Topic: Human resources of enterprise

- 1. Labor market, definition of human resources
  2. The planning of human resources
  3. Productivity and motivation of labor
  4. Wages as payment of labor on enterprise
-

Types of unemployment

Natural

Frictional
Voluntary
Institutional

Forced

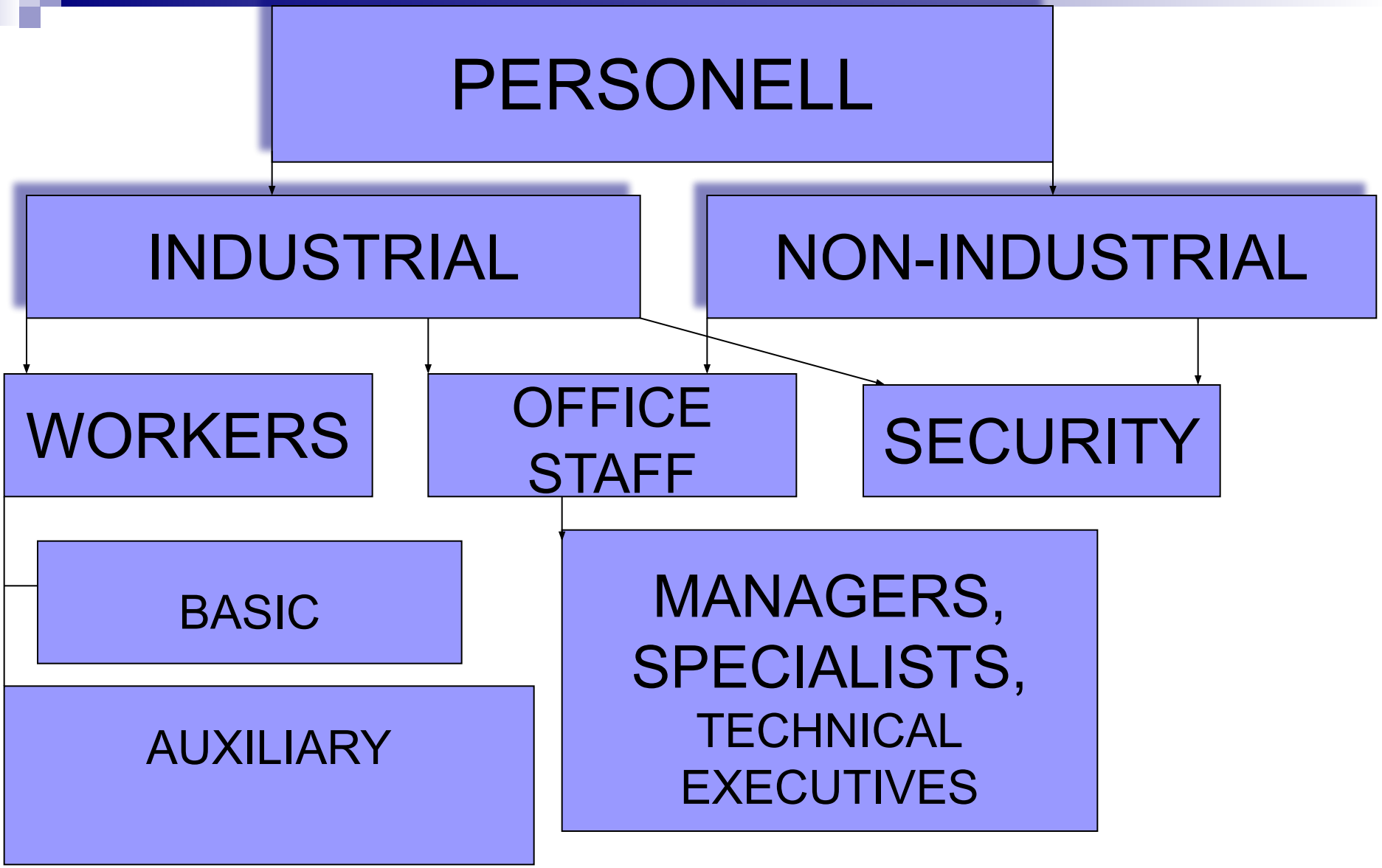
Structural
Technological
Regional
Hidden

