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SLOVAK REPUBLIC

Technical report: Business Information in the Slovak Republic*

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1. Introduction

Information rendering for companies, universities and research institutions in Slovakia (up to 31.12.1992 in the whole Czechoslovakia) can be divided into 3 relatively independent stages, which fully reflect political and economical status.

First stage - using of information services or is due to the purpose of our consideration restricted to years 1981 - 1989. The second stage covers years 1990 - 1992. In these years Czechoslovakia has undergone big social and economical changes which influence the usage of information services. The third stage begins in 1.1. 1993 by the split of Czechoslovakia into two independent states. This caused the division of common built information services, telecommunication infrastructure as well as the information funds either domestic or bought from abroad.

In 1981 - 1989 was the level of information services and the demand for information determined by the level of national economy in Czechoslovakia and socio-political system. Comparing with the other surrounding countries the economical situation was relatively consolidated and stable. This was result of existence of developed industry with fixed international relations. On other hand the system did not allow the existence of any private sector. It was different as in Poland, Hungary or East Germany. In Czechoslovakia all companies were either state owned or co-operatives. The companies were integrated into big organisational entities or associations. Information services were managed by state and promoted by state organisations, so that they corresponded to existing structure of companies, research institutions, management and science institutions.

Until 1989 there were three hierarchically built information systems:

- The information system for planning and national budget,
- The socio-economical information system,
- The information system for research and technology.

The information system for planning and national budget was designed for central planning and state direction. By the transition of Czechoslovakia into market economy the system lost the meaning and it dissolved.

The socio-economical information system was designed mainly for the control of plan fulfilment. Nowadays it is replaced by the system of statistic information.

The information system for research and technology as well as the socio-economical information system were the main source of economic information. Rendering information from both systems was for public restricted, the most of information had secret character.

The Information System for Research and Technology was mainly designed to support development of science and research. One part of it was collaboration on building of information funds was information rendering for scientists within COMECON.

Institutional basis for the information system for research and technology information centres was designed in the following hierarchy:

- basic information centres.
- branch information centres.
- professional information centres.

Beside this structure there existed specialized information centres. The most dominant of them was Centre for scientific, technical and economical information in Prague (UVTEI). It had a function of Czechoslovak database centre. At the beginning of 90' another such centre - Slovak database centre in the Institute for Applied Cybernetics (ÚAK) was founded in Slovakia in Bratislava. Information backup of Slovak scientists and state companies was promoted by four information sources:

- purchases of databases from abroad. The purchase was promoted in the form of magnetic tape service and passive license for information usage. By the end of 1989 these databases were used under these conditions:
 - Chemical Abstracts Search
 - Chemical Industry Notes
 - COMPENDEX
 - Excerpta Medica
 - Food Science and Technology Abstract
 - INCPEC
 - Textile Information Treatment User's Service
 - POLTOX, ENVIRO/ENERGYLINE ABSTRACT PLUS
- own production. By the own production these databases were created:
 - Bibliografia Medica Cechoslovaca
 - Automatic System of Geological Information
 - Transport Information System
 - ALIMIS (Provision database)
 - Central Register of Research Reports and Promoted Thesis
 - Automatic System of Catalogue of Periodicals
 - Central Register of Official Foreign Journeys
 - Metal (the elaboration of metal)
 - Energetic Information System
 - Agroindex
 - Automatic Documentographic Information System of Communications
 - Automatic Information System of Glass
 - Automatic Information System of Engineering Information
 - Automatic Information System of Leather Elaborating Industry
 - Automatic Information System for Informatics
 - Database for Welding
- from international collaboration and Czechoslovak participation in international organisations. This way Czechoslovakia received the databases PASCAL-GEODE, Database of World Row Material Deposit, ICONDA (public works) and AGRIS

Within collaboration with COMECON 16 databases in Russian language were accessible.

- exploitation of services in commercial database centres The exploitation of commercial database centres was very difficult. Until 1990 so called „telecommunication act“ was applied in Czechoslovakia. It disabled physical person and legal person to direct access into international exchange of information. Under the strict security conditions two centres were founded and these were Centre for Scientific, Technical and economic Information (UVTEI) in Prague and Centre for Applied Cybernetics (UAK) in Bratislava. They were obligated to ensure recherche services from foreign database centres for the whole Czechoslovakia. That time Czechoslovak currency was not convertible and so there was currency bill reserved for every governmental department and distributed by Slovak Commission for Scientific, Technical and Investment Development. Professional Information Centres respectively other institutional entities of the Information System for research and Technology gathered requests for recherches and sent them to UVTEI or UAK. In UAK mainly requests from Slovak institutions were elaborated. Annually UAK made recherches for approximately 1 million Kcs (Czechoslovak crown). A characteristic feature of information inquiry between the scientists was orientation on technical sciences.

Between 1990 and 1992 The Information System for research and Technology disintegrated and Socio-economical Information System was promptly transformed into System of Statistic Information according to the west European models.

