# Performance-Related Pay System: A Design Methodology

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**Abstract:** This paper identifies a new methodology to design a strategy-based performance-related pay (PRP) system. The proposed methodology is the result of an action research intervention in a leading manufacturing company. Its main value is the capability to encourage the pursuit of company strategy also at the lowest levels of the organisation. The methodology is correlated with a group of tools supporting the operationalization of each phase.

**Keywords:** *Performance-related pay system, individual performance reward, performance management, employees reward.* 

# 1. INTRODUCTION AND LITERATURE BACKGROUND

In the last 20 years, the academic and practitioners interest in performance-related pay (PRP) systems has largely increased. Literature proposed heterogeneous performance-related pay definitions (Belcher, 1996; Wilson, 1995; McNab and Whitfield, 2007) and firms have adopted many different types of PRP schemes based on piecework, skill-based pay, profit-related pay, profit sharing, individual performance-related and so forth (Cox, 2000). These pay systems encourage employees to direct their effort in different ways and they often increase the discretionary pay considering individual, team, business unit, or organisational performance measures. Such increases may take the form of a more rapid progression through pay scales or ranges, percentages of basic pay, predetermined cash increments, or one-off lump-sum payments. In any case, greater effort and diligence on the part of the individual is recognised and compensated with part of the extra value created (Galbraith and Merrill, 1991; Booth and Frank, 1999).

Much of the literature has shown that these pay systems do have a marked impact on employee and organisation performances. The evidence is drawn from a variety of sources, including descriptive reviews (e.g. Claus and Briscoe, 2009), meta-analyses (e.g., Jenkins et al., 1998), experimental studies (e.g. Kuvaas, 2006) and professional human resource programme assessments (e.g. McAdams and Hawk, 2004). However, the evidence obtained in the empirical research is mixed and some authors pointed out that the adoption of a PRP does not always mean advantages and benefits to firms and workers (Kruse, 1996, Festing et al., 1999; Askenazy, 2001), also because of the lack of PRP systems capable of guiding workers toward the achievement of the company's strategic objectives.

In order to contribute to this knowledge gap, our paper identifies a methodology to design a PRP system encouraging the pursuit of company strategy, also at the lowest levels of the organisation.

## 2. RESEARCH METHODOLOGY

Using an action research methodology, the research described in this paper analyses how a leading Italian manufacturing firm, which we will call BR, designed its performance-related pay system (Coghlan and Brannick, 2010; Eden and Huxham, 1996). Over a period of 12 months, the authors acted as process facilitators in order to develop the new system and identify tools

supporting the entire PRP system design. The research was carried out using an iterative process involving researchers and practitioners acting together on a specific cycle of activities, which included problem diagnosis, action intervention and reflective learning (Coughlan and Coghlan, 2002). At the end of the process, the authors were able to identify a new methodology correlated with tools supporting the PRP system design in manufacturing firms.

# 3. THE EMPIRICAL INVESTIGATION THROUGH ACTION RESEARCH

Based on Coughlan and Coghlan's work (2002), the authors divided the research process into three main phases. Initially, the company's needs were analysed; afterwards, data were collected and analysed to support the subsequent design of the PMS in BR; finally, the process was evaluated and the new methodology herein proposed emerged from interactive cycles of data gathering, feedback, analysis, design and evaluation.

## 3.1. Phase 1: Customer Perspective

### **3.1.1.** Step 1 - Definition of the critical success factors pertaining to the customer perspective

The definition of a strategic PRP system requires the preliminary formalization of the critical success factors (CSFs) connected with the current and potential customers of the company. The analysis of the company's documents and a meeting with the managerial team supported the definition of the main CSFs. Subsequently, to assess their actual relevance, a structured analysis was started involving the owners of the business processes which were directly linked to the customer. Using a rating scale of 1-10, each person evaluated the importance of the identified factors on the basis of the importance that the customer attached to them. At the end of the process, five CSFs were selected as they achieved the highest average score (Table 1).

