

جامعة فيلادلفيا
كلية العلوم الإدارية والمالية

المؤتمر العلمي الرابع

الريادة والإبداع

إستراتيجيات الأعمال في
مواجهة تحديات العولمة

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15 – 16/3/2005

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: Modules

MRP2

(140)

(MRP2)

MRP2

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Abstract

Information System Design of Maintenance Resources Planning " Proposed system "

The aim of this research study is to design information system for the planning of requirement in order to accomplish maintenance work in the Steel and Iron Libyan concerned to locate the resources and schedules according to the maintenance master operation set during specific time. However, to achieve the objectives of the research study, a design of information system was built in order to resemble maintenance resources planning system, which know as MRP 2 and made of group modules such as, input unit, process unit, output unit.

These unites consist of several sub – units made of 140 files form the schedule system database.

The objectives of the research study were met with high accuracy by implementing the MRP 2 system design according the planning time period, in order to establish maintenance operation to locate the suffocation occurred in the resource loading operation upon the maintenance operation instrument centers in the company in question. In addition to the necessary information preparation need by the decision makers related to the maintenance operation environment.

The study contained some recommendations such us, the need to take up the MRP 2 system design of the company in focus because this system process changes occur in the system operation environment, as it is considerer more suitable for the maintenance operation environment in the company. Moreover, implementing the system required the need to train the technical staff in order to operate the designed information system and locating the basic input needed to implement the system from theMaintenanceMasterSchedules(MMS), Available Resource Files (ARF) and Bill of Resources

(BoR), in order to contribute in effective and efficient ways in the Steel and Iron Libya Company.

Materials

(MRP1)

Requirement planning system

Manufacturing resources

. (MRP₂)

planning system

(Gap)

. (Kassim,2004) (Support Systems)

(MRP₂)

(MRP₂)

Maintenance Resources planning system

Manufacturing Resources planning system

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		: (Steinberg, et.al., 1980)	-1
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	:		-
(MPS)		(STS)	-
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BOM)			-
			. (
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		: (Cox,et.al.,1980)	-2

	: (Scemell,et.al.,1982)	-3
	(P.P)	
(Park Plaza)	:	-
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	:	-
	:	-
	: (Khumawala,et.al.,1986)	-4
	:	
Manufacturing (MRP2)	:	-
	Just – In – Time System (JIT) Resources Planning	
	:	-
	:	-
	: (David, 1990)	-5
(Assembly Products)	:	
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	: (Roth and Dierdonk, 2003)	-6

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(MRP1

: (Kassim , 2004)

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MRP1

MAP/3000

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(Chase and Aquilano , 1998)

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Material Requirements planning system (MRP₁)

Just- In – Time Manufacturing Resources planning system (MRP₂)

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(Software)
(Roth and Dierdonk, 2003)

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" (Steinberg et etat , 1982)
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" (Khumawala et .al ., 1986, 58)

