Influential Article Review - Innovation and Business Outsourcing in Tunisia

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This paper examines innovation. We present insights from a highly influential paper. Here are the highlights from this paper: Recently, outsourcing services has been an important component of the organizational strategy of service firms. However, most research studies mainly focus on analyzing the determining factors of outsourcing at the expense of its structural effects. The aim of this paper is to examine the extent to which outsourcing relationships can be a source of service innovation by using a sample of 108 Tunisian service firms. Specifically, we are interested in the domestic outsourcing of auxiliary activities. Our results support the evidence of positive effects of outsourcing service activities on the capacity of innovation. This suggests that outsourcing allows Tunisian service firms to create value, increase flexibility and improve the quality of their services. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.

Keywords: Innovation, Outsourcing, Services sector

SUMMARY

- Table 4 presents the means, the standard deviations of each variable as well as the correlation matrix between variables used in the models. The table also provides the test based on each coefficient's variance inflation factor. More precisely, it is noticed that the mean VIF is about 1.36 inferior to 6 and that VIF of each variable is inferior to 10. According to this result, it is proved that there is no multicollinearity problem between the explanatory variables used in these models. Consequently, the heteroscedasticity problem was solved using White's correction. Hence, to check that some variables seem endogenous, Hausman's specification test was used as it allows the detection of any endogeneity bias. Indeed, the test confirms the absence of the endogeneity problem. This means that the residuals obtained from the equations of the first step are not correlated to the measure of innovation, which refutes the endogeneity hypothesis.
- The estimations relative to the models with or without selection lead to a quality of adjustment, given by the Wald test 2 and the likelihood ratio test LR, that is acceptable at 1 %. This result suggests that resorting to outsourcing permits the Tunisian service firms to create value. Outsourcing abates the marginal production costs and increases profits by producing higher stimuli for innovation. Moreover, it allows increasing flexibility and enhancing the quality of the firms' services. Likewise, the results obtained from the second model confirm that outsourcing remains

significant also at the level of 1 %. The results of the ordered probit model with selection justify, in some way, the conclusions drawn from the first model. This means that the outsourcing strategy is beneficial for the Tunisian service firms in terms of innovation. A similar effect was noticed by Cantone and Testa. This result unveils that the outsourcing relationships contribute to the development of the firms' organizational capacities. This result invalidates that of Gago and Rubalcaba who notice that introducing icts is propitious to innovation in services. Nevertheless, it can be said that service firms can introduce icts but that does not mean they can manage and valorize these icts to develop innovations.

- As previously mentioned, it is shown that the concentration of firms positively affects the development of innovations. Establishing a firm in a technology-intensive area contributes to enhancing its new product/service development policy. Due to such favorable technological infrastructure, parks favor the creation and marketing of new products/services. According to this ascertainment, it would be better for service firms to get as close as possible to each other to take advantage from productivity and innovation returns.

HIGHLY INFLUENTIAL ARTICLE

We used the following article as a basis of our evaluation:

Sdiri, H., & Ayadi, M. (2016). Innovation and service outsourcing: An empirical analysis based on data from Tunisian firms. Journal of Innovation and Entrepreneurship, 5(1), 1–13.

This is the link to the publisher's website:
https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-016-0050-z

INTRODUCTION

In a competitive context and in an uncertain economic environment, the access to the best available technologies and the creation of value -among others- are two objectives that a service firm cannot always reach in-house by its own means. It is for this reason that many firms have resorted to new ways of managing the relationships with their environment. Indeed, the most frequently used organizational strategies are establishing new forms of collaboration with research centers or clients, using new methods of integration with suppliers and outsourcing an organization's own services (OCDE 2005). Among these forms, the present paper focuses mainly on outsourcing as it represents an important potential source for innovation. Outsourcing allows the access to the specialized technological competences of the external organizations as well as sustaining the research and development (R&D) activities more effectively in order to develop new products/services (i.e., by reducing costs, shrinking the time to market, increasing flexibility and enhancing quality) (Quinn 2000; Espino-Rodríguez and Padrón-Robaina 2004 and Carson 2007).

Therefore, after affecting the industrial activities, the outsourcing approach has now an impact on the service sector. Indeed, this approach has incremented with the development of technology-intensive sectors. Outsourcing is no longer new as its forms have been well developed in the European countries. According to the Outsourcing Barometer published by Young (2010), 70 % of European firms resort to outsourcing. In the Tunisian context, for instance, outsourcing services has recently witnessed an outstanding expansion with 77 % of Tunisian firms resorting to outsourcing (Outsourcing Barometer 2006). Engardio and Arndt (2006) indicate that 18.4 billion dollars of trade in the information technologies and 11.4 billion dollars of company services were outsourced, representing 10 % of the potential market. In addition, the OECD 2005 report shows that the total number of positions that can be affected by outsourcing accounts for about 20 % of the employment in certain countries.