Many important documents respecting citizens' rights on truthful information were accepted. By abolition of „telecommunication act“ and establishing inner convertibility of Czechoslovak currency access to foreign databases was liberated. The transformation of economy into market economy had mainly in Slovakia negative consequences for some companies, research institutions and information centres. The biggest regression befall on Basic Information Centres that in fact stopped to exist. The inquiry for information rapidly decreased. Prosperous companies started to build their own information centres. The orientation of the inquiry changed from technical science information to economic information. This was the time when a very new problem, unknown from the times of iron curtain was identified. The less economic information were those about Slovakia. There missed company information, information about products and services. That time a Slovak Chamber of Commerce was founded and private sphere started to build different company indexes. An important document called Programme for Informatization of the Slovak Republic was passed by the Parliament. This programme fixed the direction of informatization in Slovakia and set the sphere of state intervention into the informatization process. A typical feature of this period is a total change of technical basis for data processing in the whole state. Beside many positives linked with the change of technical basis and introducing progressive information technologies there were many problems in the state administration connected with bad-coordination and un-conception. It resulted in the need for a legislation document for building of a state information system.

The disintegration of Czechoslovakia and the rise of the Slovak Republic was linked with the division of the federal property within databases. From the foreign databases purchased by

Czechoslovak state none was transported to Slovakia. It was due to a fact that Slovakia was not able to pay license fees. Databases from the common production as well as databases gained from the international collaboration were all transported.

Since 1993 starts an eminent increase of inquiry for economic information. The biggest increase is in information about foreign trade. In 1995 National Centre for Informatics made recherches for 300.000 Sk (Slovak crown) excluding recherches for state administration. Exploitation of foreign database centres is still very low. The legislation accepted Standards for National Information System, a new „Act on Personal Data Security“ and „Act on National Information System“ were elaborated. Statistical Office of the Slovak Republic that is responsible for informatisation of the Slovak society has established The Council for Informatics. It co-ordinates the developement of the National Information system.

2. The Description of the Economic Situation of the Slovak Republic

The transformation of the Slovak economy has began in 1990 within former Czechoslovakia. The transmission of the central directed economy to the market economy was connected with the rise of a private sector.

By the end of December 1994 the Slovak Republic registered 36187 profit organisations which was 65.1 % from the whole amount of registered organisations. The structure of the legal subjects is described in this schedule:

The legal person in the Slovak Republic

	amount	%
Together		
in it	342 567	100,0
Legal person	5 565	16,2
in it		
Profit organisations	36 187	65,1
in it		
Trading companies 1)	28 333	78,3
from it		
Corporations	2 117	7,5
LTD's	25 024	88,3
Co-operatives	1 988	5,5
State-owned companies	1 082	3,0
Town-owned companies	192	0,5
Sole proprietors 2)	633	1,7
other form of entrepreneurship 3)	3 959	10,9
Non-profit	9 378	34,9
in it		
Companies dependent on national budget	1 985	3,6
Companies partially supported by national budget	2 255	4,1
other non-profit organisations 4)	15 138	27,2
Natural person		
in it		
Proprietors	263 733	91,9
Free lance	2 480	0,9
Private farmers	20 789	7,2

- 1) organisations focused to make profit, registered according to the commercial code
- 2) proprietors, free lance occupations and private farmers that become legal person by registration in commercial code
- 3) by 1.1.1994 precise methodology of distinguishing legal forms of organisations
- 4) associations, societies, clubs, political parties, religions organisations , agrarian societies, inner-organisational entities

From the whole amount of the profit organisations 34546(95,5%) were companies from private sector and co-operatives with the entire or prevailing share of state or town property. The

public sector was created by 1 641 state companies and trading companies with prevailing share of state or town companies. The state of private sector increased in the point of 0.2 and the store of public sector decreased in the point of 0.2 comparing to the third quarter of the year.

By the end of 1994 there were 2.926 foreign companies registered (increased in number of 301 comparing with third quarter of the year) and 4.595 joint ventures (increase in number of 333 comparing with third quarter).

The structure of profit organisations

Chosen forms of ownership	to 31.12.1994		to 30.9.1994		difference	
	amount	%	amount	%	amount	points
Profit organisations together in it sector	36 187	100,0	33 905	100,0	2 282	-
public	1 641	4,5	1 578	4,7	63	-0,2
private	34 546	95,5	32 327	95,3	2 219	0,2
from it ownership						
foreign	2 926	8,1	2 625	7,7	301	0,4
international	4 595	12,7	4 262	12,6	333	0,1

In the whole amount of profit organisations participated in 86,5% small companies (to 24 employees), 12,4% middle (from 25 to 499 employees) and 1,1% big companies (over 500 employees).

Public sector consisted of 38,6% small, 49,0% middle and 12,4% big companies. Private sector consisted of 88,8% small, 10,7% middle and 0,5% big companies.

