

دور فريق الهندسة المتزامنة في تحسين جودة المنتجات

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المستخلص:

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Abstract

Concurrent Engineering approved that it is distinguished technology efficiency as it reflect its affection on international great companies . Its becomes vital field connected with its ability to develop the products directly, as well as, its concentration on all local and international competition which need to research and expanded

This study deals with (concurrent engineering) subject in (Dyala State Company for Electrical Industry), to bring the benefits of this technology to develop the company goods by using of questionnaire as method to data collection for Sample of employees including high administrations managers and department management in the company to reach of outcomes to reinforce roles of concurrent engineering to products quality.

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مقدمة

اولا / منهجية البحث

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5-1- الادوات المستخدمة في جمع وتطيل البيانات

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- 7 : (Anova)
- 8 : (t)
- 9 : (F)
- 10 : (Multiple Regression Analysis)

ثانيا / الاطار المعرفي

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"Concurrent" Oxford
 (... ..)
 " Engineering "

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 .(2005)
 "Concurrent"
 " Engineering " .()

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 .(2004) ."
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 (Gillen & Fitz)
 (Gillen & Fitz, 1991: 20) ."

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 ([www .best.me.berkeley.edu/~pps/concurrent.htmi-16k-2005](http://www.best.me.berkeley.edu/~pps/concurrent.htmi-16k-2005))

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 (www.johnstark.com)
 Institute of Defense (I DA)
 (1988) Analysis "

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 (www.Matrixone .com/concurrent engineering-htmi-6k- 2005)

. () ()

" Natale

(Natale, 2000: 124) ."

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(Raymond . F: 2003) ."

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(NASA Glenn Research Center, 2003) ."

" (Heizer & Render)

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(Heizer & Reder, 2001: 142) (Cross – Functional Teams).

(Waller, 2004 : 159) ."

" Groover

(Groover, 2004: 785) ."

" (Merdith & Mantel)

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(Merdith & Mantel, 2000: 170)

Simultaneous Engineering -

Design Teams -

Iterated Product Development -

Total Engineering -

Changing Engineering -

(CAD/CAM) Technology -

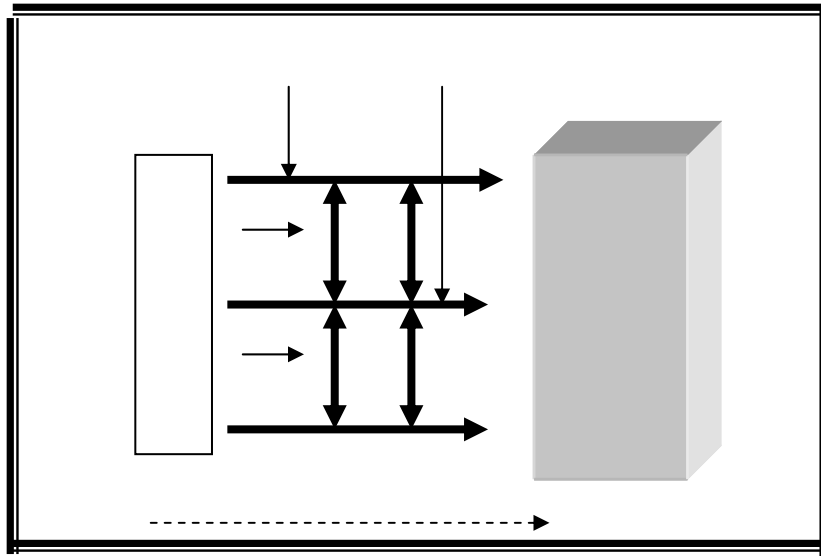
.(CAD/CAM)

Craftsman .

(Kristen, 1995: 46) .

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(1)

Source/ Graham, R, "Concurrent Engineering In aTechnology Based International Manufacturing Environment " M.Eng.submission, 1996: P8

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(Vonderembse & White ,1991: 114)

Team work concept 1-2-2

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(Graham, 1996: 10) "

(Evans, 1993: 174) .(Cross Functional Teams)

" (Heizer & Render)

(Heizer & Render, 2001: 143)

(Gillen & Fitz)

(Gillen & Fitz, 1991: 21) .

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(Evans, 1993: 176) .

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(Graham, 1996: 12) . "

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(Web master@dmajic.com, 2001) .

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(137 :2004) .

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(www.rdonglas@stsci.edu, 2006) .

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(128 :2003) .

(Evans)

(Evans, 1993: 176) .

(Evans) (Graham)

(Graham, 1996: 12) .

(Web master@dmajic.com,2001) .

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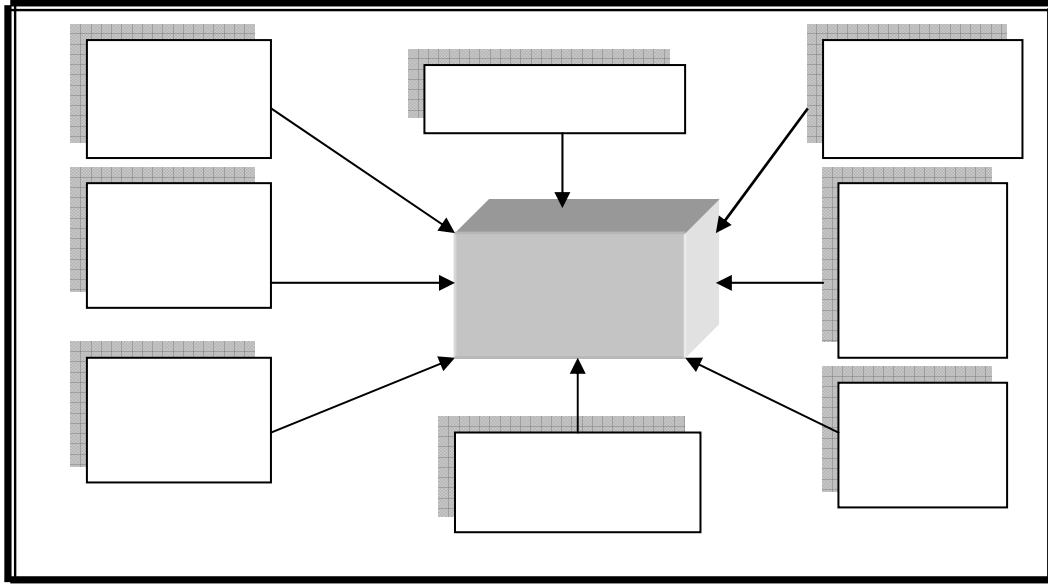
(145 :2000) .