Rare are the empirical studies that analyze the relationship between outsourcing and performance, and these are restricted to the motivations that incentivize firms to outsource. Girma and Görg (2004) have shown that outsourcing is positively linked to labor productivity and total factor productivity. Also, Maskell

et al. (2007) have concluded that outsourcing can offer firms not only lower costs but also better quality and access to innovation. Yet, this kind of analysis has never included emerging countries, Tunisia in particular. The present paper aims at analyzing the effect of the domestic outsourcing of auxiliary activities on the development of innovations. This work is an attempt at proving the extent to which the domestic outsourcing of service activities leads to lower costs, higher production flexibility and better service quality for Tunisian service firms.

CONCLUSION

This paper endeavored to analyze how the domestic outsourcing of service activities contributes to the development of innovations. To do so, a standard ordered probit model is, first, used to explain the relationship between outsourcing and innovation. Second, to account for the selection effect, an ordered probit model with selection is adopted. The findings of the two estimating models show that, in accordance with those of Glass and Saggi (2001) and Görg and Hanley (2011), outsourcing positively affects innovation by reducing costs, increasing flexibility and enhancing the quality of services. On the other hand, it is found that corporate concentration positively affects innovation. If a firm is situated in a competence-intensive environment that includes activities such as IT, R&D, data management, architecture and engineering services, it is more likely to adapt to frequent changes and to the evolution of its environment. This advantageous technological infrastructure enables firms to access to the neighboring firms' experiences and competences. Therefore, service firms would better be established close by other ones to take advantage from productivity and innovation profits. Thus, if a firm is established in a given area, it can have a fairly good idea about the surrounding firms. It can, therefore, make a selection among the providers it will accommodate. Accordingly, it can manage all or part of their information system in order to concentrate on its own core task while benefiting from adaptation, flexibility and competitiveness vis-à-vis the market demands and needs.

APPENDIX

TABLE 1
DISTRIBUTION AND WEIGHTING OF THE SAMPLE FIRMS

Size	Total				Outsourcing		Innovation	
	Number of respondents	INS' firms	Corrected weight	(%)	Number	(%)	Number	(%)
1–6	23	12,649	549.95	21.30	21	22.82	16	22.22
7–9	17	785	46.17	15.74	14	15.21	9	12.5
10–19	18	713	39.61	16.67	13	14.13	11	15.27
20–49	13	509	93.15	12.04	11	11.95	10	13.88
50–90	10	230	23	9.26	8	8.69	6	8.33
100–199	10	167	16.7	9.26	9	9.78	6	8.33
≥ 200	17	215	12.64	15.74	16	17.39	14	19.44
Total	108	15268	781.24	100	92	100	72	100

TABLE 2
MATRIX OF COMPONENTS (USE OF ICTS)

Items	Dimension
Local internet network	0.729
Internet	0.499
Intranet	0.756
Exchange of computerized data Internet	0.736
Web site (their own or shared)	0.756
Cronbach's alpha	0.721
Kaiser-Meyer-Olkin (KMO)	0.753
Eigenvalue	2.466
% variance	49.313
Bartlett sphericity test chi square	113.45
df	10
sig	0.000

TABLE 3
MATRIX OF COMPONENTS (INTERACTION WITH CLIENTS)

Items	Dimension
Reducing costs	0.919
Increasing the number of clients	0.94
Better coordination with clients and suppliers	0.938
Shrinking the time to market	0.936
Cronbach's alpha	0.951
Kaiser-Meyer-Olkin (KMO)	0.846
Eigenvalue	3.485
% variance	87.143
Bartlett Sphericity Test chi square	435.416
df	6
sig	0.000

TABLE 4
THE CORRELATION MATRIX BETWEEN VARIABLES

Variables	Mean	SD	VIF	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) exter	0.85	0.35	1.12	1								
(2) intclt	−4.35e−09	1	1.57	0.10	1							
(3) tic	1.90e−08	1	1.47	-0.06	0.11	1						
(4) inter	1.49	0.50	1.76	0.04	−0.51*	−0.37*	1					
(5) cooperNat	0.5	0.5	1.12	0.10	0.10	−0.01	−0.20*	1				
(6) age	12.93	19.25	1.36	0.15	−0.20*	0.14	0.04	0.01	1			
(7) concen	0.24	0.42	1.16	−0.07	0.12	0.20*	−0.16	0.12	−0.17	1		
(8) rd_ex	0.36	0.48	1.17	0.09	0.15	0.27*	−0.15	0.21*	−0.03	0.07	1	
(9) Qual	0.74	0.24	1.47	−0.24*	0.11	0.27*	−0.20*	−0.08	−0.39*	0.31*	0.04	1