According to the development of profit organisations in the Slovak Republic there were 38 449 profit organisations in evidence, 36 187 were registered and 2 262 were dissolved. The highest decrease in new established profit organisation number was in the year 1991, when 9 738 (25,3%) companies were closed. The highest decrease in dissolved profit organisation number was in the year 1992 when 1 232 companies were dissolved.

From the registered profit organisations 35,7% was based until 1991 (1991 including) it means 64,3% companies is younger than 3 years. From the legal person the highest movements in the amount at proprietors was in the year 1991. This year 170 778 (42,8%) proprietorships were established and 54 310 (13,6%) were dissolved. The highest increase in free lance occupation number was in the year 1994. This year 1 137 people started their free lance businesses. In the year 1993 9 of them (0,14%) stopped the business. The highest movements in the private farmers number was in the year 1992. This year 11 532 (93,9%) based and 3 256 (12,4%) dissolved their business.

By the end of December 1994 there were 263 733 registered proprietors, 20 789 private farmers and 2 480 free lance businesses registered in Slovakia.

Structure of proprietors according to the chosen activities

Branch of economic activity	31.12.1994	
	amount	%
Together	263 733	100,0
in it		
Trade and maintenance	85 452	32,4
Processing industry	48 340	18,3
Engineering	44 584	16,9
other trade services	32 383	12,3
Refreshment and hotel services	14 301	5,4
Transport	12 425	4,7
Other public services	10 267	3,9
Services for companies, renting	7 724	3,0
other branches	8 257	3,1

In agriculture there were 20 789 registered private farmers. From the beginning of the year the amount of them increased in number of 3 157 (17,9%) and of as 14 (4,6%) comparing to the third quarter of the year.

Organisations in the Slovak Republic according to the chosen form of ownership

Branch according to the economic activity	Together	in it sector			
	amount	public		private	
	to 31.12.1994	amount	%	amount	%
Profit organisations together	36 187	1 641	4,5	34 546	95,5
from it:					
Agriculture (including forest and fish trade)	1 694	209	12,3	1 485	87,7
Production of raw materials	69	24	34,8	45	65,2
Processing industry	6 183	509	8,2	5 674	91,8
Production and distribution of gas and water	62	21	33,9	41	66,1
Engineering	3 082	195	6,3	2 887	93,7
Trade and maintenance	16 320	166	1,0	16 154	99,0
Refreshment and other services	956	67	7,0	889	93,0
Transport and communications	1 414	85	6,0	1 329	94,0
Banking and insurance	515	23	4,5	492	95,5
Real-estate, services for companies, research	1 770	177	10,0	1 593	90,0
other trade services	3 276	85	2,6	3 191	97,4
public administration, defence, social insurance	8	1	12,5	7	87,5
schools	103	2	1,9	101	98,1
health, vet and social activities	34	11	32,4	23	67,6
other public, social and personal services	701	66	9,4	635	90,6

Branch according to the economic activity	From the organisation ownership				Natural pers.
	foreign		international		amount
	amount	%	amount	%	to 31.12.1994
Profit organisations together from it:	2 926	8,1	4 595	12,7	287 002
Agriculture (including forest and fish trade)	14	0,8	23	1,4	24 206
Production of raw materials	2	2,9	8	11,6	151
Processing industry	232	3,8	674	10,9	48 431
Production and distribution of gas and water	0	0,0	3	4,8	1 390
Engineering	69	2,2	217	7,0	44 584
Trade and maintenance	1 897	11,6	2 814	17,2	85 711
Refreshment and other services	35	3,7	82	8,6	14 301
Transport and communications	66	4,7	116	8,2	12 583
Banking and insurance	47	9,1	46	8,9	340
Real-estate, services for companies, research	100	5,6	167	9,4	7 726
other trade services	397	12,1	375	11,4	33 119
public administration, defence, social insurance	0	0,0	0	0,0	624
schools	14	13,6	8	7,8	2 221
health, vet and social activities	0	0,0	2	5,9	1 318
other public, social and personal services	53	7,6	60	8,6	10 276

Organisations in the Slovak Republic according to the economic activity and the large of the structure

Branch of the economic activity	Together		in it will the amount of employee			
	amount		until 10		from 11 to 24	
	to 31.12.1994	%	amount	%	amount	%
Profit organisations together	36 187	100,0	28 437	78,6	2 862	7,9
from it:						
Agriculture (including forest and fish trade)	1 694	100,0	405	23,9	92	5,4
Production of raw mater.	69	100,0	24	34,8	10	14,5
Processing industry	6 183	100,0	3 798	61,4	800	12,9
Production and distribution of gas and water	62	100,0	29	46,8	4	6,5
Engineering	3 082	100,0	1 950	63,3	504	16,4
Trade and maintenance	16 320	100,0	14 956	91,6	763	4,7
Refreshment and other services	956	100,0	689	72,1	145	15,2
Transport and communications	1 414	100,0	1 184	83,7	95	6,7
Banking and insurance	515	100,0	452	87,8	29	5,6
Real-estate, services for companies, research	1 770	100,0	1 382	78,1	158	8,9
other trade services	3 276	100,0	2 903	88,6	188	5,7
public administration, defence, social insurance	8	100,0	6	75,0	1	12,5
schools	103	100,0	81	78,6	14	13,6
health, vet and social activities	34	100,0	21	61,8	2	5,9
other public, social and personal services	701	100,0	557	79,5	57	8,1