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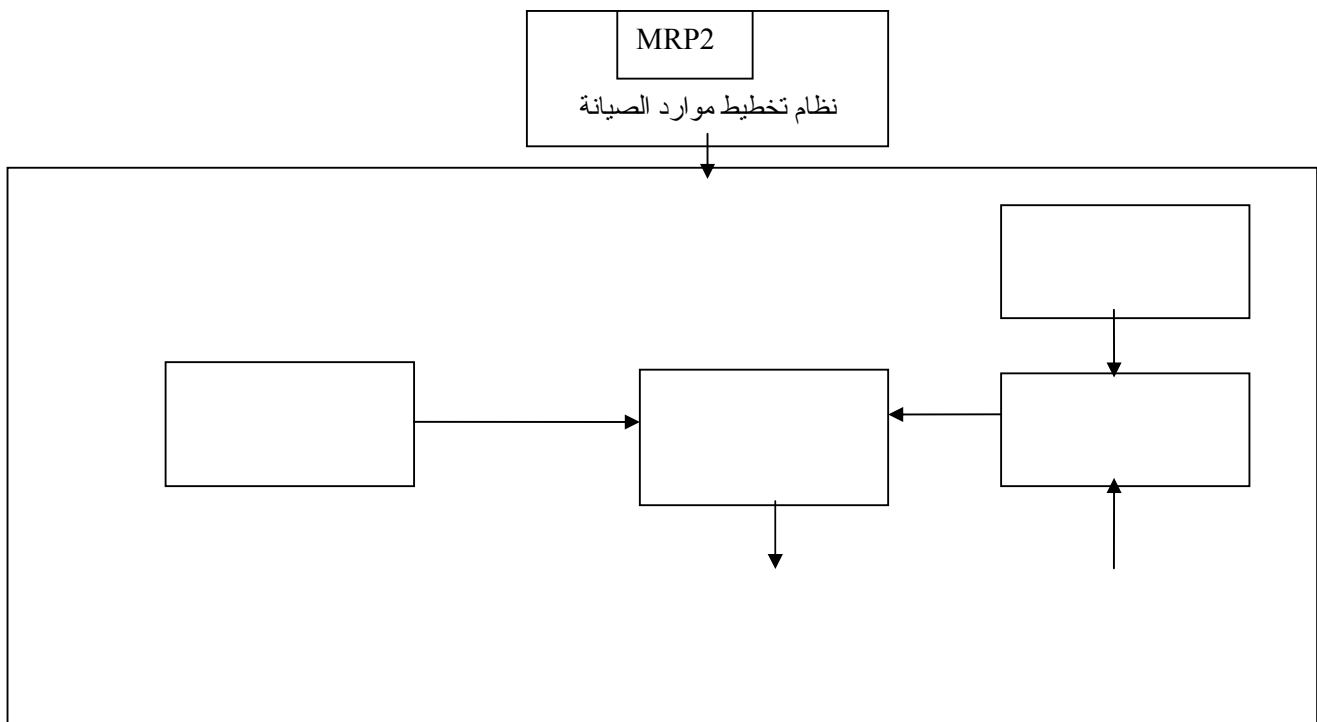
" (David , 1990,3)

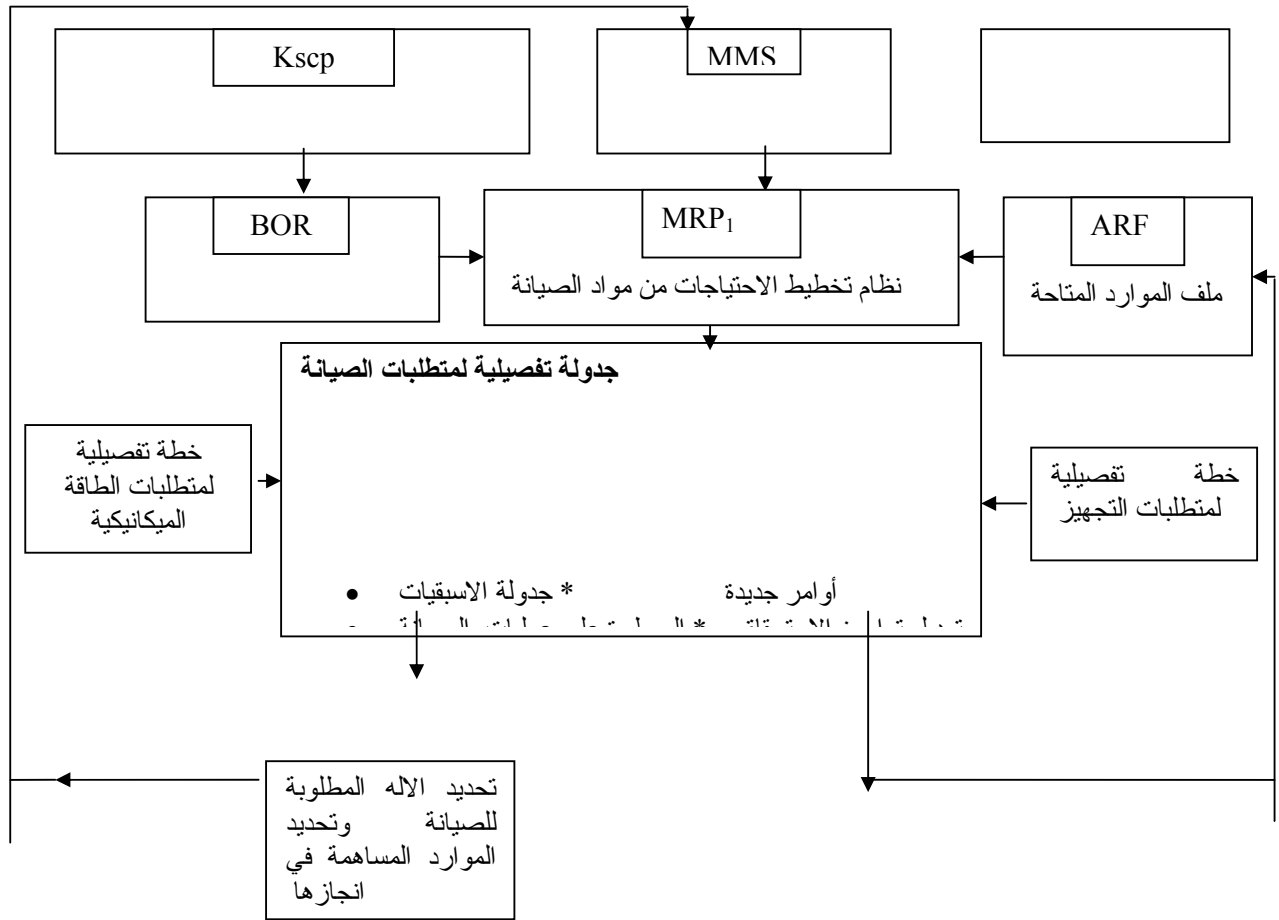
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Maintenace Resources Planning System
(MRP₂)

