 1979 caused additional problems for the carriers using the DC-10 and adversely influenced airlines planning to buy the aircraft in the future.

These facts are of grave importance to McDonnell Douglas, as the DC-10 is an essential part of corporate sales. It is the biggest and most advanced transport that the company offers to the civilian and military markets. In addition, the corporation is expecting the DC-10 to be its standard-bearer in these markets well into the future.

The poor record of the DC-10, the reactions of potential and current customers, and the importance of the DC-10 to the corporation, have resulted in a case of crisis marketing for McDonnell Douglas. The failure to meet projected sales levels for the aircraft would be a serious economic blow to the entire company. This will be a basic consideration in applying the DC-10 model to the crisis marketing framework.

Scope and Limitation

This paper is concerned with analyzing the crisis marketing case presented by the DC-10. While other cases of crisis marketing have certainly existed, this study limits analysis to this specific case only. The DC-10 case is an excellent example from which to develop the concepts and outline a model of crisis marketing. Devoting efforts to one case will allow comprehensive development, analysis, and formulation of conclusions.

One important step in developing a crisis marketing model is the selections of relevant factors likely to affect future cases. The factors chosen in analyzing the DC-10 case represent those which will impact upon most crisis marketing situations. They include characteristics of the producer, product, customers, and a history of product problems. These broad areas will make the model generally applicable to a wide variety of situations. The DC-10 case provides a basis for the selection of key factors. If another case had been selected, however, the factors and resulting model would still be substantially the same.

This paper presents a crisis marketing outline developed to provide information and guidance to managers who become involved in a crisis marketing situation. In preparing the paper, information from a wide variety of sources was collected and organized into a single useful model. The DC-10 case is provided as a practical application.

The era of consumerism and increasing government regulations on product performance combined with the public's dependence on technical products increase the prospects for more crisis marketing situations in the future. This paper can serve as a basis for more research in the area.

Summary

This chapter has outlined the format that this paper will follow. The problem identified concerns the continued successful marketing of the DC-10 following a series of accidents involving the aircraft. A crisis marketing model will be developed and the facts of the DC-10 case will be used to demonstrate how the model can work in actual crisis marketing situations. The DC-10 case was selected as it is one of the most dramatic and visible cases of crisis marketing in recent history. By limiting analysis to only one case, however, the model developed may not be totally adaptable to all situations. A manager may wish to modify certain steps as required.

CHAPTER II

BACKGROUND FACTS OF THE CASE:
A Review of the Literature

Introduction

This chapter will provide the necessary background facts to explore the DC-10 case. This information is essential in order to make general conclusions and specific comparisons in preparing the model. The areas discussed below are limited to those which will be the most relevant and useful in examining this case.

The first area of importance deals with the McDonnell Douglas Corporation itself. In analyzing a case of crisis marketing, the size, financial position, organization, and products of the firm are all important in making recommendations or comparisons. The size and relevant importance of the DC-10 project to the corporation will be examined next. This is due to the fact that most manufacturing firms produce a variety of products and if one becomes involved in a crisis marketing situation, its relative place within the company's product mix becomes another important factor to consider.

A chronological history of the DC-10s problems is presented in the next section. This involves discussing the

circumstances and details of four major crashes and a variety of lesser mishaps. The events taking place after the 1979 crashes are presented next with an emphasis on causes and resulting customer reactions. Knowing the case of a product's problems is a basic element in planning a crisis marketing strategy. Analyzing customer reactions will help provide the specific objectives of the effort. In addition, isolating specific causes of the problems and reviewing the customer attitudes will again form a basis for comparison in Chapter IV.

The McDonnell Douglas Corporation

The McDonnell Douglas Corporation resulted from a 1967 merger of the McDonnell Company and the Douglas Aircraft Company. McDonnell was incorporated in 1939 and had its headquarters in St. Louis. They had produced several types of high-quality fighter aircraft and were prime contractors on the Mercury and Gemini spacecraft. Douglas was based in southern California and the financially troubled firm primarily built commercial transport aircraft. The McDonnell family retained a controlling interest in the newly formed McDonnell Douglas Corporation.

The company has traditionally relied heavily on the military market. Current projects include the F-4 Phantom, F-15 air-superiority fighter, F-18 naval strike aircraft, AV-8B Marine STOL aircraft, Harpoon anti-ship missile, and the Tomahawk cruise missile. The fiscal 1980 Department of Defense funding requests provided evidence as to the importance of the military sector to the company. For example, the budget called

for $989.5 million for 60 F-15 aircraft, spare parts, and additional research and development. The Navy requested $1.044 billion for 15 F/A-18's, which also included spare parts and additional development. F-4 procurement continued and accounted for $85.5 million, while the Harpoon program sought funds totaling $154.7 million.[1] Additional funds were requested for other McDonnell Douglas projects such as the KC-10 tanker, Tomahawk, AV-8B, and the Delta space booster.

In the civilian sector, the company produces the DC-9 and DC-10 transports. Both of these aircraft have been sold to the military under the designations of C-9 and DC-10, respectively. The DC-9 has been an extremely popular aircraft, with the 1000th order being received in early 1979.

The company's production facilities are located primarily in California and Missouri, the former headquarters of McDonnell and Douglas Aircraft. Plants are also located in Florida, Oklahoma, England, Barbados, Canada, and Puerto Rico. Wholly-owned subsidiaries of McDonnell Douglas include the McDonnell Douglas Finance Corporation, McDonnell Douglas of Canada, Ltd., McDonnell Douglas Corporation Realty, and Vitek Systems, Inc. In addition, the company is divided into the following divisions: Douglas Aircraft Company, McDonnell Douglas-Tulsa, McDonnell Douglas Electronics, McDonnell Aircraft Company, McDonnell Douglas Astronautics, McDonnell Douglas

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[1]"Major Weapon System Spending Detailed," Aviation Week & Space Technology. 29 January 1979, p. 22.

