

## **Assessment and prioritization of types of common interactions industry with University in Iran manufacturing sector of the sport industry**

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**Abstract:** On one hand, the bilateral requirements of the academia and industry, and on the hand the development needs, require a close cooperation between the academia and the industry. Basically, apart from some considerations, every country's development and advance depend on its technological and scientific power, as well as the cooperation and the connection between the industry and academia as the institutions which undertake the scientific and technological activities. The present study aims to Assessment and prioritize of the Types of common Interactions industry with University in manufacturing sector of the sport industry in Iran's geographical context.

**Patients and methods:** The study is an applied research based on a descriptive-analytical methodology of research. The research population of the research included all the sports products manufacturers ( $N=220$ ) among which a number of 140 companies was considered as the research sample of the investigation. In order to collect the data, Esham's 2008 questionnaire for industry was used in which the reliability coefficient was calculated by the alpha Cronbach ( $\alpha=0.86$ ) method. The analysis of the results of the study through the descriptive statistics and inferential statistics was processed using the Spss20 software. **Results:** The results gained through Friedman's test showed that the most important interactions Sport Products Manufacturing With universities have been included Personal communication with academics and students in corporate internships. Additionally, according to the results achieved through the Kruskal-Wallis' test, there was a significant difference among the managers' perspectives on the surveyed of the Types of common Interactions industry with University based on the level of study, Type of Companies and companies. **Conclusion:** In general it can be said, was a undesirable relation of the sports products manufacturing industry with universities and the range is very limited and inadequate cooperation between the two institutions.

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**Key words:** industry and university, Interactions, manufacturing sector, sports industry, Iran.

### **Introduction**

In global competition conditions having the knowledge which can provide advantage to managements and industry, and using this knowledge to produce technology involves both in universities and industry's common responsibility area. For this reason; in order to gather universities' present resources like knowledge and staff in one method and system to make them useful to both university-industry and community, the actions like education and research-development should be done. This situation reveals the university-industry solidarity (Dura, 1994). University-industry cooperation is gross of systematic works to make them strengthen in scientific, technological, and economical ways by bonding universities' and industry's present possibilities (Bayrak and Halis, 2006). This cooperation includes; development of new products

for the industry, establishment of joint-solutions to industrial problems, provision of training and consultancy, and long-term cooperation in solving research tasks (Ivancic et al. 1998). On the other hand, the reasons for universities to seek cooperation with industry appear to be relatively simple. Peters and Fusfeld (1982) have identified several reasons for this interaction: industry provides a new source of money for university, industrial money involves less "red tape" than government money, industrially sponsored research provides student with exposure to real world research problems, industrially sponsored research provides university researchers a chance to work on an intellectually challenging research programs, some government funds are available for applied research based upon a joint effort between university and industry (Nuriye et al, 2009). The most important problem in the relation between the industry and

academia, in addition to the existence of the obstacles for such relationship, is lack of a comprehensive and inclusive strategy on the connection between these two institutions. An inclusive directorship and management of the communication between the industry and academia is bound to the brilliant, efficient, and various connective mechanisms as well as an appropriate technological atmosphere. On one hand, the bilateral requirements of the academia and industry, and on the hand the development needs, require a close cooperation between the academia and the industry. Basically, apart from some considerations, every country's development and advance depend on its technological and scientific power, as well as the cooperation and the connection between the industry and academia as the institutions which undertake the scientific and technological activities (Sayadi et al, 2012). The knowledge produced in universities can be considered as a competitive advantage to sport industry (Salter & Brunel 2009). In his study in England, Brown showed that economic successes of this country are dependent upon university and scientific researches, too much extent (Brown 2006). Also the university can exploit financial resources and equipment's of industries and students can become familiar with industry environment by passing apprenticeship period in industries and face to available daily challenges (Rothman 2007, Franek 2005). Incorporation of university and industry can result in developing researches and inventions and technology through supplying capital by industry and providing scientific mission's members and producing science by university. Also government can help to maintain this relationship is among the significations of conventional agreements that is due to scientific activities and commercial companies (Cao et al 2009).