Branch of the economic activity	from 25 to 99		from 100 to 499		more than 500	
	amount	%	amount	%	amount	%
Profit organisations together	2 623	7,2	1 885	5,2	380	1,1
from it:						
Agriculture (including forest and fish trade)	522	30,8	638	37,7	37	2,2
Production of raw materials	10	14,5	15	21,7	10	14,5
Processing industry	729	11,8	644	10,4	212	3,4
Production and distribution of gas and water	9	14,5	4	6,5	16	25,8
Engineering	379	12,3	218	7,1	31	1,0
Trade and maintenance	428	2,6	136	0,8	37	0,2
Refreshment and other services	93	9,7	25	2,6	4	0,4
Transport and communications	78	5,5	43	3,0	14	1,0
Banking and insurance	21	4,1	7	1,4	6	1,2
Real-estate, services for companies, research	151	8,5	74	4,2	5	0,3
other trade services	128	3,9	54	1,6	3	0,1
public administration, defence, social insurance	0	0,0	1	12,5	0	0,0
schools	8	7,8	0	0,0	0	0,0
health, vet and social activities	1	2,9	5	14,7	5	14,7
other public, social and personal services	66	9,4	21	3,0	0	0,0

Organisations in the Slovak Republic according to chosen sort of ownership and large of the structure

Chosen sort of ownership	Together		in it will the amount of employee			
	amount		to 10		from 11 to 24	
	to 31.12. 1994	%	amount	%	amount	%
Profit organisations together	36 187	100,0	28 437	78,6	2 862	7,9
in it sector:						
public	1 694	100,0	414	25,2	220	13,4
private	34 546	100,0	28 023	81,1	2 642	7,6
from it ownership:						
foreign	2 926	100,0	2 641	90,3	136	4,6
international	4 595	100,0	4 046	88,1	275	6,0

Chosen sort of ownership	from 25 to 99		from 100 to 499		more than 500	
	amount	%	amount	%	amount	%
Profit organisations together	2 623	7,2	1 885	5,2	380	1,1
in it sector:						
public	329	20,0	475	28,9	203	12,4
private	2 294	6,6	1 410	4,1	177	0,5
from it ownership:						
foreign	102	3,5	40	1,4	7	0,2
international	185	4,0	68	1,5	21	0,5

Profit organisations in the Slovak Republic according to economic activities and year of establishing

Branch according to economic activity	Together		Structure according to the years establishing in %				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Profit organisations together	36 187	100,0	11,8	23,9	22,6	24,0	17,6
from it:							
Agriculture (including forest and fish trade)	1 694	100,0	41,1	23,0	8,6	15,4	11,9
Production of raw materials	69	100,0	20,3	24,6	23,2	23,2	8,7
Processing industry	6 183	100,0	13,6	20,4	25,9	22,4	17,7
Production and distribution of gas and water	62	100,0	27,4	12,9	22,6	19,4	17,7
Engineering	3 082	100,0	15,2	21,1	26,7	21,8	15,2
Trade and maintenance	16 320	100,0	6,5	23,9	23,1	27,5	19,1
Refreshment and other services	956	100,0	14,1	24,1	23,0	23,5	15,3
Transport and communications	1 414	100,0	13,9	33,3	21,5	15,6	15,6
Banking and insurance	515	100,0	2,1	29,0	20,2	14,6	35,1
Real-estate, services for companies, research	1 770	100,0	15,7	21,0	23,6	22,3	17,4
other trade services	3 276	100,0	13,2	29,4	18,8	22,7	15,8
public administration, defence, social insurance	8	100,0	12,5	25,0	25,0	37,5	0,0
schools	103	100,0	7,8	23,3	23,3	30,1	15,5
health, vet and social activities	34	100,0	32,4	17,6	14,7	20,6	14,7
other public, social and personal services	701	100,0	12,7	32,1	18,3	22,7	14,3

Profit organisations in the Slovak Republic according to economic activities and years of dissolution