	PERSON IN CHARGE OF THE PROCESS OF REFERENCE										
	Sales director	Marketing director	Engineering director	Customer service director	Quality director	<b>Operations</b> director	TOT.				
CSF (CUSTOMER PERSPECTIVE) (score 1 to 10)											
PRODUCT											
Product performance	8	10	10	8	9	10	9.25				
Product conformity	6	8	10	8	10	9	8.75				
Product reliability	8	9	10	8	10	9	9				
Product Innovativeness	7	8	10	2	5	7	6.75				
Brand	5	1	5	2	8	5	4.25				
Aesthetics / design / ergonomics	3	3	5	2	3	5	3.25				
Depth of product range	7	6	8	8	4	9	7.25				
Eco-compatibility	3	1	2	2	1	5	2				
SERVICE (DELIVERY)											
Speed of delivery	9	7	7	6	7	7	7				
On-time delivery	10	7	10	8	10	8	9				
Order fulfilment	6	7	8	8	10	8	7.75				
SERVICE (SUPPORT)											
Pre-sale support	7	10	8	7	6	8	7.5				

**Table 1**. Key critical success factors pertaining to the customer perspective.

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Post-sale support	6	10	8	8	8	8	8
Extent of product range	8	8	7	8	5	9	7.25
Product customisation	8	1	8	7	5	6	6.5
Flexibility of vol. and mix of entry orders		10	10	7	8	5	8

It is important to emphasize that the choice of these five factors referred not only to the numerical value, but for each assessment there was also further reflection and critical discussions from all the parties involved and, in some cases, these discussions influenced the choice of factors. In addition, if the 'completeness of the order' received a score close to the threshold, it was dropped because, according to the respondents, in BR's industry it is similar to the on-time delivery; the post-sale service was not considered because it was still developing and therefore not significant for the reward allocation.

### **3.1.2.** Step 2. Weighting the CSFs pertaining to the customer perspective

The five selected factors, although recognised as being particularly relevant, affected customer satisfaction in a different way. To define the weight of such CSFs, the three main participants in the previous phase (Engineering director, Operations director and Quality control manager) got involved and they expressed their comparative assessment by using an AHP matrix. The list of CSFs pertaining to the customer perspective, with their weight (Ai), are reported in the following table (Table 2). Only ratings with identical results for at least two persons were considered (in the case of three different values, the participants were contacted so to discuss and overcome the differences).

The most important CSFs concerned the product (see for instance product performance 35.1%; reliability 35.1%); less important than the first ones were those related to the service (see for instance flexibility of vol. and mix of entry orders 4.6%). The results were consistent with the corporate strategy, which emphasized the company's attention to new technologies, improving product quality and increasing the level of automation.

### 3.2. Phase 2: Internal processes Perspectives and Strategy Map

# **3.2.1. Step 1.** *Definition of the CSFs pertaining to the internal processes perspective and operational efficiency supporting the CSF pertaining to the customer perspective*

Each participant individually assessed the correlation between the CSFs belonging to the internal processes perspective and the operational efficiency supporting the CSFs pertaining to the customer perspective; afterwards, discordance values were discussed among all persons involved in the assessment. The data collected are presented in a matrix: the weight previously identified (Ai) is in the first column and the other column there are the CSFs of the production system (Table 3) and operational efficiency. It was thus possible to identify the internal CSFs that significantly impacted on the creation of customer value and on operational efficiency. The collected data confirmed the company's strategic goals, i.e. the relevance of product design, the

choice of materials/components and the management of suppliers, with special attention to the delivery times, which was a prerequisite for BR's on-time order fulfillment.

Similarly, in the CSFs supporting the operational efficiency (internal defects, productivity of machinery/equipment, labour productivity and working capital), we found key issues such as the use of plants, labour efficiency aiming to minimize the indirect/direct ratio, the improvement of the efficient utilization of materials by reducing waste and re-working and, finally, the inventory management. A special mention should be given to the CSFs of the internal process perspective supporting the two aspects (quality of process, timeliness of purchases / production / distribution, flexible volumes) on which special attention should be paid during the drafting of the strategy map in order to not define conflicting objective.

3.2.2. Step 2 - The Strategy Maps

At this point, it became necessary to summarize the strategic choices, the critical success factors, the operational objectives and related indicators in one document, so to make the strategic objectives explicit at the operational level.

For each CSF that emerged in the previous phases, the operational objectives and indicators were identified. For example, the CSF "internal defects" produced the identification of three operational objectives, i.e. reduction of waste, reduction of hours spent on re-working and selections, improving the efficiency of self-control (Figure 1).

In order to complete the strategy map, it was also useful to identify the CSFs of the financial perspective, i.e. ROCE (return on invested capital) and EBITDA. The turnover was located across the financial perspective and the customer perspective, as it was considered as a proxy of customer satisfaction.