Human resources – it is capable of working part of population, which by its physical and intellectual capabilities can perform working activity

Personnel (staff) of enterprise – it is set of constant workers which have received necessary professional training and have practical experience

Categories of the staff of the enterprise:

Managers; Specialists;
Office staff; Workers


PERSONELL
INDUSTRIAL
NON-INDUSTRIAL
WORKERS
OFFICE STAFF
SECURITY
BASIC
AUXILIARY
MANAGERS, SPECIALISTS, TECHNICAL EXECUTIVES

Classification of personnel

A p c c o r d i n g t o t h e … n c ti

f a r t i c i p a t l n g … h e

industrial
Non-industrial

Workers, office staff,
managers, specialists,

3. According to the professions and specialization

Trade - the kind of activity demanding certain knowledge and labor skills which are got by the general or the professional education and practical experience

Speciality - a kind of activity within the limits of particular trade which has specific features and demands from workers of additional special knowledge and skills.

Qualification defines level of knowledge and labor skills of the worker on a speciality which is displayed in qualifying (tariff) categories and categories.

According to qualifi

Workers:

Highly qualified

Qualified

Low qualified

Non qualified

Office workers:

The highest category

Upper intermediate

Intermediate

Practical

According to gender

Man
(up to 30 years; from 30 to 60; more than 60)
Woman
(up to 30 years; from 30 to 60; more than 60)

According to years of work

Up to 1 year
1-3 years
3-10 years
More than 10 years

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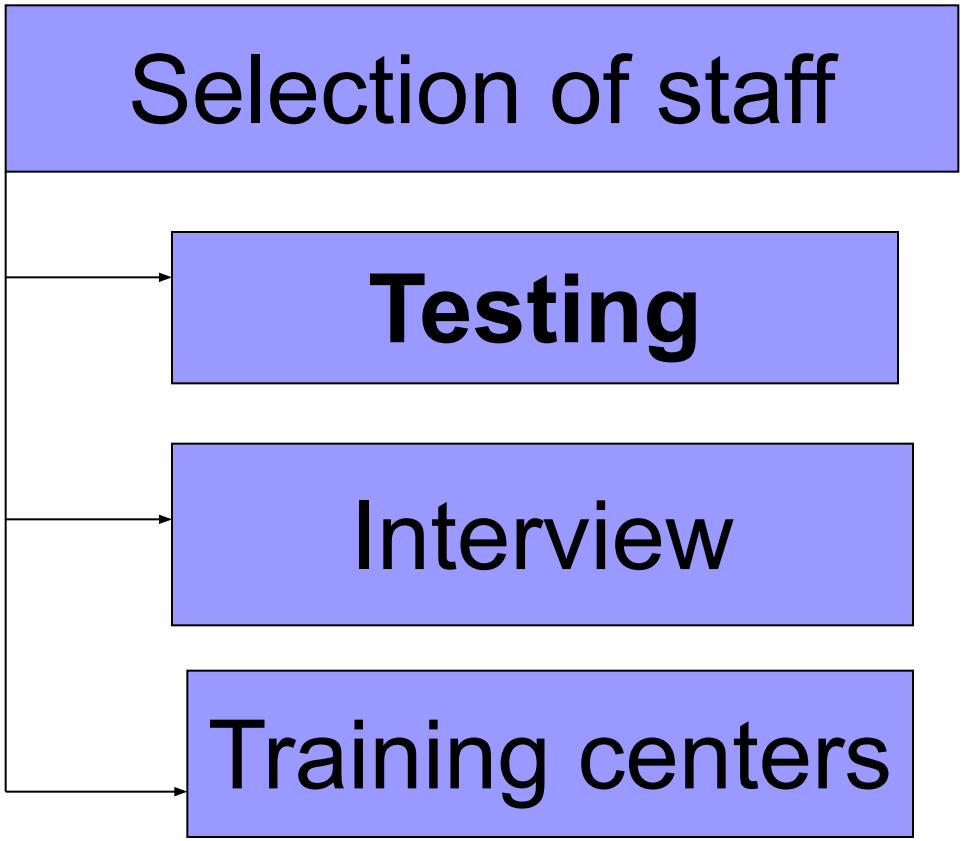
Planning of human resources				
1. Evaluation of current human resources	⇨	2. Evaluation of future need for human resources	⇨	3. Development of the program of the growth of human resources