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MRP2

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(MRP2)

Prodctivity Maintenance

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(Markland , 1998 , 499)

. (Hamid , 1994 , 76) (

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(Evans , 1996)

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. (Steinberg et al., 1980 , 69) () -
) (MRP₂) -
 : (Khumawala , et al , 1986 , 60 -1
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) -4
 : (Key Skills Capacity Maintenance
 Maintenance Loading -
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 -
 : (MRP₂) -2
 (MRP)
 Information System
 (Evans , 1996 , 541)

(Groover , 1999 , 195)
 Maintenance
 . Maintenance Control Resources
 (2) MRP₂
 (MSS) MSS MRP2
 :
 Master Maintenance Scheduling (MMS) : -

. (Dilworth,2002) (Evans , 1996 , 563)
 Bill of Resources (BOR) -

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(Roth and Dierdonok,2003,19-20)

Available Resources (ARF) -

(Ranky , 1995 , 84-85) (Shroeder, 2000) :

: (Mann , 1986) Krajweski and Ritzman , 2002)

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(BOR) MRP2

(MMS)

. (David , 1990,18) (Kumwala etal., 1986 , 84)

MRP2

BOR) (MMS)

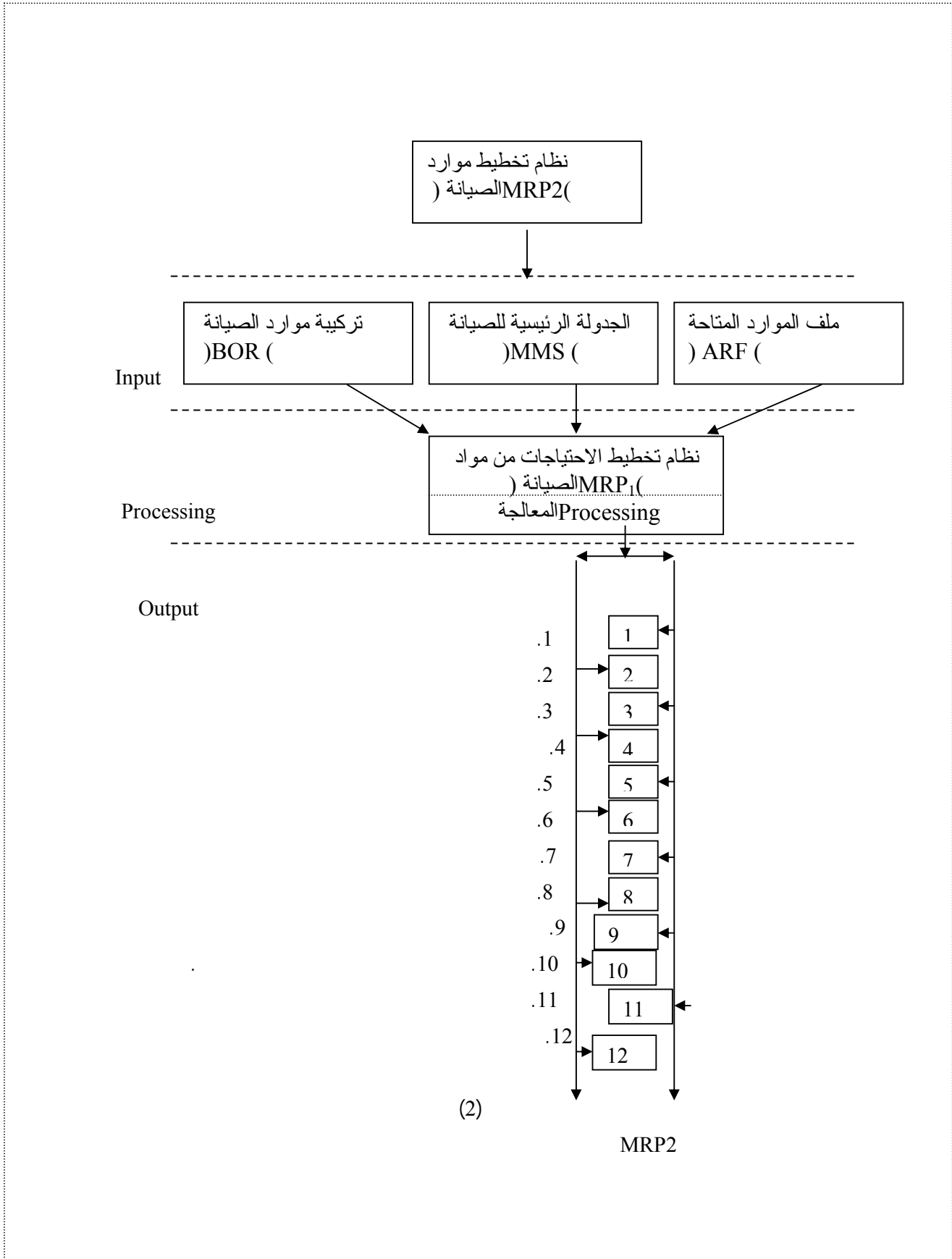
) (ARF

MRP2

: (MSS) -

. (Time-Bucket)

	(BOR)	-
	(MSS)	-
	(Explosion)	-
	Gross Requirements	
	(ARF)	-
	Net Requirements	-
	(BOR)	-
	(MRP2)	-5
(MRP2)	Logic of processing	
	(MMS)	
	(2)	
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	MRP ₂	
Maintenance Resources Planning System (MRP ₂)		
Database Files	(Programs)	
	(140)	
	(Modules)	
:	()	(3)
	(System Entering) :	-
	MRP ₂	
	:	
	Entering Available Resources :	-1
	(H)	
	(C)	
)	(Disposable)	
. (M)	(Reusable instruments	
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Entering Stages Maintenance :		-2
	(BOR)	
Stages)		
	(and operations	
	(M C H)	
Entering Gross Requirements :		-3
(Setup)	Support Files	-4
	Processing Module :	-

MRP2

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Selection Bill of Requirements	-1