This incorporation is usually aimed to achieve the high power of university and industry experiences and using them (Anderson 2000). Today, because of competition growth in international level and rapid technologic changes, the governments try to interact with organizations, universities and industry in order to increase innovations and wealth generation. It can have many benefits such as technologic developments, costs reduction, higher knowledge. It case also has benefits to universities such as financial resources from research projects (Barnes's et al 2002). It noteworthy that the universities incomes aren't practically achievable. Because mentioned incorporations rely on special managerial efforts that are poorly attention (Dodgson 1991). It's believed that if these relations (industry, university, and organizations) are well managed, their results become maximum although our knowledge of different forms of incorporations among organizations limited, emerging networks is a reason to pay more attention to it in real world (O'Toole 1997). With regard to studies performed in our country, the initial planning and renewing structure is necessary because of lack of a comprehensive discipline in state systems and weaknesses in maintaining the relations of university and industry. The relation of production industry of sport products and universities can be a new subject, and the present study in done because of: importance of sport industry which presently has global face, and dependence of society on countries production industries. It is therefore considered necessary to do achieve the purpose of the present study Assessment and prioritization of Types of common Interactions industry with University in Iran manufacturing sector of the sport industry'

Figure 1 shows the conceptual model of the research in which the different surveyed factors are presented.

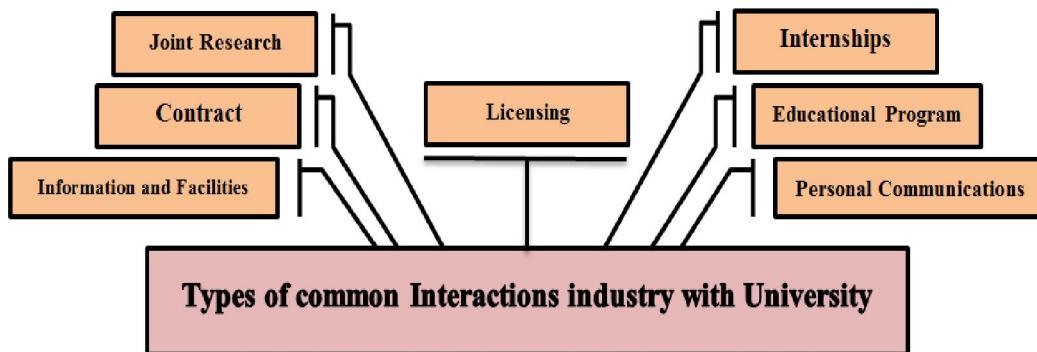


Figure 1 - Conceptual Model of Research

### The research hypotheses

-According to the managers of the sports products industries' perspectives, there is no significant difference between the averages of the rankings for of the Types of common Interactions industry with University in the manufacturing sector of the sports industry.

-There is no significant difference among the perspectives of the company managers on the considered factors of the Types of common Interactions industry with University in the manufacturing sector of the sports industry according to the company managers' fields of study.

-There is no significant difference among the perspectives of the company managers on the considered factors of the Types of common Interactions industry with University in the manufacturing sector of the sports industry according to the company managers' level of study qualification.

-There is no significant difference among the perspectives of the company managers on the considered factors of the Types of common Interactions industry with University in the manufacturing sector of the sports industry according to the company's records and working experiences.

Table 1 - Descriptive statistics of the corporate directors' demographic characteristics and manufacturers of sports products

	corporate directors' demographic characteristics						manufacturers of sports products' demographic characteristics								Provincial	
	Field of study	Education			Experience			Ownership	Range Activity			State	Transnational	Limited		
		Associate	Diploma	5 years and less	20 years and more	10 – 20 years	5 to 10 years		Private	Public	Non-governmental			International	Provincial	
f	15	125	8	56	33	43	28	69	38	5	140	0	16	33	65	26

-There is no significant difference among the perspectives of the company managers on the considered factors of the Types of common Interactions industry with University in the manufacturing sector of the sports industry according to the company' type.

-There is no significant difference among the perspectives of the company managers on the considered factors of the Types of common Interactions industry with University in the manufacturing sector of the sports industry according to the Range of company activities.

### Materials and Methods

Regarding the identity of the present study which seeks to Assessment and prioritization of Types of common Interactions industry with University in the manufacturing sector of the sport industry in the geographical sphere of Iran, this research is applied and is of a descriptive-analytical method of research. The research Population of the study includes all the manufacturers of sports products all over Iran ( $N=220$ ). Information about these companies was collected in 1390 through the official websites of the Ministry of Industry, Commerce and the database of the Iran sport information. According to Morgan and Krejcie tables, the sample of the study was estimated to be 136 companies. A stratified random sampling method was tailored. To collect the data Esham's questionnaires for industry was used in which the reliability coefficient was calculated based on the alpha Cronbach ( $\alpha=0.86$ ). Questionnaires were sent to the all companies to avoid any damaged or unusable questionnaire problems. Finally, 140 companies

returned the questionnaires; so that their information was reliable and this number of the questionnaires formed our study sample. For data analysis, descriptive and inferential statistical techniques and the software of SPSS version 20 were used in a significance level of  $p<0.05$ . In order to organize, summarize and classify the raw scores and arranging the tables and the distribution frequency curves descriptive statistics was used. For the inferential statistics, factor analysis was used to factorize the barriers of the relation between the industry and universities, Friedman's test as tailored to rank the factors considered for the study, and Mann Whitney U and Kruskal Wallis test were used to compare the inter-group relationships.