Branch according to economic activity	Together		Structure according to the year of dissolution in %				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Profit organisations together	2 262	100,0	0,8	8,1	4,5	29,2	7,4
from it:							
Agriculture (including forest and fish trade)	107	100,0	0,0	3,7	44,9	35,5	15,9
Production of raw materials	6	100,0	0,0	0,0	100,0	0,0	0,0
Processing industry	373	100,0	0,5	4,8	60,6	23,9	10,2
Production and distribution of gas and water	5	100,0	0,0	0,0	40,0	40,0	20,0
Engineering	179	100,0	2,2	7,8	50,3	30,7	8,9
Trade and maintenance	830	100,0	0,0	6,0	57,6	31,0	5,4
Refreshment and other services	76	100,0	1,3	7,9	48,7	31,6	10,5
Transport and communications	126	100,0	0,8	4,8	51,6	34,9	7,9
Banking and insurance	25	100,0	0,0	8,0	28,0	60,0	4,0
Real-estate, services for companies, research	88	100,0	1,1	6,8	42,0	33,0	17,0
Public administration, defence, social insurance	378	100,0	1,6	19,6	52,9	23,0	2,9
Schools	7	100,0	0,0	14,3	42,9	28,6	14,3
Health, vet and social activities	3	100,0	0,0	0,0	66,7	33,3	0,0
Other public, social and personal services	58	100,0	5,2	5,2	53,4	27,6	8,6

Profit organisations in the Slovak Republic according to legal forms and years of establishing

Legal form	Together		Structure according to the year of establishing in %				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Profit organisations functional	36 187	100,0	11,8	23,9	22,6	24,0	17,6
in it:							
Trade companies	28 333	100,0	3,6	21,8	25,9	27,9	20,8
from it:							
Partnerships	2 117	100,0	11,3	22,7	35,2	11,8	19,0
LTD's	25 024	100,0	2,6	21,4	25,5	29,3	21,3
Co-operatives	1 988	100,0	58,5	23,7	4,7	9,6	3,4
State owned companies	1 082	100,0	60,6	24,5	3,4	3,3	8,1
Town owned companies	192	100,0	10,9	45,3	32,3	10,9	0,5
Organisational entities of foreign person	633	100,0	2,5	10,3	14,2	49,6	23,4
Sole proprietors	3 959	100,0	35,1	40,1	14,3	5,6	5,0

Profit organisations in the Slovak Republic according to legal form and year of dissolution

Legal form	Together		Structure according to the years of dissolution				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Profit organisations functional	2 262	100,0	0,8	8,1	54,5	29,2	7,4
in it:							
Trade companies	517	100,0	1,2	11,4	34,4	41,4	11,6
from it:							
Partnerships	88	100,0	0,0	10,2	35,2	45,5	9,1
LTD's	294	100,0	0,3	8,8	34,0	42,9	13,9
Co-operatives	123	100,0	6,5	5,7	32,5	48,8	6,5
State owned companies	306	100,0	1,0	8,5	61,1	16,0	13,4
Town owned companies	65	100,0	0,0	0,0	24,6	40,0	35,4
Organisational entities of foreign person	45	100,0	0,0	33,3	28,9	31,1	6,7
Sole proprietors	1 206	100,0	0,1	6,4	66,2	24,6	2,7

Natural persons in the Slovak Republic according to the economic activities and the year of establishment

Branch according to the economic activity	Together		Structure according to the year of establishment in %				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Natural person active	287 002	100,0	17,0	32,8	22,2	15,0	13,0
Agriculture (including forest and fish trade)	24 206	100,0	2,2	16,8	37,7	23,5	19,8
Production of raw materials	151	100,0	39,7	49,0	7,9	2,0	1,3
Processing industry	48 431	100,0	24,8	35,4	20,1	11,0	8,7
Production and distribution of gas and water	1 390	100,0	17,1	39,0	21,9	12,5	9,4
Engineering	44 584	100,0	27,1	36,9	17,7	10,7	7,7
Trade and maintenance	85 711	100,0	10,3	31,3	22,9	17,5	18,0
Refreshment and other services	14 301	100,0	15,4	33,9	20,4	19,1	11,2
Transport and communications	12 583	100,0	14,4	32,6	23,3	17,7	12,0
Banking and insurance	340	100,0	10,3	9,7	15,3	21,5	43,2
Real-estate, services for companies, research	7 726	100,0	24,5	29,8	20,7	15,0	10,0
other trade services	33 119	100,0	19,9	39,1	19,4	12,0	9,6
Public administration, defence, social insurance,	624	100,0	13,6	33,2	21,3	20,4	11,5
Schools	2 221	100,0	21,4	36,0	21,0	11,7	9,9
Health, vet and social activities	1 318	100,0	2,7	5,5	23,4	10,0	58,3
Other public, social and personal services	10 276	100,0	18,9	37,0	20,2	13,0	10,9

Natural person in the Slovak Republic according to the economic activities and the years of dissolution