FIGURE 1

McDONNELL DOUGLAS CORPORATION

Consolidated Balance Sheet

December 31, 1979

Assets: ($000's omitted)		Liabilities: ($000's omitted)	
Cash, etc.	292,877	Accounts payable, etc.	621,138
Short-term invest.	34,269	Employee compensation	151,454
Receivables	395,947	Income taxes	616,060
Cont. in process and Inventory	1,846,971	Adv. on cont.	142,290
Prepays	10,737	Contract adjustments	377,591
Total Curr.	2,580,803	Total Curr.	1,915,656
Net Property	449,295	Long-term debt	86,742
Leased Aircraft	33,069	Common stock	38,725
Investments	232,772	Capital surplus	325,779
Other Assets	39,046	Retained Earnings	1,030,883
Def. charges	45,620	Stockholder Equity	1,395,387
		Reacquired stock	17,180
		Net Stockholder equ.	1,378,207
TOTAL	3,380,604	TOTAL	3,380,604

SOURCE: Robert P. Hanson, ed., Moody's Industrial Manual, Vol. 2, (New York: Moody's Investor's Service, Inc., 1980), p. 4957.

Automation, and Microdata Company.

The 1979 fourth quarter profits for McDonnell Douglas jumped 18% over the same period of the previous year. Sales also rose from $1.17 billion to $1.33 billion for a 14% increase. Profits were up 24% over the entire year of 1979 and the yearly jump in sales was over $1 billion, which equated to a 28% increase.[2] The 1979 figures are used as they best represent the financial position of McDonnell Douglas during the peak of the DC-10 crisis. Chairman James S. McDonnell cited high sales, interest income, and lower effective taxes as the reasons for his company's success during the year.[3]

The sales of 1979 make McDonnell Douglas the 54th largest American industrial corporation. The firm is 65th in assets, 86th in net income, and 35th in terms of number of employees.[4]

The future for the corporation looks relatively bright. Much of this is due to the strong pro-defense mood present within the Reagan Administration. Large outlays are expected in the areas of fighter aircraft and airlift capability, both strong areas for McDonnell Douglas. Future company plans in the civilian sector include a possible

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[2]"McDonnell Douglas Profit Jumped 18% in the Fourth Period," The Wall Street Journal, 28 January 1980, p. 2.

[3]Ibid.

[4]"The Fortune Directory of the 500 Largest U.S. Industrial Corporations," Fortune, 5 May 1980, p. 278.

"stretched" DC-10, an economical SST, and some type of competition for Boeing's 757 and 767.

The DC-10 Project

The DC-10 is a critical program to the McDonnell Douglas Corporation. It is one of only two primary on-going company projects in the civilian sector. The size and complexity of the aircraft required large initial outlays in research and development and tooling for production. There is very little commonality with the DC-9 and this was also a contributing factor to the high initial costs for the program.

A major incentive in designing and building the DC-10 was to fulfill an American Airlines design specification. This demand seemed to indicate high sales early in the production cycle of the aircraft would be possible. American Airlines was seeking a wide-bodied aircraft that was small enough to land at La Guardia Airport, but possessing sufficient range to reach Dallas from New York. The DC-10 design met the specifications and American became one of McDonnell Douglas's best customers.

The DC-10 has reached the break-even point.[5] The original break-even point was set at five hundred copies. At that point in time, McDonnell Douglas estimated that they could sell 1,200 DC-10s.[6] The break-even point was revised to

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[5]The DC-8 never did reach the break-even point. The DC-9 had not yet as of early 1980, but was expected to reach break-even soon thereafter.

[6]"News Digest," Aviation Week & Space Technology, 9 October 1972, p. 22.

its present level of four hundred aircraft in 1979.[7] This level was reached during 1981 based on actual deliveries and firm sales orders.

At the start of 1979, the year in which three DC-10s were to crash, McDonnell Douglas had delivered 263 DC-10s and had firm orders for 320 more.[8] In addition, the Air Force was expected to buy at least twenty more over the next five years. Ironically, the first order for a DC-10 in 1979 was from Ariana Afgan Airlines. It was a cargo version intended to serve Kabul. At the start of 1979, there were forty-four airlines, governments and agencies using the DC-10.[9]

The large volume of back-orders caused McDonnell Douglas to increase production of the DC-10. The production level at the Long Beach plant was 2.5 aircraft per month at the end of 1978. This was soon increased to 3.3 planes per month in 1979.[10]

The nearest competition for the DC-10 is the Boeing 747 and the Lockheed L-1011. Comparisons are based on size, range, cost to operate, and capacity. These three planes are all in a similar category. The Airbus was excluded from consideration

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[7]Lee Smith, "They've Turned Off the Seat-belt Sign at McDonnell Douglas," Fortune, 17 December 1979, p. 62.

[8]"McDonnell Douglas Increases DC-9, DC-10 Production Rate," Aviation Week & Space Technology, 22 January 1979, p. 32.

[9]Ibid.

[10]Ibid.

for several reasons. It is only a two-engine aircraft and is much smaller than the other three. This results in less capacity and a shorter range. The Airbus is not intended to serve the long routes that the DC-10, 747, and L-1011 fly. An advantage for the Airbus is its lower cost to operate.[11] This is another reason, however, why it should not be directly compared to the DC-10.

The DC-10, 747, and the L-1011 all carry a three-man crew. Different airlines designate crew members with various titles, but all three aircraft generally have a pilot, copilot, and flight engineer or navigator. The standard 747 carries the largest number of passengers of the three, with one version of the 747 capable of accommodating 516 people.[12] The L-1011 and DC-10 both can carry in the vicinity of 250-400 passengers. The 747 also has an advantage in the amount of cargo that can be carried by the transport versions. The 747 is the largest of the three, with the DC-10 and L-1011 nearly identical in size. With the exception of the 747SP, a specially modified long-range version, the DC-10 has the longest range of the three aircraft considered.

Generally, however, the Boeing 747 is more expensive to operate than either the DC-10 or the L-1011. During the last quarter of 1978, for example, the cost of operating a 747

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[11]"U.S. Commercial Transports," Aviation Week & Space Technology, 12 March 1979, p. 129.

[12]Ibid.

averaged about $2,000 per hour.[13] Most of this went for fuel, oil, and taxes. Crew costs were the next largest expense item followed by insurance. Costs for the DC-10 were in the $1,300 per hour range, with the biggest reduction coming in the cost of fuel when compared to the 747. The L-1011 was in the $1,350-$1,450 per hour range. The savings in fuel for the DC-10 and the L-1011 resulted from the fact that they are three-engine aircraft and the 747 is a four-engine aircraft.

The specifications show that the DC-10 and the L-1011 are in direct competition. Cost and performance figures previously cited favor the DC-10 in most cases. The 747 is bigger and more expensive, but still remains a serious rival for the DC-10.