### Results

Table 1 shows the descriptive statistics related to the demographic characteristics of the managers and the sports products manufacturers. According to the table, the majority of the managers held bachelor

degrees in the fields, excluding the field of Physical Education. Considering the demographic characteristics of the studied companies: Most companies had a record of 10 to 20 years, all the companies belonged to the private owners, the companies were mostly of the limited stock type and the companies' range of the activities (scope) was national. Figure 2. Shows the frequency distribution of the companies' working areas, where most of the companies' activities were in the field of clothing production (except the shoes production) and equipment production.

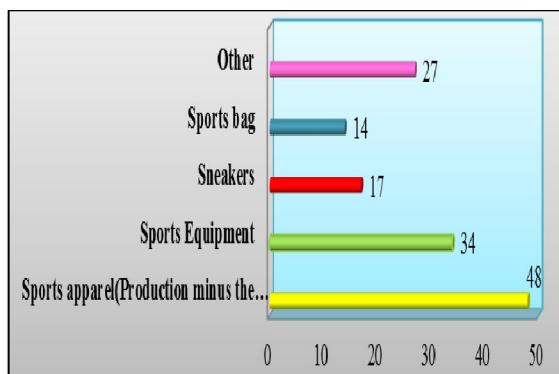


Figure 2 – The frequency distribution of the sports products manufacturers' working fields

In the second part, the research hypotheses are taken into account.

#### Analysis of the first hypothesis

With regard to the results of the Friedman test shown in Table 2, this test was significant. So that means there was a significant difference at the level of  $p < 0/05$  between of the Types of common Interactions industry with University in Iran's manufacturing sector of the sports industry. According to Friedman's test rankings, the most important barriers of the Types of common Interactions industry with University were respectively as follows: Personal Communications, Internships, Educational Program, Joint Research, Information and Facilities, Contract and finally the Licensing.

Table 2 – The data associated with Friedman test results for second hypotheses

Row	Factors	Mean score	N	df	$\chi^2$	sig
1	Personal Communications	5.32	140	6		0.001
3	Educational Program	4.68				
2	Internships	4.83				
5	Information and Facilities	3.49				
6	Contract	2.75				
4	Joint Research	4.30				
7	Licensing	2.63				

#### Analysis of the second hypothesis

The Mann-Whitney U test results presented in Table 3 show that the U values of the all factors were significant in all of the surveyed factors. Therefore, the second hypothesis is rejected, implying that there was a significant difference between the managers' view about all of the factors surveyed for the Types of common Interactions industry with University. Associated with the industry in terms of academic disciplines, there is a significant difference.

#### Analysis of the third hypothesis

As the results in Table 4 show, the chi-square values of the Kruskal-Wallis test were significant in all of the surveyed factors at the level of  $P < 0/05$ . Therefore, the third hypothesis is rejected. It implies that there is a significant difference between the managers' points of view on the all surveyed factors for of the Types of common Interactions industry with University based on the level of education (study).

#### Analysis of the fourth hypothesis

As the results in Table 5 show, the chi-square values of the Kruskal-Wallis test were significant in all of the surveyed factors at the level of  $P < 0/05$ . Therefore, the third hypothesis is rejected. It implies that there is a significant difference between the managers' points of view on the all surveyed factors for of the Types of common Interactions industry with University based on the working experience.

#### Analysis of the fifth hypothesis

As the results in Table 6 show, the chi-square values of the Kruskal-Wallis test were significant in all of the surveyed factors at the level of  $P < 0/05$ . Therefore, the third hypothesis is rejected. It implies that there is a significant difference between the managers' points of view on the all surveyed factors for of the Types of common Interactions industry with University based on the companies' types.

#### Analysis of the sixth hypothesis

As the results in Table 7 show, the chi-square values of the Kruskal-Wallis test in the level of  $P < 0/05$  were not significant in all of the surveyed factors, except in the factor of the Educational Program and Internships.

