

創新產品多代擴散模式系統動力學研究-以電視遊戲機產業為例

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摘要

隨著時代的演進，科技也逐步的進化；在人類邁入了二十一世紀的今天，科技的進步已經呈現到了中古世紀人類不可思議的地步，這一切除了歸功於科學家不斷的創新精神之外，一般消費者的喜新厭舊也功不可沒。市場上產品不斷的世代交替，正可解釋消費者追求新世代產品的消費行為，以及廠商因應消費者而不斷的創新改善產品所造成的結果；在這互相交替求進步的過程中，自然也使得科技的應用不斷的往前推進，人類的生活也越來越便利。但是相對而言，廠商也需要花更多的時間，仔細思考其市場策略，否則也會很快被市場淘汰。本研究之目的，在於經由探索世代產品間不斷互相交替擴散的過程，幫助廠商做出適當之決策，利用擅長處理高階、多環、非線性問題的「系統動力學」作為研究方法及工具，藉由「統動力學」的幫助，將多代產品擴散的過程動態化，並搭配廠商進行的價格、行銷決策一起進行思考，再由此一過程，發展出一套系統動力學模式，透過此一模式，幫助廠商明瞭多代產品擴散之動態性複雜之問題，使廠商不再因誤判情勢，做出錯誤之決策，文中並以SONY與SEGA電視遊樂器爭霸史作為歷史案例，證明本模式之效度。透過本模式之模擬，本研究對廠商面對一多代擴散產品市場，所應注意之事項，提出下列幾點：(一) 破除市佔率之迷思：盲目追求市佔率，將使廠商無法兼顧政策平衡，導致其失敗。(二) 政策吸引力變數不宜一次大量更動，應該注意其所產生的影響。(三) 注意網路外部性效應，透過網路外部性，將可使強者越強，弱者越弱。(四) 注意創新係數與模仿係數之改變，藉由創新係數與模仿係數之變化決定新產品上市時機之大小。最後，並針對後續研究方向做一說明，期望能提供有效之幫助。 關鍵詞：系統動力學、創新產品、多代擴散、動態性複雜、網路外部性

關鍵詞：系統動力學；創新產品；多代擴散；動態性複雜；網路外部性

目錄

目錄第一章、緒論.....	1
1.1研究背景與動機.....	1
1.2研究問題與研究目的.....	3
1.3研究方法.....	4
1.4研究限制.....	4
1.5研究架構.....	8
第二章、文獻探討.....	9
2.1產品生命週期與產品擴散模式.....	12
2.1.1 產品生命週期模式.....	12
2.1.2 產品擴散模式.....	13
2.2多代擴散模式之介紹.....	19
2.2.1 系統動力學背景.....	32
2.2.2 系統動力學理論基礎.....	32
2.2.3 系統動力學對新產品動態擴散方面的研究.....	37
2.3小結.....	45
第三章、研究方法.....	46
3.1系統動力學建構模式之概述.....	46
3.1.1 系統動力學模式的主要建構方式.....	48
3.2高科技多代擴散模型之次系統概述.....	54
3.3動態性假設.....	58
3.4小結.....	61
第四章、多代擴散之動態模式之建構.....	62
4.1案例背景簡介.....	62
4.1.1 遊戲機產業之起源與茁壯.....	63
4.1.2 Sony與Sega的遊戲機初代市場爭霸.....	69
4.1.3 Sony與Sega的遊戲機次世代市場爭霸.....	69
4.2多代擴散次系統.....	71
4.3市場分配次系統.....	83
4.4二代產品上市控制率.....	104
4.5廠商次系統.....	107
4.6財務結構次系統.....	114
4.7小結.....	118
第五章、模式模擬與情境規劃.....	123
5.1效度檢驗.....	123
5.1.1 案例之情境模擬.....	127
5.1.2 情境模擬案例思考.....	136
5.2情境模擬(一).....	137
5.3情境模擬(二).....	142
5.4情境模擬(三).....	148
5.5情境模擬(四).....	154
5.6小結.....	157
第六章、結論與建議.....	165
6.1本研究管理建議.....	165
6.2未來研究方向建議.....	167
6.3現實世界之考量與決策.....	169
附錄一.....	170
附錄二.....	175
參考文獻.....	206

參考文獻

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