Selection of staff
Testing
Interview
Training centers

Measures on selecting of human resources:

1. To find out, what categories of labor force must be picked up
2. Making a decision about forming necessary personnel
3. Selection of personnel

Functions of employment

1. Informational
2. Motivational
3. First-stage selection

Methods of employment

Passive

Active
Non-direct forms
Direct forms

Indexes of description of personnel

1. By number:

- registration; on call;
average quantity

2. By Quality:

economic; personality;
organizationally technical

3. Structural

Fund of human resources

$$Fhr = Qav \times Twp$$

Qav – average number of employees
Twp – average duration of working period

Indexes of presence of labour force and its motion

- **Coefficient of necessary turn**

$$K_{nt.} = \frac{F_{nt}}{F} \times 100\%$$

Fnt – fired on production reasons
F- all fired personnel

Coefficient of surplus turn, or **coefficient of personnel fluidity**

$$K_f = \frac{Q_f}{Q} \times 100\%$$

Coefficient of personnel leaving

$$K_{p.l} = \frac{W_f}{W} \times 100\%$$

Coefficient of personnel employed

$$K_e = \frac{W_e}{W} \times 100\%$$

Level of usage of working day

$$K_{us} = \frac{T_f}{Tn},$$

*T*f– average actual duration of working day in hours;
Tn – normative duration of working day in hours

Calculation of the necessary quantity of workers

$$Q_{planned} = \frac{t}{T_{wp} \times K_{cn}}$$

t – time of production
Twp – normative time for work performance
Kcn – coefficient for completing the planned parameters

Norms of work:

- 1.Norm of time

Nt = Tos +Tdop+Tob+Tv

- 2. A norm of production:

Np = Td/Nt

- 3. Norm of service

Nob = Td/Tob

3 Methods of measurement

direct

reverse

productivity of work (B) =

$$\frac{\text{Volume of products}}{\text{Quantity of workers}}$$

Labor intensiveness (Tp)=

$$\frac{\text{Quantity of workers}}{\text{Volume of products}}$$

$$B = \frac{Q}{Ч_{сп}}; T_p = \frac{t}{Q},$$

Methods of measurement of ... productivity

- Natural method
- Cost method
- Work method

individual index of the productivity

$$I_w = \frac{Q_1}{T_1} \div \frac{Q_0}{T_0},$$

Index of the productivity of seasonal staff

$$I_{nep} = \frac{\sum Q_1}{\sum T_1} \div \frac{\sum Q_0}{\sum T_0}.$$

human resources under influence of technical and

1 Increase of technical level of production

$$E_{техн.р} = \frac{(t_1 - t_2) \bullet N_{пл}}{\Phi_д \bullet K_{вн}} \bullet K_ч$$

t_1 t_2 – Labour intensiveness of one unit production before and after implementing of technical improvements

Nпл – planned volume of production

Кч – coefficient of time, that is calculated by division of quantity of month of work on 12

2

Structural changes in production

$$E_{стр.зр} = \frac{(T_б - T_{пл}) \bullet Q_{пл}}{Ф_д \bullet K_{вн}}$$

Тб Тпл - labor intensiveness in finished product

3

Improvement of management in the organization of production and work

$$E_{усов.упр} = \sum ЧС_б - \sum ЧС_{нор}$$

ΣЧС - total quantity of managers, specialists, office workers

Improvement of work time usage

$$E_{роб.ч} = \frac{Д_{пл} - Д_{б}}{Д_{б}} \bullet Ч'_{ПВП} \bullet П_{роб}$$

Д – average number of days worked by 1 employee

$\mathbf{Ч_{ПВП}}$ – number of industrial personnel, corrected on the influence of structure changes factors