	V	alue range:	CSFs PERTAINING TO THE CUSTOMER PERSPECTIVE											
1:	=equ	ally important;	1	2	3	4	5	1	2	3	4	5		
3=sli	3=slightly more important;													
5=quite more important;						ix of								
7=n	nuch	more important;	ses		S	y	d m	C	olumn	n norm	alisin	g	s	(%
9=ext	reme	ely more important;	mano	y	verie	ormit	es an ers						row	ge ('
1=	=equ	ally important;	rfon	abilit	ime deliv	onfc	lume orde						<u>Sum of</u>	enta
0.33=	slig	ntly less important;	ct pe	Relia		uct c	f vo ntry							Perc
0.2=	=qui	te less important;	npo.	Ι	On-t	rodi	ity o e							
0.14	=mu	ch less important;	Pr		-		kibil							
0.11=extremely less important.							Fle							
1ER	1	Product performances	1.0	1.0	5.0	5.0	5.0	0.38	0.38	0.44	0.31	0.24	1.75	35.1
STON	2	Reliability	1.0	1.0	5.0	5.0	5.0	0.38	0.38	0.44	0.31	0.24	1.75	35.1
HE CU /E	3	On-time deliveries	0.2	0.2	1.0	5.0	5.0	0.08	0.08	0.09	0.31	0.24	0.79	15.8
TO TH ECTIV	4	Product conformity	0.2	0.2	0.2	1.0	5.0	0.08	0.08	0.02	0.06	0.24	0.47	9.4
TAINING 7	5	Flexibility of volumes and mix of entry orders	0.2	0.2	0.2	0.2	1.0	0.08	0.08	0.02	0.01	0.05	0.23	4.6
's PER														
S <u>Total</u>		2.6	2.6	11.4	16.2	21.0	1.0	1.0	1.0	1.0	1.0	5	100. 0	

Table 2.	Weight of the	CSFs pertaining to the	customer perspective.
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### 3.3. Phase 3: Human Resources Perspective

### 3.3.1. Step 1.Indicators useful to calculate the reward

The indicators useful to calculate the reward were identified considering the strategy map, the pay system in use in BR and its organizational characteristics. The General manager, the MCS manager, the Operations manager and the HR manager held a workshop to identify the effective organizational units (OUs) and discuss about the performance indicators of the strategy map (eight separate units were identified, each OU is characterized by technological and organizational uniformity and the type of output produced).

The information gathered led to the choice of four productivity indicators (indicated with I-P,i) and one financial indicator (indicated with I-F).

I-P,1 = average annual efficiency =	total standard hours produced during reference period tot. hours used to produce the standard hours
I-P,2 = index of plant use =	profitable hours plants (profitable hours – set-up hours – lost hours) plants
I-P.3 = conformity index = $\frac{\text{direc}}{1 + 1}$	t hours (re-working hours – waste hours – selection hours)

direct hours

I-P,4 = defect index = <u>quantity of total returns and accepted claims</u> quantity of sold products

I-F = tons sold and shipped

Two of the indicators chosen were already used in the current PRP, i.e. the "Annual corporate efficiency" and the "Tons sold and shipped."



Figure 1. The strategy map

### 3.3.2. Step 2. Weight of operational objectives and indicators

Given the difficulty in defining the weights of these indicators, as all were considered as crucial, it was necessary to compare them using the Matrix AHP objectives- indicators (Table 4). The highest weight was attributed to the "indicator reliability use plan" (44.5%), despite its real importance, it was less than the "company annual efficiency" (21.9%).

### 3.3.3. Step 3. The definition of the key activities

In order to make more effective the definition of a PRP system, it was necessary to link it to the key processes and activities, i.e. to make explicit which activities directly affected the performance measured by the indicators. Within each production system, a number of processes were carried out (which we could label Pi with 0 < i < M, M natural number); each process was made up of a group of activities (here denoted by A-j, i, with j natural number with 0 < j < n, i.e. activity j-th pertaining to the process i-th). The processes managers supplied the necessary data by filling in the matrix-activity indicator that shows the business processes in the lines and the non-financial indicators in the columns (Table 5).