A variety of options are being considered for future DC-10s. A two-engine model is being studied in a measure designed to save fuel. Another option is a Rolls-Royce powered DC-10 using 30% British components. McDonnell Douglas is also looking at a stretched DC-10 designed to increase cargo capacity.

History of Problems

The DC-10 aircraft has been involved in a series of accidents and mishaps beginning in 1972. As will be shown, the more disastrous of these events were not a direct result of aircraft failure. This is a very important point in planning

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[13]"Operating and Cost Data - 747, A300, DC-10, L-1011 - Fourth Quarter, 1978," Aviation Week & Space Technology, 7 May 1979, pp. 36-37.

the crisis marketing strategy for a product. This will be further developed in Chapter IV.

On June 12, 1972, an American Airlines DC-10 left Detroit on a flight originating in Los Angeles. Approximately ten minutes after takeoff, a rapid decompression occurred with the aircraft. The pilot immediately returned to the airport and made an emergency landing. Nine passengers were slightly injured disembarking from the aircraft. Initial investigations showed that the left rear cargo door had separated from the aircraft. As a result, the FAA issued an inspection order for the cargo doors on all DC-10 aircraft, but no additional discrepancies were found by any airline.

McDonnell Douglas issued an advisory requesting operators to insure cargo door warning lights were operable and that flight crews visually inspect the door prior to flight. The following month, the National Transportation Safety Board (NTSB) requested the Federal Aviation Administration to require a modification on the cargo doors locking system. Investigations had shown that the doors were not fully closed and locked during the June 12 incident. McDonnell Douglas findings concurred with the NTSB report. Their study had shown that it was possible to close the cargo door without fully extending the lockpins. The ground crew had not fully closed the cargo door on June 12 and aircraft equipment was not capable of detecting the problem.

During August of 1972, two engine related inflight emergencies occurred while McDonnell Douglas was testing new

versions of the DC-10. The first incident took place on August 14. An engine cowling on a Series 10 model broke loose. The engine was shut down and the aircraft landed safely. Additional damage was later discovered and was believed to have been caused by debris resulting from the separation of the cowling.

Two days later, a Series 30 DC-10 experienced an inflight engine failure. Investigations showed a brazed stiffner ring on the air tube inside the high pressure compressor had failed. A similar problem had occurred during ground testing of another engine of this type. The aircraft made a successful landing using two engines and the flight testing program was not delayed due to these events.

A National Airlines DC-10 made an emergency landing in Albuquerque on November 3, 1973, after an engine partially disintegrated in flight. The problem was caused by the ingestion of the inlet cowling. Debris destroyed the engine and caused an explosive decompression within the aircraft. One passenger was killed and 23 were injured. This was the fourth time that this type of engine had disintegrated. General Electric, the builder of the engine, was investigating similar events which occurred during the McDonnell Douglas testing previously mentioned. A similar engine failure had also occurred on a Continental DC-10 on May 2, 1972.

All airlines utilizing the CF6 engine to power its DC-10s inspected their aircraft following the Albuquerque

incident in compliance with an FAA-issued Airworthiness Directive. McDonnell Douglas also issued a similar request.

On March 3, 1974, Turkish Airlines flight 981 crashed due to a faulty cargo door on a flight from Istanbul to London after making a stop at Paris Orly Airport. There were 346 fatalities and this was the largest aviation disaster to date. The aircraft was reportedly climbing to 13,000 feet when it disappeared from radar screens near Paris. The flight crew did not attempt contact with ground stations after this point. The DC-10 impacted about twenty miles north of Paris. The left rear cargo door, six bodies, and several seats were found nine miles from the crash site.

An investigation team was assembled with members of the French civil aviation authority working in conjunction with Turkish officials. Representatives from the National Transportation Safety Board (NTSB), McDonnell Douglas, and General Electric were also present.

The FAA immediately ordered mandatory compliance with the previous McDonnell Douglas service bulletin dealing with the cargo door problem. Airlines subsequently began extensive modifications of all cargo doors on their DC-10 aircraft.

In another incident four days later, a second Turkish DC-10 terminated its flight due to an overheated GE CF6 engine. One passenger died from a heart attack during the landing. On March 15, a false fire warning light caused another Turkish DC-10 to return to Istanbul after fifteen minutes of flight. Following the third incident, McDonnell Douglas and General

Electric officials flew to Turkey for talks with Turkish airline representatives. This was primarily due to a wave of negative publicity in the Turkish press concerning the DC-10.

The cause of the Paris crash was eventually determined to have been the separation of the left rear cargo door. This caused an explosive decompression in the cargo section which buckled the cabin floor. This resulted in the severing of the aircraft's main flight control linkages.

A Philippine Airlines DC-10 blew one or more tires while landing at Guam International Airport on April 22, 1979. There was damage to the left main gear and one engine. There were no serious injuries. Leaking patches on a tire liner were believed to have allowed air to accumulate under the tire tread. This caused a sudden load shift during landing and at least one tire disintegrated. Tire fragments caused the remaining damage. Mixing Goodyear and Goodrich tires on the same gear was cited as a possible secondary cause due to variations in stiffness.

The worst American aviation disaster in history took place on May 25, 1979. American Airlines flight 191 departing Chicago's O'Hare Airport crashed during takeoff. The eight thousand feet ground run to rotation was normal. At the moment of lift-off, the number one engine broke loose and rolled back over the left wing. This damaged control surfaces on the leading edge of the wing. The cockpit recorder, which is powered by the number one engine, ceased operating at this point. The aircraft reached six hundred feet before rolling

onto its left wing and crashing 1.5 miles north of the airport. A total of 275 people were killed.

Investigations subsequently revealed that the pylon holding the number one engine to the left wing had sheared bolts and severe cracks present prior to the May 25 flight. A debate followed as to the cause of this damage which led to the separation of the engine during flight.

John Brizendine, president of the Douglas Aircraft Company division of McDonnell Douglas, testified to a House of Representatives subcommittee on aviation that the cracks in the pylon bulkhead were "caused by external forces not natural to the aircraft."[14] He pointed to maintenance procedures used by American Airlines as the reason for the development of the damage. This charge was later supported by FAA Administrator Langhorne Bond. "We are very sure of the maintenance abuse of the pylon. The evidence is overwhelming."[15] The FAA also began a design review of the DC-10 in order to ascertain other contributing factors and issued inspection orders for all operators of DC-10s.