Table 3 – the data associated with the Mann-Whitney U test results based on the company directors' field of study

	Personal Communications	Educational Program	Internships	Information and Facilities	Contract	Joint Research	Licensing
U	356	438	420	358	478	453	503
Sig	0.021	0.012	0.037	0.001	0.001	0.001	0.040

Table 4 - The data associated with the Kruskal-Wallis test results based on the education level

	Personal Communications	Educational Program	Internships	Information and Facilities	Contract	Joint Research	Licensing
X <sup>2</sup>	13.568	10.353	8.343	8.334	12.356	12.357	7.294
Sig	0.011	0.063	0.001	0.001	0.032	0.001	0.001
df	3						

Table 5 - The data associated with the Kruskal-Wallis test results based the working experience

	Personal Communications	Educational Program	Internships	Information and Facilities	Contract	Joint Research	Licensing
X <sup>2</sup>	14.121	9.231	10.466	7.632	11.456	11.753	8.353
Sig	0.001	0.001	0.001	0.003	0.042	0.013	0.001
df	3						

Table 6 – the data associated with the Kruskal-Wallis test results based on the companies types

	Personal Communications	Educational Program	Internships	Information and Facilities	Contract	Joint Research	Licensing
X <sup>2</sup>	12.681	10.732	10.334	8.797	12.255	13.457	7.978
Sig	0.032	0.003	0.022	0.013	0.001	0.024	0.011
df	3						

Table 7 - The data associated with the Kruskal-Wallis' test results based on the scope and range of the companies' activities

	Personal Communications	Educational Program	Internships	Information and Facilities	Contract	Joint Research	Licensing
X <sup>2</sup>	11.642	10.421	9.378	8.333	11.231	12.822	9.200
Sig	0.062	0.001	0.001	0.123	0.142	0.073	0.085
df	3						

## Discussions

As commonly agreed, universities are considered as a vital source of new knowledge for industry. This somehow demonstrates that the idea and concepts related with university-industry partnerships is not something new (Jan Bower, 1993). Universities are looking for new ways to remain relevant actors in the knowledge economy which means that they need to secure funding sufficient to cope with the huge costs of research. On the other hand, industrial firms are exploring ways of keeping abreast of technological progress in this highly uncertain competitive and rapidly changing environment. So the universities can consider as one of most important partner for industry. This partnership can form in different approach such as consultancy and technical service, cooperative

R&D agreement, licensing, and contract research. An important point, which both university and industry are concerning about, is success of the research collaboration (Lewicka, 2011). In order to succeed in trade the large corporations in the world of sports products such as Adidas, Nike, and Reebok for success work cooperatively and organizationally. Sports industry could turn to an important industry in the third world countries which could make money and even in some countries its ranking rates higher than the auto industry with 50 years of experience. For example sports have turned to a 410 billion dollars industry in the United States of America. In other words, during the last five years it has grown from 213 to 410 billion dollars. This represents that the industry is growing fast in the world (Cao et al,

2009). Because of the too much dependency of the sports to the governments, makes it necessary for the researchers, academicians, and the experienced and professional managers to cooperate in this so that studying and analyzing the complexities of the sports market, the huge amount of the financial turnover, and the personnel, would be directed with a proper and scientific management. So it can be concluded that the success of the sports industry in many ways depends on the collaboration between academic researchers with the experienced managers of the industries. Maintaining effective communication between industry and university improves the interactions and the common activities between these two institutions and leads to a better understanding of the university from the industries requirements and vice versa (Sayadi et al, 2012). In this way, the quality and appropriateness of the academic training in university needs of industry and consequently a scientific and practical ability of students, increased and are improved Fields Innovation and progress in society and organizations. So if this is a relationship Credit based on true relationships society can be their demands for development. The results gained through Friedman's test showed that the most important interactions Sport Products Manufacturing With universities have been included Personal communication with academics and and students in corporate internships. That the results was agreed with the research results Esham 2008 and Ramos and Fernández 2009 and so was against with the results of research D'Este and Patel 2009 and Perkmann and Walsh 2007. Therefore, credit the effective relation between the industry and the universities improve the interactions and common activities between these two institutions, and consequently lead to an increased understanding of the needs of the industry by the academia. So if the relationship is based on the true relations, and the barriers in maintaining the effective communication between the two institutions are eliminated, the society will be able to achieve its demands of the developments of the sports industry, and consequently sports developments.