3.3.4. Step 4. Setting the relevant objectives and indicators for each unit

In order to unveil the contribution of each unit to the achievement of the operational objectives, each indicator had to join with the activities influencing its performance. For each indicator, an organisational matrix was formalized to show the relationship between activities and indicator (Table 6). The responsibility for the performance measured by the indicator may be unique (score 9), or shared by a number of units (score 7).

The purpose of this approach was to awaken the different organisational units on the performances that were not completely under their range of activity: in fact, a score of 7 was attributed to the shared responsibility, similar to the unique responsibilities (9). The lack of differences in the contribution of each unit may seem as an approximation, however, it was designed to stress the importance of the overall result (any attempt to recognize the individual contribution would be misleading).

**Table 3.** Relationships among CSFs of the customer perspective, operational efficiency and CSFs of the internal processes perspective.

Value Rang								Csf	s Of I	Internal Processes									
e: 9=Hig				Cost	s/Pro	oduct	ivity			Quality'						Tin	ne Mg	jmt	
h Corre lation		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5= Medi um Corre lation 3=Lo w Corre lation 0=No Corre lation	Weighting (A)	Materials And Components	Working Capital	Machines' Saturation	Labour Producttvity	Machines/Plants Productivity	Product Development Productivity	Logistics	Sales	Materials/ Components	Design	Process Engineering	Internal Defects	External Defects	New Product Development	Timeliness	Delivery (Suppliers)	Attravers.In Production	Timeliness Of Purch./Prod/Distr.
Prod uct Perfo rman ces	0.351	3	0	0	0	0	0	0	0	9	9	5	3	9	0	3	3	0	3
Relia bility	0.351	0	0	0	0	0	0	0	0	9	9	9	3	9	0	3	3	0	3
On- Time Deliv eries	0.158	0	5	5	5	5	3	9	9	3	5	5	5	0	3	5	9	9	9
Prod uct Conf ormit y	0.094	0	0	3	0	3	0	0	0	9	9	9	5	5	3	3	5	3	3
Vol. Mix In Entry Order s	0.046	0	5	3	5	5	0	5	5	0	0	5	5	0	5	3	9	9	9
Sum Of Ism	1	1	1	1.2	1	1.2	0.5	2	2	7.6	8	7	3.7	6.7	0.9	3.3	4.4	2.1	4.2
Weig hting		1.5	1.5	1.6	1.5	1.6	0.7	2.4	2.4	11	12	10	5.3	10	1.5	4.9	6.5	3.1	6.2
Oper ation al Effici		5	9	5	9	9	3	5	5	5	5	9	9	3	5	9	9	9	9

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ency										

**Table 4.** Weight of objectives-indicators

V 1=equ 3=slight	′alı ual ly∶	ue range: ly important; more important;	OBJECTIVES-INDICATORS											
5=quite	e m	nore important;	1	2	3	4	5	1	2	3	4	5		
7=much more important;				ý	~	4	4					<b></b>		
9=extrem	9=extremely more important;		te	cienc	ienc	ienc	ienc						NS	(%)
1=equ	1=equally important;		pora	effic	effic	effic	effic						of rov	age (
0.33=slig	0.33=slightly less important;		e cor cienc	avg.	rate	rate	Column normalising					o mi	cent	
0.2=qui	ite	less important;	erag( effi	ny`s	orpo	orpo	orpo		,		114110		St	Per
0.14=much less important;		Av	mpa	wg. c										
0.11=extremely less important.				Co	Ą	Y	Ψ							
	1	Average corporate efficiency	1.0	1.0	5.0	5.0	5.0	0.38	0.38	0.44	0.31	0.24	1.75	21.9
ES- RS	2	Use of plants	1.0	1.0	5.0	5.0	5.0	0.38	0.38	0.44	0.31	0.24	1.75	44.5
CTIV	3	Conformity	0.2	0.2	1.0	5.0	5.0	0.08	0.08	0.09	0.31	0.24	0.79	21.9
<b>JBJE</b> ( INDIC	4	External defects	0.2	0.2	0.2	1.0	5.0	0.08	0.08	0.02	0.06	0.24	0.47	6.6
• -	5	Quantities of sales	0.2	0.2	0.2	0.2	1.0	0.08	0.08	0.02	0.01	0.05	0.23	5.6
		Total	2.6	2.6	11.4	16.2	21.0	1.0	1.0	1.0	1.0	1.0	5	100.0