Three days after the Chicago crash, pylon damage was discovered on a United Airlines DC-10 by two mechanics complying with the FAA inspection orders. They noticed fine gray metal

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[14]"Ground Handling Cited in Pylon Failure," Aviation Week & Space Technology, 25 June 1979, p. 35.

[15]"DC-10 Damage During Maintenance Claimed," Aviation Week & Space Technology, 25 June 1979, p. 33.

filings in the pylon's aftermount. A test of the engine showed it to be loose. After removing panels, 27 fasteners holding the pylon together were discovered missing. They immediately reported the damage and the FAA temporarily grounded all DC-10s within two hours. Pylon cracks were also found on two American Airlines DC-10s in San Francisco. The aircraft had passed earlier visual inspections, but a dye penetrant revealed the damage. The cracks were determined to have been caused by impact during maintenance and not fatigue from flight.[16]

On June 6, the FAA suspended the DC-10 type certificate. This was a more serious and permanent step than the previous temporary grounding. The damage discovered during the inspections of the DC-10s was one reason for this action. A second reason was supposed gaps in fail-safe analysis of the pylon during initial type certification. The FAA was moving aggressively beyond the maintenance problems previously identified.

This extended grounding and design review led to a round of criticism of the FAA. One anonymous industrial official stated: "I believe the FAA will find that the fail-safe analysis in place for the DC-10 was entirely adequate and the issue will be whether the inspections required for this area by the FAA were adequate, or whether they were complied

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[16]David M. North, "Criticism of FAA Maneuvers Mounts," Aviation Week & Space Technology, 25 June 1979, p. 33.

with."[17] The FAA actions also brought an angry response from McDonnell Douglas. They charged that the certificate suspension was "drastic and unwarranted."[18] The company additionally pointed to the fact that their claim of unauthorized maintenance was supported by the National Transportation Safety Board.

Eventually, the FAA gave up on the wing pylon situation. They could find no evidence of poor design or inadequate testing. The agency next turned its attention to the leading edge slat system which was damaged by the engine upon separating. This brought further criticism from airlines and McDonnell Douglas. One airline official claimed that the FAA was on "a fishing expedition."[19]

The FAA finally restored the DC-10 type certificate and cleared the aircraft to fly on July 13, 1979, after a 38-day grounding. The agency's final findings stated that the engine and pylon assembly should not be removed as a single unit by maintenance personnel. In addition, crews should not have used a forklift for changing engines in the past and cited the need for more comprehensive inspections prior to flights. Only one recommendation pertained to McDonnell Douglas directly. The FAA

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[17]Ibid.

[18]David M. North, "DC-10 Type Certificate Lifted," Aviation Week & Space Technology, 11 June 1979, p. 47.

[19]Robert R. Ropelewski, "FAA Probe Turns to DC-10's Slat System," Aviation Week & Space Technology, 9 June 1979, p. 30.

suggested that the company reevaluate its engine design in order to reduce the amount of critical maintenance necessary.[20]

The grounding that resulted from the Chicago crash was the most costly in history. This specific series of events was the pivotal point in the difficult history of the DC-10. The negative publicity was to increase by the end of the year, as two more DC-10s crashed within the next six months.

The first accident took place in late October at the airport in Mexico City. A Western Airlines flight enroute from Los Angeles crashed with eighty persons on board. A total of seventy-five people were killed, including several on the ground. The aircraft attempted to land on a runway closed to traffic. The pilot had been warned by ground controllers that he was approaching a runway that was under construction. The pilot acknowledged the message, but apparently misunderstood it. He continued the landing and struck a parked construction vehicle. Fog and smog were also a factor. Several days later, the FAA stated that the crash was not a structural problem with the aircraft and cited the probability of pilot error.

The third DC-10 disaster of 1979 took place on November 27. An Air New Zealand sightseeing flight crashed into Mt. Erebus on the continent of Anarctica during an eleven-hour tour originating in Auckland. All 257 people aboard were killed. The crash site was well outside of the aircraft's intended

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[20]David M. North, "Future Grounding Impact Seen," Aviation Week & Space Technology, 23 July 1979, p. 24.

route. Ray Thompson, Chief of the Antarctica Division of the New Zealand Department of Scientific and Industrial Research stated: "It would seem there has been a substantial error in navigation by the pilot."[21] Thompson also ruled out the possibility of structural or mechanical failure. Although premature at the time, this analysis was later corroborated by an investigation. Pilot error was listed as the cause. The finding of pilot error was important as it served to free McDonnell Douglas of liability for the crash. If a structural defect had caused the accident, it would be an additional problem to overcome in its crisis marketing efforts.

Customer Reactions and Relations

The troubled history of the DC-10 has had a pronounced effect upon McDonnell Douglas customers. The peak occurred during and immediately following the Chicago crash and grounding. The two subsequent 1979 crashes, even though attributable to pilot errors, extended the crisis for McDonnell Douglas. This section will examine the impact of the aircraft's record upon the relationship between McDonnell Douglas and their customers. Correcting problems in this area is central to a crisis marketing strategy.

Relations between McDonnell Douglas and American Airlines were extremely strained following the Chicago disaster. The assignment of blame for the crash was the key

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[21] Minot (North Dakota) Daily News, 29 November 1979, p. 1.

issue. Heated charges from both companies appeared in print concerning the use of forklifts by American Airlines maintenance personnel to service DC-10 engines. This has been cited by the FAA as the primary cause for the damage to the pylon which led the crash at O'Hare.

Sanford McDonnell, president and chief executive officer of McDonnell Douglas stated: "It's very awkward when a valued customer has a problem. But the fact is, they damaged the plane severely by using a very crude maintenance technique, and we have to call a spade a spade."[22] Douglas president John Brizendine added: "I don't believe that American should try to duck responsibility for what it did."[23]

Douglas service bulletins 54-48 and 54-49 explained in detail the recommended procedures for removing and replacing the engine on a DC-10. In addition, the DC-10 maintenance service manual outlined a forty-four step procedure for this operation. These publications stated that the engine and pylon should be removed separately. The use of a forklift was not specifically addressed.