$\mathbf{П_{роб}}$ – percent of employee in basic number of industrial personnel

Change of production volume

Relative decrease of workers number altogether with increase of production volume

$$Еоб.пр = Чб.ус - пост(\Delta Q - \Delta Чус - пост)/100$$

Чб.ум-пост – basic number of conditionally-constant industrial personnel

ΔQ – gain of production volumes, %

ΔЧум-пост – gain of number of conditionally-constant industrial personnel, %

Branch factors

Relative economy of labor on this group of factors

$$Eomp.ф = \frac{(t_б - t_{пл})}{Ф_{пл}} \bullet N_{пл}$$

$t_б$, $t_{пл}$ – labor input of unit of production in basic and planned production conditions, norm hours;

Nпл – planned volume of production, natural items

Фпл – planned fund of working time of one employee, hours

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Average number of personnel

Calculated as:

$$\bar{P} = \frac{\frac{1}{2}P_1 + P_2 + \ldots + P_{11} + \frac{1}{2}P_{12}}{12}$$

$P_{1..12}$ – month number of employees

Gain of work productivity

$$\Delta Пп.пл = \frac{Еобщ}{Чвих - Еобщ} \bullet 100$$

$$Чвих = \frac{Чбаз \bullet Ко}{100}$$

Чвих – number of industrial personnel in planned period, persons

Ко – rate of growth of production volumes in planned period, %

Еобщ – total economy on number of personnel

Change of labor productivity as result of change in the labour intensiveness of production program

$$\Delta Пп = \frac{\Delta Tпрог}{100 - \Delta Tпрог} 100$$

$$\Delta Tпрогр = \frac{Eроб.час}{Tпрог.б} 100$$

ΔПп – possible increase or decrease of labor productivity in basic period, %

ΔТпргр – percent of increase or decrease of labor intensiveness of production program in basic period

Ероб.час – economy on working time expenditures on execution of production program in basic period, norm hours.

Тпрогр.б – labour intensiveness of production program in basic period, norm hours.

Production gain on increase of work productivity

$$\Delta Qnn = 100 - \frac{\Delta Ч}{\Delta Q} \bullet 100$$

ΔЧ – gain of personnel number, %
ΔQ – gain of production volume, %

Wages are a size of the monetary compensation paid to the hired worker for performance of the certain task, amount of works or execution of the official duties during appointed time

Nominal

Types of wages

Real

$$I_{рзп} = I_{нзп}/I_{ц}$$

Iрзп – index of real wage
Iнзп – index of nominal wage
Iц – price index

Functions of wage

Restoration
Stimulation
Regulation
Social

FORM OF WAGES

HOURLY PAYMENT

PRICE-WORK PAYMENT

HOURLY WAGE

Simple time wage

$$Зп.п = Фм * С$$

Фм – quantity of fulfilled time

С – tariff rate of the worker , hrn

Time and premium wage

$$Зп.прем = Зпп + Р$$

Р - premium

Per item payment

-direct

$$Зд = \sum_{i=1}^{n} Pi * N$$

$$Pi = Тшт * C$$

$$Pi = \frac{Сч}{Нв}$$

Pi – price-work price for production of one item
N – quantity of actually produced items by one employee
Тшт – time of production of one item
C – cost of time according to tariff
Нв – norm of production

Time and premium per item payment

$$3tp = 3tar + P$$

3tar – payment by tariff of employee within direct
price-work system

Progressive system:

payment for work is within the norm paid for the basic price-work quotations, and its excess - on raised.

$$Зс.прог = Nвих * P_д + (Nф - Nвих) * Рпов$$

Nвих – **number of produced items within set norm of production**

$P_д$ - basic tariff

Nф - number of actually produced items

Рпов – raised tariff for excess volume of production

Indirect per item payment:

is applied as payment for the auxiliary workers serving the basic workers. Size of wage of this workers depends on rate and productivity of the basic workers.

Зпод = (Nфi * Pci)/ n

$$Pci = \frac{C_{см}}{n * Nппл}$$

Pci – indirect price-work payment
n – number of workers in basic production, served by auxiliary worker
Nпп – volume of production, produced by basic workers
Ссм – shift tariff of auxiliary worker

Earning of the auxiliary worker is calculated:

$$З_{всп} = Т_{ф} * С * К_{вн}$$

Тф – actually worked time by auxiliary worker
С – hourly tariff rate of the auxiliary worker
Квн – average coefficient of norm fulfilling on area, which is served by auxiliary worker