Table 5. Matrix Processes,	activities-indicators.
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Influence of t measures:	he activity on the performance that the indicator	I-P,1	I-P,2	I-P,3	I-P,4
Value range:	1: Influential activity 0: Non-influential activity				
PROCESS	ACTIVITY				
P-1	Order processing				
A <sub>1,1</sub>	Production planning/assembly of parts	0	1	0	0
A <sub>1,2</sub>	Issuance of production orders by facility	0	0	0	0
A <sub>1,3</sub>	Planning of account for manufacture (subcontracts or basic assembly)	0	1	0	0
P-2	Product development				
A <sub>2,1</sub>	Testing and control planning	0	0	1	0
A <sub>2,2</sub>	Process development	0	1	1	1
A <sub>2,3</sub>	Release of bill of material, routings, C.N.C. part programs, list of equipment	0	0	0	0

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P-3	Processing				
A <sub>3,1</sub>	Machinery set-up	0	1	1	0
A <sub>3,2</sub>	Production approval	0	1	1	0
A <sub>3,3</sub>	Production/assembly/packing	1	0	1	0
A <sub>3,4</sub>	Final testing	0	0	1	1
A <sub>3,5</sub>	Progress control	0	1	0	0
A <sub>3,6</sub>	Management of measuring devices/equipment	0	0	0	0
P-4	Purchasing				
A <sub>4,1</sub>	Progress control of supplies/organisation of deliveries	0	1	0	0
A <sub>4,2</sub>	Receiving controls	0	1	1	0
A <sub>4,3</sub>	Inspections at suppliers' premises	0	0	0	0
A <sub>4,4</sub>	Assessment of suppliers	0	0	0	0
P-5	Analysis and improvement				
A <sub>5,1</sub>	Management of product non-conformity	0	0	1	1
A <sub>5,2</sub>	Management of process non-conformity	0	0	1	1
A <sub>5,3</sub>	Quality improvement plans	0	0	1	0
A <sub>5,4</sub>	Management of corrective/preventive actions	0	0	0	1
P-6	Process 6: resource management				
A <sub>6,1</sub>	Identification of infrastructures	0	0	0	0
A <sub>6,2</sub>	Plant maintenance	0	1	1	0
A <sub>6,3</sub>	Identification of competencies	0	0	0	0
A <sub>6,4</sub>	Education and training	0	0	1	0
P-7	Management review				
A <sub>7,1</sub>	Resource needs	0	0	0	0
A <sub>7,2</sub>	Planning of management system	0	0	0	0
A <sub>7,3</sub>	Definition of objectives	0	0	0	0
A <sub>7,4</sub>	Management review	0	0	0	0

At this point, we assigned to the organisational units a value for each indicator (0, 7 or 9) in relation to the activities within them, and we filled the matrix with the organisational-unit indicators, thus summarizing the results (Table 7).

 Table 6 . Matrix OU- internal defect indicator.

Activity carried out in the organisational unit			I-P,4			Unique or shared responsibility of the OU on the performance that the indicator measures
1 if affirmative	A <sub>2,2</sub>	A <sub>3,4</sub>	A <sub>5,1</sub>	A <sub>5,2</sub>	A <sub>5,4</sub>	9 if in all of the previous boxes there is a 1 (unique resp.)
0 if negative						7 if in the previous boxes there is both a 1 and a 0 (shared resp.)
						0 if in all of the previous boxes there is a 0 (no resp.)
OU-1 Moulding dept.	0	1	1	1	0	7
OU 2 Heat treatment dept.	0	1	1	1	0	7
OU 3 Rollers and sleeves production dept.	0	1	1	1	0	7
OU 4 Rollers and chains assembly and coating dept.	0	1	1	1	0	7
OU 5 Wheels production, assembly and coating dept.	0	1	1	1	0	7
OU 6 Receiving/shipping- packing dept.	0	0	0	0	0	0
OU 7- Maintenance and tools dept.	0	1	1	1	0	7
OU 8 Offices	1	0	0	0	1	7

 Table 7. Matrix OU-indicators.