American Airlines had requested guidance from McDonnell Douglas on procedures concerning engine maintenance. McDonnell Douglas did not respond directly to their questions and only

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[22]"Douglas Aircraft Denies Agreeing to DC-10 Pylon Modifications," Aviation Week & Space Technology, 22 October 1979, p. 36.

[23]Ibid.

stated that airlines may occasionally wish to change certain procedures.

Senior vice president of operations for American Airlines, Donald J. Lloyd-Jones, charged that McDonnell Douglas was aware of the use of forklifts during engine maintenance. "McDonnell Douglas representatives have been present on subsequent occasions when pylon changes have been made. Our people are skilled in the procedure, and we have no reason at all to believe that it is in any way responsible for the defects our vigorous inspections have uncovered." He later added: "We are perplexed and disturbed that McDonnell Douglas has taken aim at an industry procedure that it has been aware of, has participated in, and never objected to."[24] McDonnell Douglas denied that it was aware of the maintenance procedure. The FAA fined American Airlines $500,000 in November for the unauthorized use of forklifts to service DC-10 engines.

European carriers were also greatly disturbed over the grounding of the DC-10, but their disagreement was with the FAA and not McDonnell Douglas. Although the FAA had no jurisdiction in Europe, they did prevent all DC-10s from operating at American airports. European carriers charged that the United States was violating international law by prohibiting DC-10s with European airworthiness certificates from operating within the United States. Most European carriers had returned the

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[24]David M. North, "DC-10 Type Certificate Lifted, "Aviation Week & Space Technology, 11 June 1979, p. 50.

aircraft to operation after inspections were completed. McDonnell Douglas officials had worked with the European Civil Aviation Conference on returning DC-10s to service. Turkey, where DC-10 credibility was still low, was the last European nation to restore the DC-10 to operation.

The grounding of the DC-10 also caused severe financial losses for the American customers of McDonnell Douglas. DC-10s accounted for 23% of United Airlines seat miles.[25] DC-8s and Boeing 727s picked up some of the slack for the carrier. Northwest, World, National, Western, and Continental were among the other American carriers seriously affected. In some cases, DC-10 crew members and flight attendants were temporarily dismissed by the airlines. Continental was forced to suspend all of its Pacific operations, as the DC-10 was the only aircraft in its inventory with the range required for their flights.

Customer perceptions about the DC-10 played a big part in purchase decisions. Alitalia Airlines immediately withdrew an order for six DC-10s after the Chicago crash. Boeing later sold nine 747s to the Italian carrier. Egypt also had doubts over an order for four DC-10s. McDonnell Douglas saw this as an important effort to penetrate the Middle East market. Even the Senate was hesitant about continuing funding for the KC-10 project. An attachment to the final 1980 defense authorization

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[25]"Grounding Disruption Slight in East, Midwest," Aviation Week & Space Technology, 4 June 1979, p. 13.

bill stated that structural problems with the DC-10 would have to be cleared up before granting contracts for the aircraft.

Other customers continued to adamantly support the DC-10. Sir Freddie Laker lost $15 million during the grounding, but still expressed confidence in the aircraft. He had five DC-10s on order at the time of the Chicago crash for operation on his transatlantic routes. Swissair had been using DC-10s since 1971. Armin Baltensweiler, president of Swissair, expressed 100% confidence in the aircraft and indicated that the three 1979 crashes had nothing to do with the structure of the aircraft.[26]

DC-10 Marketing Efforts

Before the 1979 crashes, McDonnell Douglas and the DC-10 had already become firmly established in the American, European, and western Pacific market areas. Initial and repeat sales were very good in these regions and McDonnell Douglas was beginning concentrated efforts to supplement this by expanding geographically. The Middle East and Africa were seen as potential market areas. One prediction called for the number of Boeing 747s and DC-10s needed in Africa to at least triple by the early 1990s.[27] McDonnell Douglas had successfully done little in these areas up to the time of the problems which

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[26]"Swissair Plans to Place Order with Boeing Company for Three to Five Jets," The Wall Street Journal, 5 December 1979, p. 12.

[27]"Africa Emerges as Special Market," Aviation Week & Space Technology, 11 June 1979, p. 249.

occurred in 1979.

The corporation was also trying to further penetrate the British market with the Rolls-Royce powered DC-10 which was mentioned earlier. McDonnell Douglas believed that this would be an inducement to the state-owned British Airways to purchase DC-10s.

McDonnell Douglas has on occasion made rather unique financing arrangements with clients in order to sell aircraft, especially when a new market area is involved. In one example, marketing personnel at the Douglas Aircraft Division helped Yugoslavia sell Tomos mopeds in the United States in order to raise cash for purchasing DC-9s and DC-10s. An earlier operation involved selling Yugoslavian hams in this country for a similar purpose.

The high sales figures for the DC-10 at the start of 1979 show that McDonnell Douglas had been very successful in marketing the DC-10. A great deal of this momentum was lost, however, as a result of the negative publicity surrounding the aircraft as a result of the crashes. The cancelled orders are an indication of this. The next section looks at the steps which McDonnell Douglas took to regain this lost momentum.

McDonnell Douglas' efforts to restore customer confidence in the DC-10 began to appear in the media in the middle of 1980. It was clear to the corporation that some type of crisis marketing action was necessary. McDonnell Douglas

received only twelve firm orders for the DC-10 in 1980.[28] This was sharply down from the 1979 level of twenty-four.

They began a magazine and television advertising campaign. The advertising featured former Apollo astronaut Pete Conrad, Jr. He cited the safety, skill, and technology which are a part of the aircraft and its design, comparing these efforts to those which went into the Apollo program. McDonnell Douglas feels that the television spots were well received. This is based on the fact that more people flew on the DC-10 than on any other wide-body during the last months of 1980. It is difficult, however, to draw a direct correlation between these two facts.

McDonnell Douglas also purchased large advertisements in several national magazines. These advertisements were aimed at the general public. They stressed the fact that a large number of carriers use the DC-10, that it is well-designed, and that it is very versatile which ultimately saves the passenger money.

Earlier advertisements had been directed to the airlines and other potential users of large aircraft. In 1980, there was a clear shift to the public orientation following the crashes. For example, in 1978, Douglas Aircraft Marketing provided an address at the bottom of its advertisements for obtaining an analysis of the DC-10 on various popular airline routes. This was replaced in 1980 by an address for a pamphlet entitled, "Surprising But True." This booklet was a public oriented

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[28]"Fighting the Fears of the DC-10," Newsweek, 18 May 1981, p. 17.

presentation of general facts about the DC-10 and its history. Apparently, McDonnell Douglas felt that restoring confidence in the DC-10 would be accomplished by a grassroots effort.