## References

1. Anderson, M. (2000); "University- Industry Partnerships"; In Higher Education in the Unites States: An Encyclopedia; Edited by James Forest and Kevin Kinser, ABC- CLIO: Santa Barbara California
2. Barness, T. et al, (2002), Effective university-industry interaction: A multi-case evaluation of collaborative R&D project, European Management Journal, (20)(3), pp. 272-285.
3. Bayrak, S., Halis, M., (2006). <http://yordam.manas.kg/ekitap/pdf/Manasdergi/sbd/sbd5/sbd-5-06.pdf> (Cited date: November, 2008).
4. Brown, G., (2006). Meeting the Productivity Challenge. A Strong and Strengthening Economy: Investing in Britain's Future, HC968, UK Treasury, London, available at: [www.official-documents.co.uk](http://www.official-documents.co.uk)
5. Cao ,Y., Zhao, L., Chen, R., (2009). "Institutional structure and incentives of technology transfer: Some new evidence from Chinese universities", Journal of Technology Management Vol. 4 No. 1, pp. 67-84, available at: [www.emeraldinsight.com/1746-8779.htm](http://www.emeraldinsight.com/1746-8779.htm).
6. P. D'Este and P. Patel (2005), University-Industry Linkages in the UK: what are the factors determining the variety of interactions with industry?, SPRU Science and Technology Policy Research University of Sussex Falmer Brighton BN1 9QE.
7. Dodgson, M. (1991), The management of technological collaboration, Engineering Management Journal, August, pp. 187-192.
8. Dura, C., (1994). Üniversite-Sanayi İşbirliği Üzerine Bir Deneme, Ankara University, Siyasal Bilgiler Dergisi, Cilt:49, Sayı:3-4.
9. Esham. M (2008), Strategies' to develop University-Industry linkages in Sri Lanka, National Education Commission Sri Lanka.
10. Franek, R. (2005). The Internship Bible, Princeton Review Publishing, Broadway, NY.Garrison, D.R.(1997),"Self-directed learning: toward a comprehensive model", Adult Education Quarterly, Vol. 48 No. 1, pp. 18-33.
11. Ivanco, V., Kostolny, K. and Kubin, K., (1998). Co-operation between the Technical University of Kosice and Industry in Its Region. Global. J.of Engng. Educ., 2, 2, 157-160.
12. Jan Bower D. Successful joint ventures in science parks. Long Range Planning 1993; 26:114-120
13. Lewicka, D. (2011). Creating Innovative Attitudes in an Organisation – Comparative Analysis of Tools Applied in IBM Poland and ZPAS Group. Journal of Asia Pacific Business Innovation and Technology Management. Vol. 1, No. 1, p1-12
14. O'Toole, L. J., (1997), Treating Networks Seriously: Practical and Research-Based Agendas in Public Administration, Public Administration Review, (57)(1), pp. 45-52.
15. OECD (2001), "Knowledge Management in the Learning Society". OECD.
16. Perkmann, Markus and Walsh, Kathryn (2007), University-Industry relationships and open

- innovation: towards a research agenda, Loughborough University.
- 17. P. D'Este and P. Patel (2005), University-Industry Linkages in the UK: what are the factors determining the variety of interactions with industry?, SPRU Science and Technology Policy Research University of Sussex Falmer Brighton BN1 9QE.
  - 18. Peters, L. S., Herbert I.F., (1982). University-Industry Research Relationships, National Science Foundation.
  - 19. Ramos, Irene -Vielba and Fernández, Manuel – Esquinas (2009), Beneath The TIP of The Iceberg: The Multiple Forms of University-Industry Collaborative Linkages, Instituto de Studio's Socials Avanzados, Consejo Superior de Investigaciones Científicas (IESA-CSIC).
  - 20. Rothman, M. (2007), "Lessons learned: advice to employers from interns", Journal of Education, for Business, Vol. 82 No. 3, p. 140.
  - 21. Salter, A., Bruneel, J., (2009). "Investigating the factors that diminish the barriers to university-industry collaboration" Paper to be presented at the Summer Conference on CBS - Copenhagen Business School.
  - 22. Sayadi, Emadodin. Sharifian, Esmaeil. Ghahraman tabrizi, Kourosh (2012), Identification and prioritization of the barriers of relation between the manufacturing sector of the sport industry and universities in Iran, International Journal of Sport Studies, Vol., 2 (5), 243-249, 2012.
  - 23. W. Glynn Mangold, David J. Faulds, (2009), Social media: The new hybrid element of the promotion mix, Business Horizons, Volume 52, Issue 4.

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