Branch according to the economic activity	Together		Structure according to the year of dissolution in %				
	amount		till 1990	1991	1992	1993	1994
	to 31.12.94	%					
Natural person active	140 704	100,0	2,0	38,8	33,6	21,0	4,7
Agriculture (including forest and fish trade)	9 033	100,0	0,5	25,2	44,9	24,3	5,0
Production of raw materials	153	100,0	4,6	53,6	18,3	17,0	6,5
Processing industry	26 954	100,0	2,8	45,5	28,4	19,5	3,8
Production and distribution of gas and water	401	100,0	1,2	15,0	26,7	51,4	5,7
Engineering	31 533	100,0	3,1	42,4	29,4	21,3	3,7
Trade and maintenance	34 720	100,0	0,8	31,1	38,6	23,5	6,1
Refreshment and other services	5 606	100,0	3,5	38,2	30,4	22,4	5,4
Transport and communications	4 862	100,0	0,6	12,9	56,1	22,7	7,7
Banking and insurance	50	100,0	4,0	60,0	24,0	10,0	2,0
Real-estate, services for companies, research	3 476	100,0	3,6	47,8	26,4	17,9	4,4
Other trade services	16 845	100,0	1,6	47,6	31,7	15,6	3,5
Public administration, defence, social insurance	508	100,0	0,8	43,5	34,6	16,7	4,3
Schools	1 051	100,0	2,5	44,8	32,4	16,8	3,5
Health, vet and social activities	182	100,0	1,6	51,1	35,7	9,9	1,6
Other public, social and personal services	5 163	100,0	1,9	46,0	29,3	17,8	4,9

3. Distinction of users of economic information

Current structure of users of information services in Slovakia is strongly determined by the way of accessing information from the times of central planning economy.

Viewing the usage of information services we distinguish 3 categories of organisations. These are:

- a) In big, prosperous companies (Slovnaft, VSŽ Košice, the Shipyard in Komárno) which were institutional part of the Information System for Research and Technology, information centres has been established. They promote information services (including using of foreign databases) independently and offer information service for other companies with a related processing programme. For instance Slovnaft insures information services to companies from chemical industry, VSŽ (East Slovak Ironworks) information on metal processing. In this category is the market inquiry sufficient.
- b) in big or middle companies that have economic problems and were a part of the Information System for Research and Technology exists an inquiry for information service but are limited by finance. They can't get own information centres, they use the services of other institutions (for example: National Centre for Informatics). This category of companies have intellectual dispositions, that after the economical problems are overcome, they can create conditions similar to those listed in a. A typical representative of category are Závody ťažkého strojárstva.
- c) Small companies, entrepreneurs and even middle companies based after 1990 from the point of view of information service usage can be characterised by lack of knowledge about existence of information service. We don't suppose that they will establish their own information centres for public usage of information sources.

In Slovakia we miss the promotion of public information services. Because the important part of Slovak companies deal with trade, trading services, processing industry, engineering, it means in branches that require systematic information backup, they create a group of companies (described in c) which are possible users of information services.

Present research of characteristic of new users of information services shows that the strongest group are trading companies making business with foreign partners.

From the whole amount 500 recherches about the foreign trade of the Slovak Republic was the inquiry as follows:

private sector of the Slovak Republic	250 recherches
embassies, business representation of foreign countries	50 recherches
state owned companies in the Slovak Republic	20 recherches
international organisations	50 recherches
state administration	80 recherches

4. Description of the Main Providers of Economic Information Services.

The main providers of economic information services are state-owned organisations (either linked to state budget or receiving a support for some services) established by the state administration. In private sector several small companies are oriented on macroeconomical analysis, consulting activities and compiling of catalogues of Slovak companies were established. But they do not influence the market of information services very much.

The biggest producer of economic information is the Slovak Statistical Office of the Slovak Republic. The results of the statistic research are published in the Slovak Statistical Review. Another source of the statistic information is information service of the Slovak Statistical Office. This year the most demanded information by both Slovak and foreign organizations is statistic of foreign trade (export and import of products and materials). This sort of information services are offered on commercial basis.

Information services for companies offers also Slovak Chamber of Commerce that builds its information system with the help of PHARE programme.

Information about Slovak organisations are processed by a private company INFORM KATALOG Slovakia s.r.o. (Geologická 21, 821 06 Bratislava, Slovakia). The only company offering information services is TREXIMA. It gathers information about the price of labour.

Database dealing with legislation in the Slovak Republic is produced by company MEGATECH s.r.o. and JURIS s.r.o. and is distributed on diskettes.

The information collected and stored by the ministries is listed below:

1. Ministry of Finance:
taxes, customs fees, national budget-creation and expenses, voucher, privatisation
2. Ministry of Interior:
register of citizens' movements, register of entrepreneurs, register of students, register of trade, register of towns, register of vehicles
3. Ministry of Culture:
historical heritage, register of art, national bibliography libraries
4. Ministry of Economy
register of tourist trade, facilities, products, producers, technologies
5. Ministry of Health:
citizens health condition, system of health institutions, health statistic
6. Ministry of Education:
school and education statistic
7. Ministry of Employment and Family:
register of unemployed, social care rations, value of labour
8. Ministry of Traffic, Mail and Telecommunication:
traffic fees, travel fees, railway traffic, international networks, transport of dangerous goods, telecommunication lines