The company also tried to reestablish confidence at home. The Long Beach plant handed out iron-on transfers and bumper stickers that said, "I'm Proud of the DC-10." They also sold DC-10 shirts in the plant store. In a more substantive gesture, the United Auto and Aerospace Workers Union at Douglas purchased 20,000 shares of McDonnell Douglas stock in an organized drive by the members.

In summary, the McDonnell Douglas Corporation recognized and responded to the problems of continued sales of the DC-10 by launching a television and magazine campaign aimed at the general public. The company began its efforts approximately one year after the events which caused the crisis marketing situation. Several efforts were also made to bolster confidence of the company's workers.

Summary

Chapter II outlined the specific facts of this crisis marketing case. Relevant information concerning the McDonnell Douglas Corporation, the DC-10 aircraft, the history of problems, customer relations, and marketing was presented. These facts will be used in Chapter III to analyze crisis marketing with the framework that the crisis marketing model will provide.

The McDonnell Douglas Corporation is a large multinational aircraft and missile producer with a large portion of business coming from the civilian sector. The DC-10 is a key

component in this sector and is a crucial element in the overall company product mix. Since early in its history, the DC-10 has had problems and accidents. Three crashes occurred in 1979 and this was the peak of difficulty for McDonnell Douglas. Investigations of the crashes showed that only the Paris crash of 1974 directly involved the aircraft design or structure. The 1979 accidents were attributable to maintenance technique and pilot errors. Still, many customer accounts were lost or jeopardized.

Prior to the 1979 crashes of the DC-10, McDonnell Douglas had a large and secure market for the aircraft. Efforts were being made to expand this even further. Advertising was aimed primarily at potential buyers of the DC-10 and there was little direct relations with the general public. Most of the corporation's efforts were devoted to penetrating new markets and in making the financial arrangements for DC-10 purchases.

After 1979, McDonnell Douglas took no immediate action. Eventually, poor sales showed that the firm needed to take some type of crisis marketing action. They launched a national magazine and television campaign aimed at the general public. McDonnell Douglas cited figures showing increasing numbers of passengers on DC-10s as evidence that the campaign was working. Other reasons may have caused this increase. It is too early to evaluate the long-term effect on sales.

CHAPTER III

A CRISIS MARKETING MODEL: Proposal

Introduction

Chapter III will present a seven-step crisis marketing model. This model is general enough that it can be used across a relatively wide spectrum of crisis marketing situations. The model includes the important areas relevant to most cases. A manager using this system may wish to add or delete steps as appropriate.

The section following the discussion of the model will be an application of the model using the McDonnell Douglas DC-10 example. This crisis marketing case will use the information provided in Chapter II to fill in the framework that the model provides.

The objective of this chapter is to demonstrate how actual information and proposals can be applied. It will establish a basis of comparison for other crisis marketing cases.

General Crisis Marketing Model

The first step in this crisis marketing model is to identify the problem. This may seem to be a simple process, but there are important factors to be considered in this area. The

first is timing. It is essential that the problem be identified early and properly. As stated in Chapter I, a crisis marketing situation may arise for a product due to negative publicity, conspicuous failure, or any other damaging set of circumstances. A decrease in sales is usually a symptom. A company must immediately consider the possibility of crisis marketing for its product should any of the above situation occur. A delay will result in lost sales that could progress geometrically.

The next important consideration is the degree and intensity of the problem. This can be measured by polls, surveys, and other means of contacting the general public and/or customers. Projective testing is one excellent way to discern true feelings and attitudes of customers. The respondent is asked to indicate how a third person would evaluate the product. In actuality, the respondent is revealing his own true feelings.[1] The extent of the problem will have a large impact on several of the steps which follow in the model.

Once a problem requiring crisis marketing has been recognized and measured, one must determine the objectives of the campaign to counter the negative situation. This is step two. The objectives will often involve sales figures, but there are other possible measures. They may include such things as

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[1]Mason Haire, "Projective Techniques in Marketing Research," in Reading in Marketing, ed., Philip R. Cateora and Lee Richardson, (New York: Appleton-Century-Crofts, 1967), pp. 149-159.

prestige and status of the company involved. These objectives should be concrete and measurable. This allows for better resource allocation, setting of priorities and deadlines, and the assignment of responsibility for success.[2]

Step three is an evaluation of your firm and its capabilities. This is a prerequisite for determining options for further action. It is important to understand how the campaign will affect your company as a whole and what your limitations appear to be. Financial position is one important area. One must determine the amount of resources available for use in a crisis marketing campaign. The capabilities of the company's public relations and advertising staff should be considered. It could be possible that the problem is beyond the ability of the firm's staff to accommodate. If this is the case, outside help should be considered.

The history and prestige of a company is another consideration. Companies place varying degrees of importance on public image. A producer that values its reputation to a high degree would be more likely to undertake a large marketing effort when needed. A low quality high volume producer would probably be less concerned over a deficiency in one of their products.

Finally, the product mix of the company is crucial to

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[2]Arthur A. Thompson, Jr., and A. J. Strickland III, Strategy and Policy: Concepts and Cases (Plano, Texas: Business Publications, Inc., 1981), p. 11.

crisis marketing. The importance and relative position of the product should be analyzed. If the product is the heart of the company, then a serious problem exists. If the product is a relatively minor part of the overall product line, then the company is in a better position to withstand the negative consequences.

Product evaluation is step four. The first consideration and perhaps the most subjective is determining the product's place within the industry. If the product is a highly visible leader in the field or moving toward the top, crisis marketing could be especially important. If the product is in the lower part of its field, it probably would not be hurt too much more by the crisis situation. In these two cases, the objectives of the campaign would be different. In the first case, reputation and market relative market position would be critical. In the second situation, mere survival of the product would be the central consideration.

The cost of a product to make should be a factor to be included in the model. If a product is highly technical, consists of expensive components, or requires a great deal of labor, crisis marketing is more important. The company would have a large investment to protect. This would not be the case in a simple and inexpensive item.