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(Web master@dmajic.com, 2001) .

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(2)

Source/Smith & Reiner, "Developing Products in Half Time", Nostrand Reinder, 1991: p121.

(Graham, 1996: 13) .

www.virginiadot.org/projects/concurrent-default.asp-25k-

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.()

(Graham ,1996: 13)

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(James, 2004: 3) .

(Renault Automobile France)

(20%) (230) -3

(Graham, 1996: 14) . -4

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3-2 تحسين وتطوير المنتجات

1-3-2

Product -1

(Waller, 2004: 147) Industrial Products . -

Consumer Products . -

Standard Products . -

Customized Products .	-
Processes	-2
Processes Planning	-3
Product Planning . (333 :1997) ."	-4
Product design . (128 :2004) .	-5
Product development . (175 :2000) . ()	-6
(Vonderembs & white, 1991: 115) .	
(128 :2004) :	-
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(Ben Nash)	
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(17 :1981) .

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(123 :2000)

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(2000) ."

2-3-2 المبادئ والاعتبارات الأساسية في تصميم وتطوير المنتجات.

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(Evans, 1996: 173) .

(199- 193 :2000) (604- 602 :1999) .

Production Design -1**(Functional Design)****Design and Redesign -2****Interchangeable Parts -3**

(128 :2000) .	Standardization	-4
	Simplification	-5
(603 :1999) .	(196 :2000) . (Simplify the Assembly Process)	
	(149 :2000) . Modular Design	-6
	Specifications	-7
	Quality Engineering	-8
	(199 :2000) Maintainability	*
	Reliability ()	*

Durability *

Reproducibility *

()
(146- 145 :2004) .

:(Cost) -

:(Economic of Use) -

:(Quality) -

:(Luxury Fatues) -

:(Size, Capacity & Strength) -

:(Safety in Use) -

ثالثا / الجانب العملي

- 1-3

(X11, X10, X9, X8, X7, X6, X5, X4, X3, X2, X1)

(1).

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(4.13 , 3.17)

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(2.9 , 2.6)

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(X3)

" "

(X5 , X1)

جدول رقم (1) تحليل استجابات المبحوثين وعلى وفق وسط المقياس الوسط الحسابي والانحراف المعياري

								(Z1)	
	2.6	38.11		1.211	3.177	5	1	X1	1
	4	21.63		0.894	4.133	5	2	X2	2
	3.2	36.003		1.272	3.533	5	1	X3	3
	3.66	28.739		1.124	3.911	5	1	X4	4
	2.9	33.439		1.159	3.466	5	1	X5	5
	3.77	20.834		0.824	3.955	5	2	X6	6
	3.57	24.181		0.908	3.755	5	2	X7	7
	3.73	24.639		0.958	3.888	5	1	X8	8
	3.71	20.679		0.804	3.888	5	2	X9	9
	3.6	26.052		0.990	3.80	5	1	X10	10
	3.66	21.421		0.814	3.80	5	2	X11	11

" " " " X3 (3.2) (X5 X1)
 (33.439 , 36.003 , 38.11) " " (X2)
 (4)

(4.13) (5 , 2)
 (X9 , X6) (.894)

" " (X11 , X10 , X8 , X7 , X4)

(
 (X5 , X3 , X1)

(3.46) (3.533) (3.17)

2-3

(Y6, Y5, Y4, Y3, Y2, Y1)

. (2)

(2)

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								(y3)	
	3.28	23.222		0.836	3.60	5	2	Y1	12
	3.6	22.631		0.860	3.80	5	2	Y2	13
	3.53	25.486		0.957	3.755	5	2	Y3	14
	3.63	23.651		0.925	3.911	5	2	Y4	15
	3.84	20.392		0.811	3.977	5	2	Y5	16
	3.69	21.055		0.814	3.866	5	2	Y6	17

(2)

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(3)

(y5) (3.97) (y1) (3.60)

(y5)

(.811)	(3.97)	(3.84)	(5)	(2)
	(20.392)			
	(y3)	.		(25.486)
				3-3
		()	(3)	()
		()		()
			(3)	

(Y)	
.411**	(Z)

45 = N
 = **
 = *

(0.99)	(0.01)	(0.411)	(t)
(p)	(2.579)	(4.765)	(0.005)
	.(0.01)		

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(45)

$$y_3 = 2.493 + .354 (z_1)$$

(4)

		(t)			
2.493	0.013	2.331	.137	.354	(z1)

(2.331)

(t)

(5)

(5)

	R ²	p	F	MS	DF	SS	
	13.4	0.013	6.650	2.392	1	2.392	
				.360	43	15.464	
					44	17.856	

(6.650)

(F)

(43 , 1)

(0.01)

(%13.4)

(R²)

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(%13.4)

(2.493)

(a)

رابعا / الاستنتاجات والتوصيات**الاستنتاجات**

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التوصيات

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ثبت المراجع**أولا: المراجع العربية**

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				(Modular Design)	13
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