9. **Ministry of Justice:**
company index, register of punishments, system of legal information, legal system in European Union.
10. **Statistical Office of the Slovak Republic:**
statistic information system, trade and payment balance, register of economic subjects, public opinion research, election statistic
11. **Ministry of Environment:**
register of territorial planning documentation, monitoring of environment, register of defiler of environment, register of basic residence entities, raw materials deposits, weather information
12. **Institute for Normalisation, Metrology and Testing:**
norms, patents, certificatable product
13. **Ministry of Agriculture:**
soil, forests, emissions in provision

5. Telecommunication structure of the Slovak Republic

Telecommunication infrastructure in Slovakia (before in Czechoslovakia) when compared with surrounding countries (Hungary, Poland, Ukraine) was relatively well developed. The level of telecommunication infrastructure is represented by this data:

- the number of telephones per 100 persons 1,8
- the number of telephones per 100 flats in particular administrative regions:

Bratislava .	1,22	Prievidza	2,16
Dunajská Streda	1,72	Rimavská Sobota	2,60
Galanta .	2,29	Veľký Krtíš .	3,07
Komárno .	2,44	Žiar nad Hronom	2,32
Levice	2,18	Žilina	1,93
Nitra .	2,05	Bardejov .	2,15
Nové Zámky .	2,31	Humenné .	6,35
Senica	2,61	Košice	1,32
Topoľčany	2,06	Michalovce .	2,41
Trenčín .	1,71	Poprad	1,79
Tmava	1,86	Prešov	1,45
Banská Bystrica	1,94	Rožňava .	4,47
Čadca	2,76	Spišská Nová Ves	2,46
Dolný Kubín .	2,30	Stará Ľubovňa	1,94
Liptovský Mikuláš .	2,39	Svidník .	2,30
Lučenec .	1,84	Trebišov .	2,22
Martin	2,73	Vranov nad Topľou .	2,49
Považská Bystrica	2,30	Zvolen	2,16

Currently the process of digitalisation of telephone exchanges in the whole telephone network undergoes. The transfer channels on the basis of Fibre Optic are built. By the end of 1995 there will be 200 km of main communication channels built. They will cover the nearly the whole Slovakia, including the links to surrounding countries. The digital exchanges are built on SIEMENS and ALCATEL equipment.

Nowadays there are approximately 12,5% of users connected to digital telephone exchanges. By the modernization of telecommunication network it is supposed that by the year 2 000 there will be 35 telephones per 100 person and the whole territory of Slovakia will be covered by central mobile telephone system. There is even supposed that till 2 000 ISDN services will be introduced and the digitalisation of the whole telecommunication network will be finished till 2 005.

Simultaneously with the modernization and digitalization of the telephone network the condition for building of public and private data network (WAN) are created. By building of private network experiences gained in Institute for Applied Cybernetics, Bratislava are partially used. For a long time has this Institute dealt with research, building and service of a private computer network. Network of Institute for Applied Cybernetics was put to process in 1984 as the first computer network in the former COMECON countries.

Since 1992 Public Packet - Switched Data Network EUROTEL works. It covers the whole territory of Slovakia. The network uses transport channels of the existing telephone network and works under X.25 technology. The number of EUROTEL users is 5 200 of which 20% are small or middle companies. Beside Public Packet-Switched Data Network the number of private data network spread in the last time. It is guessed to be 100. They work under X.25, TCP/IP, SNA, DECNET, TRANSDATA technologies. From the private networks approximately 30% are connected with foreign networks. Connection to abroad is promoted by the telephone channels and satellites. An estimate number of users of WAN is 3 500.

According to long-lasting activities in WAN Slovakia was one of the first countries that started to use EUROTEL and INTERNET services. The main partner of this networks in Slovakia is SANET.

5.1 SANET

SANET = Slovak Academic Network is the Slovak part of INTERNET. As an institution was established in 1991 on the initiative of universities and the Slovak Academy of Sciences. However, nowadays it enables access to INTERNET also for commercial and other national organisations. The majority of Slovak ministries and universities communicates in SANET. Among other institutions e.g. National Bank of the Slovak Republic, Agrobank, Travel Bank, Central Tax Head Office, Slovak National Library - more than 400 various organisations. Approximately 15 thousand of users have access to SANET.

The framework of SANET is presented by the points in Bratislava, Banska Bystrica and Kosice. Connection to the world-wide network INTERNET is promoted by the leased circuit to Prague and Vienna.

Information sources about Slovakia:

- The ASPI Database (digest of laws),
- daily news (several newspapers as SME, Narodna obroda, Pravda. etc.).
- teletext,
- information on studying abroad, scholarships and international co-operation (by information agency SAIA),
- Slovakia Guide (culture, tourism),
- the catalogue of the Slovak National Library,
- company directory (JUVEN).

After filling in the application form and payment of the member fee 1 000 Slovak Crowns the organization becomes a member of SANET.