A product's life cycle should be analyzed. There are four commonly recognized stages to the life cycle. Increases in sales are most pronounced in the introductory and growth

stages.[3] If a product is in these early stages, there may be more incentive to attempt crisis marketing in order to recover development and start-up costs. In a case where the product is in decline, crisis marketing could be a wasted effort.

The most important issue in evaluating the product is the reason for the failure or negative publicity. In some cases, the product may not be to blame. The circumstances and details of the failure should be evaluated prior to developing options in step six. If the product is to blame, the key is to minimize the damage caused. If the product is not at fault, then the campaign should stress this point.

Step five is an analysis of the product's customers. Relevant considerations include whether the product is an industrial good or a consumer good. The market for industrial goods in the United States and abroad is geographically concentrated and buyers use a more systematic method to purchase the products than do consumer buyers.[4]

Customer attitudes must also be evaluated. The degree of confidence and support for the product must be measured. This will assist in planning the scope of the crisis marketing campaign. If attitudes are extremely negative, a bigger effort would be required.

The history of relations between the producer and the

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[3]Louis E. Boone and David L. Kurtz, Foundations of Marketing (Hinsdale, Ill.: Dryden Press, 1977), pp. 166-168.

[4]Ibid., p. 108.

customers will be a factor in how the problem with the product is addressed. A long time and frequent client should warrant a special effort to maintain confidence.

Mutual dependence is a factor. The extent to which the customers need the product and how much the producer depends on the negatively influenced buyers enters into the overall situation. If the customer can easily switch to another producer with a similar product, efforts to maintain sales will be more difficult and perhaps impossible.

Step six is the heart of the model. It involves the selection of a crisis marketing option. The action taken should be chosen as a result of reviewing the factors compromising the first five steps.

The first possible course of action is to do nothing. This may be the best option if the product is inexpensive, declining in popularity, or fits into some of the categories just mentioned that do not warrant a large effort to save the product.

If the company feels that there is a good chance of future sales growth or has a large investment in the product to protect, then crisis marketing action should be attempted. The focus, scope, methods, and message should all be selected with respect to objectives after the review of the company, product, and customer. Focus means selecting the right target for the campaign. Generally, this will be the people with the ability and need to buy the product. Scope refers to the amount of the effort. This can range from a massive media blitz to brief

contacts with clients. Methods involve selecting the right media. The objective is adequate media coverage within the selected focus area. Alternative costs should be compared to determine the best possible media purchase.[5] Finally, the message should be carefully selected. Efforts to successfully reach the correct people are wasted if the message is ineffective.

Step seven is determining results of the campaign and making adjustments. This can be a continuous process lasting several years past the crisis situation. It is necessary to know how effective the crisis marketing efforts have been. The methods used in step one are applicable at this step to determine if progress has been made. This evaluation may provide information indicating that errors or miscalculations occurred on previous steps. If this is the case, corrections can be made and measurements once again taken. The cycle continues until acceptable results are reached. It requires a good manager to prevent these adjustments from becoming a matter of trial-and-error.

A Case for Specific Comparison

McDonnell Douglas was slow in responding to their crisis marketing situation. It was a full year before the company took action. This was after orders were cancelled in 1979 and 1980 sales dropped sharply. They did take action to

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[5]Ibid., p. 348.

FIGURE 2

CRISIS MARKETING OUTLINE

STEP ONE — Identify the Problem

a) early detection necessary
b) measure intensity of problem

STEP TWO — Determine Objectives of the Crisis Marketing Efforts

a) efforts to protect sales
b) efforts to protect reputation of firm
c) other objectives

STEP THREE — Evaluate the Company

a) financial position
b) market area and size
c) public relations capabilities
d) importance of company's prestige
e) product mix

STEP FOUR — Evaluate the Product

a) competition
b) costs and profit margins
c) life cycle
d) reason for failure

STEP FIVE — Evaluate the Customers

a) industrial or consumer clients
b) attitude of buyers
c) mutual dependence

STEP SIX — Selection of Options

a) do nothing
b) focus
c) scope
d) method
e) message

STEP SEVEN — Determine Results and make Adjustments

a) reaccomplish Step One and determine progress
b) adjust previous steps as required

determine the degree of the problem by commissioning a survey. The results showed that a campaign was necessary. This points out the fact that a company may not always immediately recognize when it has become involved in a crisis marketing situation. This case also demonstrates how quickly sales can decline if no early action is taken.

The objective of the McDonnell Douglas campaign was not clear. The fact that the company was pleased that more people were riding the DC-10 in late 1980 may indicate that this was an objective. Preserving sales and reputation probably were factors. Based on the content of the McDonnell Douglas advertisements, it appeared that they sought to improve the public image of the DC-10. Even if they were successful, there would be no certainty that this public acceptance would have an effect on sales.

Step three was an evaluation of the corporation. Several facts concerning this case should be analyzed. First, McDonnell Douglas is a multinational corporation with extensive financial resources. They certainly have the ability in terms of money and personnel to launch a large campaign. It was also apparent to McDonnell Douglas that the potential financial impact of not conducting a campaign would be worse than doing nothing.

McDonnell Douglas relied heavily on its reputation. They were seen as a leader in a highly technical field. The concept of product failure could be especially damaging. The corporation also had close relations with its clients. This

resulted from the fact that only selected organizations purchased DC-10s and they would then require close technical support from the factory. The importance of these customers warranted a large effort on the part of McDonnell Douglas to maintain their confidence.

Finally, the DC-10 was an integral part of the company's product mix. It was their largest aircraft and most modern civilian transport. The company could not afford not to attempt crisis marketing due to the importance of the DC-10. If the DC-10 sales were to drastically fall, the impact would be severely felt throughout the entire company.

One of the most important issues of the DC-10 case is the reasons for the product's problems. In this instance, the product was not primarily at fault. It did, however, receive a great deal of negative publicity and this is what prompted the crisis marketing efforts. The fact that the product was sound was one of the strongest positive points that McDonnell Douglas had in its favor and they failed to utilize it.

McDonnell Douglas was in a favorable position in terms of its customers. There were few clients and that should have made reaching and influencing them an easier task. Determining attitudes could have been accomplished faster and been a more personal matter. In addition, the airlines depended on McDonnell Douglas for advice, parts, and service information in order to keep their fleets of DC-10s operating. It would be difficult for an airline to switch aircraft types due to the large outlays already committed in pilot training and equipment

designed to repair and service DC-10 aircraft. Once again, McDonnell Douglas failed to take advantage of these positive factors. For this reason, they selected a poor option in step six of the crisis marketing model. They failed to build upon the key points that previous steps should have brought out.