Capacity Driven Module	-2
Weekly Schedule Generation	-3
Daily Schedule Generation	-4

Out Put	Processing	Entering System Entering
Entering Available Resources Entering Stages and Operations Entering Gross Requirements	Selecting Bill Of Requirement Capacity Driven Moduly Daily Schedule Generation Weekly Schedule Generation	- Multi Level Planning (BOR) - Resources Utilization List - Operation Maintenance Requirement. - Schedule For Maintence (Daily) . - Schedule For Maintence (Weekly) . - Stages and Operation Requirements.
Setup	Control Module	Reports

MRP2

Report Module () -

MRP2

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:Multi Level Planning (BOR) -1

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(BOR)

Level	Code	Description	Type	Unit	Quan.	Per	Lead	Start	Com. Data
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					Maintenance	Time	Date	

Resour Utilization List

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Code	Des.	1 Maint.	2 Maint.	3 Maint.	Maint. 12	Available Capacity	Level of Utilization
*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*

Operation Maintenance Requirements :

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Code	Description	Type	Unit	Available Quant	Work date

Materials Control

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Code	Desc	Gross Req	Stafy Stock	Quant Availb	NET Req	Start date	Complete date

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. 2004/10/1

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(MSS)

(BOR)

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MRP₂

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: (BOR)

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MRP₂

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MRP₂

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	MRP2	-
		:
	MRP2	-
		:
	(BOR)	-
	(MSS)	-
		: -2
		:
	MRP2	-1
		:
		-
		-
	(MSS)	-
		:
	(MSS)	-
	MRP2	-
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	MRP2	-
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