Price List

Service	Number of Users	Non-profit Organisation	Commercial Organisations
Account at Node Computer	1 - 3	800,- Sk	1 200,- Sk
	4 - 6	1 200,- Sk	1 800,- Sk
	7 - 10	1 800,- Sk	2 700,- Sk
	11 - 15	3 000,- Sk	4 500,- Sk
	16 - 20	6 000,- Sk	10 000,- Sk
UUCP	< 10	400,- Sk	800,- Sk
	< 20	600,- Sk	1 200,- Sk
	>= 20	A special contract	
Dial-up IP		3 000,- Sk	6 000,- Sk
Hardwired Line			
64 kb		16 600,- Sk	32 000,- Sk
19,2 kb		8 350,- Sk	16 700,-
9,6 kb		6 000,- Sk	12 000,-
4,8 kb		4 000,- Sk	8 000,- Sk

Additional information on SANET services (SANET topology, WWW information, WWW Servers, Gopher Servers, FTP Servers etc. see the enclosed Annex 1.

Addresses of the main SANET points in the Slovak Republic

Ing. Pavol Horvath, CSc.
 Chairman of SANET Board
 Computer Centre of STU
 Nam. Slobody 17
 812 43 Bratislava

tel./fax: +42 7 498 094
E-mail: horvath@cvt.stuba.sk

RNDr. Jaroslav Bobovsky
 Chief of the SANET
 Technical Group
 Computer Centre of the
 Slovak Academy of Sciences
 Dubravska cesta 9
 842 35 Bratislava

tel: +42 7 374 422, +42 7 375 845
fax: +42 7 375 881
E-mail: bobovsky@savba.sk

5.2 EUNET Slovakia

Slovak users may connect to EUNET through the national point at The Mathematical and Physical Faculty of the Comenius University Bratislava. EUNET is a commercial network and provides these services:

- world-wide E-mail,
- network news (electronic conferences USENET),
- FTP mail,
- interaction with remote computers (telnet, rlogin) in INTERNET,
- interactive file transfer (FTP, ftp) in INTERNET,
- Gopher, WAIS, WWW

and a new service „PERSONAL INTERNET“ was implemented during September 1995. It enables interactive access to INTERNET. Personal Internet is a continuous service with its own international line.

Price list

Basic rate (3 hours connection in a month)	900,- Slovak Crowns per month
Every minute over 3 hours	5,- Sk per minute
Every additional mailbox	300,- Sk per month

Address:

EUnet Slovakia - Management
 Ing. Gejza Buechler
 SWH, s.r.o.
 Dubravska cesta 9
 842 37 Bratislava

E-mail: bb-op@Slovakia.EU.net
Tel.: +42 7 377 434
Fax: +42 7 377 433
National point: MFF

6. Identification of the future needs for small and middle companies.

According to their future needs information ensurance of the small and middle companies can be identified by these information services:

1. Systematic increase of knowledge of small and middle companies in the services of foreign database centres in the form of seminars and workshops.
2. Publishing of information about the possibilities of receiving credits and establishing of companies with the assistance of foreign funds (Slovak - American Entrepreneur Fund).
3. Creation of database about Slovak products and their availability of foreign market.
4. Ensurance of knowledge about information from the State Information System of the Slovak Republic and conditions of access.

7. Proposals regarding IBIS architecture and functions

From the preceding analysis flows out that due to the radical economic and political change the company structure has also changed. It has happened in East and Central European countries as well as in the countries of former Soviet Union. A new category of small and middle companies arose. The managers of these companies came from big state owned companies or directly from universities or other schools. Their common feature is that they have none or very small experiences from managerial work. The majority of middle and small companies exists for only short time and the managements' first aim is to develop the economic activities and prevent themselves from bankruptcy.

The majority of them have no knowledge about the existence of information services and have no time to take care about receiving information on information services. The goal of IBIS project is with the support of UNIDO and Small and Middle Proprietor Association to create conditions for effective using of information sources by the management of middle and small companies. Building of databases on producers, new technologies developed in this companies is equally important.

For effective using of information sources it is necessary to:

- identify the databases which are or can be useful for this category of proprietors.
- with the help of Proprietors Association and national Chamber of commerce make a promotion for using of chosen databases.
- create technical, organisational and financial conditions for using databases for management of middle and small companies,
- organise courses and workshops on using databases,
- with the help of providers of INTERNET network create respectively chose connections on INTERNET network for small and middle proprietors,
- with the help of INTERNET ensure the distribution of chosen information for small and middle proprietors,
- by appropriate promotion in INTERNET network ensure communication between proprietors from IBIS countries,
- with the aim of better function of small and middle companies on domestic as well as on foreign market we propose to create database on products and new technologies of small and middle companies. After it is built it shall be integrated into INTERNET network. By frequent actualization the information should get to wide group of possible customers.

By creation of database in English or German language this information could be interesting even for customers from European Union.

I propose to make an attempt to promote the described processes in the countries of Central and Eastern Europe, after verification and probable modification of the system spread it forward to countries of the former Soviet Union.