The assigned values are those that the last column of each matrix OU- indicators contains.	I- P,1	I- P,2	I- P,3	I- P,4
OU 1 Moulding dept.	9	7	7	7
OU 2 Heat treatment dept.	9	7	7	7
OU 3 Rollers and sleeves production dept.	9	7	7	7
OU 4 Rollers and chains assembly and coating dept.	9	7	7	7
OU 5 Wheels production, assembly and coating dept.	9	7	7	7
OU 6 Receiving/shipping-packing dept.	0	7	7	0
OU 7 Maintenance and tools dept.	0	7	7	7
OU 8 Offices	0	7	7	7

### 3.3.5. Step 5. Definition of the reward

The data collected allowed for the identification of the indicators for each organisational unit, each with its own weight. The rows in table 8 show the organisational units that scored at least one column with a non-zero score in the "matrix organisational units- productivity indicators". In the columns there are all the selected indicators, including the financial indicator, each with its weight (see Bi – phase 3).

For each unit, the conditions for the reward were determined by calculating the coefficients multiplying each indicator (denoted by Di, j), in compliance with corporate objectives properly weighted, (weight Bi obtained in the second step, phase III) and the contribution to the achievement of the organisational units. The last column of Table 8 shows the significant parameters for each unit, each with its own weight, indicative of the responsibilities with respect to the performance measured.

	PRODUCTIVITY INDICATORS			Y	PROFIT INDICATOR	
	I-P,1	I-P,2	I-P,3	I- P,4	I-E	DEFINITION OF THE REWARD CONDITIONS
WEIGHTING B <sub>i</sub>	21.9	44.5	21.9	6.1	5.6	
OU-1	9	7	7	7		REWARD= 26.4 % (I-P,1) +41.7% (I-P,2) + 20.5% (I- P,3)+5.7% (I-P,4)+5.6% (I-E)
OU 2	9	7	7	7		REWARD= 26.4 % (I-P,1) +41.7% (I-P,2) + 20.5% (I- P,3)+5.7% (I-P,4)+5.6% (I-E)
OU 3	9	7	7	7		REWARD= 26.4 % (I-P,1) +41.7% (I-P,2) + 20.5% (I- P,3)+5.7% (I-P,4)+5.6% (I-E)
OU 4	9	7	7	7		REWARD= 26.4 % (I-P,1) +41.7% (I-P,2) + 20.5% (I- P,3)+5.7% (I-P,4)+5.6% (I-E)
OU 5	9	7	7	7		REWARD= 26.4 % (I-P,1) +41.7% (I-P,2) + 20.5% (I- P,3)+5.7% (I-P,4)+5.6% (I-E)
OU 6	0	7	7	0		REWARD= 0 % (I-P,1) +63.3% (I-P,2) + 31.1% (I-P,3)+0%(I- P,4)+5.6% (I-E)
OU 7	0	7	7	7		REWARD= 0 % (I-P,1) +57.9% (I-P,2) + 28.5% (I-P,3)+7.9%(I- P,4)+5.6% (I-E)
OU 8	0	7	7	7		REWARD= 0 % (I-P,1) +57.9% (I-P,2) + 28.5% (I-P,3)+7.9%(I- P,4)+5.6% (I-E)

**Table 8.** Reward for each organisational unit.

### 4. FINDINGS AND CONCLUSIONS

The action research identified an innovative methodology to support the definition of a PRP system able to answer the need for transparency and fairness and to encourage workers to achieve the overall company's objectives (Figure 2).

In carrying out the empirical study, we found that the first difficulty to adopt a strategy-based approach in designing a PRP system was the lack of formalized strategy and the unwillingness to formalize it using critical success factors (Garengo and Biazzo, 2012). However, in order to design a PRP system, the starting point could not feature the abstract and often generic formulation of a strategic vision. In the proposed methodology, the design process moved from the actual strategic objectives supporting the company's competitiveness to expressing them in terms of CSFs belong to the customer perspective. Then the external CSFs were related to the internal CSFs and operational effectiveness, to finally support the identification of the indicators necessary to drive the organizational unit at an operational level.

The proposed methodology is connected with a group of simple tools supporting the analysis of CSFs, processes and activities necessary to design the PRP system and represents a valuable operational support for those who wish to implement a PRP system consistent with their strategic objectives.



Figure 2. Performance-related pay systems design: methodology and tools.

As shown in Figure 2, unveiling business strategy, processes and activities carried out by each organisational unit were the starting points to design a PRP system. The CSFs were made explicit based on the customer perspective, the internal processes perspective and, finally, the human resources perspective. The model moves down the hierarchical line and considers the priorities

and relations of cause and effect between CSFs. At the end of the process, it is possible to identify a PRP system aligned with the business strategy.

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