McDonnell Douglas focused on the general public when the airlines were the actual customers of the company. The scope was larger than necessary because they attempted to reach an unnecessarily large audience. Direct contact with the buyers would have been more effective. This assumes, of course, that the objective of McDonnell Douglas was financial and not strictly related to reputation. The message did not include the strongest argument that could have been made by the company; that the product was safe and other factors caused the problem.

Lastly, McDonnell Douglas has taken no action to determine the effect that its crisis marketing efforts have had other than citing the larger loads that DC-10s now carry. It is a mistake to wait until sales figures answer the question as to the effectiveness of the campaign.

Summary

The first section of Chapter III presented a seven-step approach to crisis marketing. The general model was used in the next section to review the case of the McDonnell Douglas DC-10. Both the model and the example of a practical application should be useful in addressing future crisis marketing situations. Some of the steps will have varying degrees of importance in different cases, but all provide a guide for the evaluation and

selection process. Whether all are used is up to the individual manager.

The interrelationship between the steps is important to understand. They should not be viewed as isolated parts. Instead, they combine to form the overall picture which results in the selection of the one best crisis marketing option.

CHAPTER IV

CONCLUSION

Introduction

The conclusion of this paper will review the previous chapters and show the interrelationship between them. This progressive development leads to the application of the facts of the McDonnell Douglas DC-10 crisis marketing case to the model which has been presented. Chapter I explained the format, purpose, and limitations of the paper. This allowed the reader to follow this pattern of development from the early stages. Chapter II presented the facts of the DC-10 case which were used in Chapter III to illustrate the application of the model. Chapter IV summarizes and reviews the paper.

Review of Project

The purpose of this paper was to present a crisis marketing model and demonstrate its application. This model has been developed from a variety of marketing information sources. This information has been synthesized into a checklist. The model has been kept general so that it is useful in a broad range of applications.

Crisis marketing was defined in the paper as the

attempt to market a product after extreme negative publicity, conspicuous failure, or any other event which injures customer relations and general public opinion to a high degree. The model has been specifically designed for this type of situation.

The DC-10 case was selected to illustrate the use of the model because it is an excellent example of crisis marketing. The elements of negative publicity, product failure, and poor customer relations were all certainly present. In addition, a great deal of information was available on the DC-10 case from many sources. Other cases of crisis marketing have existed, but limiting analysis to one case allowed for more detailed discussion and development. The next section reviews the relevant facts of the DC-10 case.

Review of Facts

There were several key elements of the McDonnell Douglas DC-10 case that were analyzed in Chapter II. These elements were selected because it was felt that they were the most important variables to consider when applying the crisis marketing checklist. Other variables may be added to the model and discussion in different crisis marketing situations.

The characteristics of the McDonnell Douglas Corporation were the first factors to be considered. The company is a large multinational firm. It has production facilities throughout North America and in England. The firm relies on government contracts for much of its business. In this case, however, the product involved in the crisis marketing situation was primarily sold to the civilian sector. The

balance sheet presented in figure one showed that McDonnell Douglas is in a relatively strong financial position. This means resources were available for a crisis marketing campaign if necessary. It also meant the company could absorb some losses in sales and continue to operate.

The company's product mix was also discussed. This established the relative position of the DC-10 within the firm as a whole.

The next section discussed the DC-10 project in more detail. It showed how the aircraft was designed for one of the company's best customers. A break-even point was established as a reference to determine future sales requirements. The DC-10 was also compared to its closest competition, the Boeing 747 and the Lockheed L-1011. It is necessary to know how the market perceives the product with respect to the near competition both before and after the crisis situation. Finally, a few future DC-10 options were presented.

The events causing the DC-10 problems were addressed next. It was shown that the DC-10 has had a long series of accidents. Early difficulties resulted from the General Electric engines and the rear cargo door. Both of these problems were corrected. The DC-10 then enjoyed a relatively accident-free period for five years until 1979. In that year, three DC-10s crashed and gave rise to the crisis marketing situation. Two of these crashes, however, resulted from pilot error and the third was primarily due to poor maintenance procedures. These are crucial facts to consider in marketing

the aircraft.

McDonnell Douglas was slow in responding to the customer and publicity problems. They eventually launched an advertising campaign directed to the general public. Figures were cited showing that more people were riding DC-10s, but a close correlation is questionable.

Review of Model

Chapter III outlined the crisis marketing model. It consisted of several general steps. The first two steps involved identifying the problem and determining objectives of the campaign. Steps three to five were evaluations of the company, product, and customers. These provide information needed to select the best option at step six in accordance with the objectives. The final step was evaluation and revision. Continual adjustments may be necessary to better achieve the goals. It was stressed that the model should be seen as flexible and applicable to a variety of situations. Since all crisis marketing situations will vary, certain steps will be more useful than others. The last section of the chapter applied the DC-10 facts as a demonstration.

Future Implications

The crisis marketing model in this paper currently provides managers with synthesized information on this subject and a general checklist to reference in crisis marketing situations. There are other steps which could be taken to further develop and refine the model. One possible project is a detailed analysis of the effect of the McDonnell Douglas

marketing efforts after sales figures for the early eighties become available. This would show how effective measures taken by the company have been.

A second project would involve reviewing other crisis marketing situations found in the literature. This would test the hypothesis that similar key factors would be discovered in each case. Analyzing more cases would provide a broader and more secure foundation for the model.

There are several reasons why crisis marketing will be an important area for managers in the future. Consumer criticism and the increasing burden of government regulations mean producers may face a more critical and unforgiving marketplace. This, combined with the public's reliance on complex products, opens the door for a series of crisis marketing problems in the future.

Summary

Chapter IV presented a review of the entire paper. The purpose, organization, and limitations were summarized first. This included giving a working definition of crisis marketing used throughout the paper. The relevant facts of the DC-10 case were reviewed and the basis for selecting them was discussed. The crisis marketing model was also briefly summarized in this chapter, but the best means of studying the model is to see figure two. Throughout the paper, an effort was made to clearly identify the structure that was being followed. Hopefully, this final section will be useful in reinforcing this organization in the mind of the reader.

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