*Significance at the level of 5 %

TABLE 5
COMPARISON OF MODELS

	Standard ordered probit			Ordered probit with selection		
	(1) red_cout	(2) qua_ser	(3) flex_pro	(1) red_cout	(2) qua_ser	(3) flex_pro
LR test	7118.654	9766.78	5960.21	4529.506	1581.3	3691.124
Prob > χ^2	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Wald χ_7^2	35.385	41.49	30.82	35.26	44.821	27.773
Prob > χ^2	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
AIC	42,663.3	31,940.35[a]	45,414.32	37,893.89[a]	35,921.03	41,897.73[a]
BIC	42,695.03	31,972.08[a]	45,446.05	37,946[a]	35,973.14	41,949.83[a]

[a]Shows the relevant model

TABLE 6

STANDARD ORDERED PROBIT VERSUS ORDERED PROBIT WITH SELECTION

Variables	Standard ordered probit (M1)						Ordered probit with selection (M2)					
	red_cout		qua_ser		flex_pro		red_cout		qua_ser		flex_pro	
	Coef.	RSE	Coef.	RSE	Coef.	RSE	Coef.	RSE	Coef.	RSE	Coef.	RSE
Outsourcing (*exter*)	2.884***	(0.609)	2.306***	(0.495)	1.943***	(0.494)	2.936***	(0.693)	1.998***	(0.466)	1.469***	(0.519)
Interaction with clients (*intclt*)	−0.037	(0.294)	0.618**	(0.313)	0.226	(0.252)	0.527 **	(0.245)	0.968 ***	(0.308)	0.643 **	(0.258)
Use of ICTs (*tic*)	−0.138	(0.178)	−0.868***	(0.313)	−0.218	(0.171)	−0.548	(0.358)	−0.555	(0.390)	−0.677 **	(0.296)
Internet business (*inter*)	−0.011	(0.580)	0.407	(0.535)	−0.204	(0.606)	0.217	(0.541)	0.641	(0.541)	0.119	(0.564)
National cooperation (*cooperNat*)	0.078	(0.355)	0.186	(0.353)	−0.406	(0.381)	−0.390	(0.274)	−0.011	(0.326)	−0.749 **	(0.356)
Age of the firm (*age*)	0.018	(0.022)	0.004	(0.013)	0.011	(0.013)	0.035 *	(0.019)	0.012	(0.010)	0.015	(0.012)
Concentration (*concen*)	0.834**	(0.399)	0.769*	(0.435)	1.594***	(0.479)	0.969 **	(0.447)	0.593	(0.430)	1.510 ***	(0.508)
Outsourcing (*exter*)							1.370 **	(0.625)	1.390 **	(0.673)	1.322 **	(0.627)
Interaction with clients (*intclt*)							0.221	(0.309)	0.318	(0.300)	0.174	(0.280)
Use of ICTs (*tic*)							0.657 **	(0.264)	0.842 ***	(0.312)	0.615**	(0.259)
Internet business (*inter*)							0.321	(0.607)	0.597	(0.570)	0.058	(0.484)
Extramural R&D (*rd_ex*)							1.575 ***	(0.572)	1.123 *	(0.640)	1.117 **	(0.544)
Qualification (*Qual*)							1.667 **	(0.777)	1.890 **	(0.741)	2.238 ***	(0.823)
c_1	1.347	(0.969)	1.243	(0.928)	0.322	(1.029)	1.627 *	(0.900)	1.426	(0.906)	0.268	(0.998)
c_2	2.176***	(0.770)	1.912**	(0.829)	0.658	(1.019)	2.775 ***	(0.746)	2.256 ***	(0.810)	0.688	(0.997)
c_3	2.540***	(0.789)	1.988**	(0.827)	1.413	(1.014)	3.258 ***	(0.781)	2.340 ***	(0.810)	1.460	(1.020)
c_4	2.963***	(0.805)	2.493***	(0.861)	1.918**	(0.976)	3.656 ***	(0.782)	2.894 ***	(0.835)	1.962 **	(0.954)
c_5	3.441***	(0.805)	3.073***	(0.915)	2.654***	(0.975)	3.966 ***	(0.807)	3.513 ***	(0.899)	2.595 ***	(0.995)
Athrho							1.853 **	(0.824)	1.284 ***	(0.362)	1.085 ***	(0.374)
Number of observations	104		104		104		100		100		100	
Log-likelihood	−21,319.648		−15,958.174		−22,695.161		−18,926.947		−17,940.517		−20,928.864	
Pseudo R^2	0.1431		0.2343		0.1161		0.107		0.042		0.081	

The values between parentheses are the robust standard error corrected by the White method
Significance level: *10 %; **5 %; ***1 %

TABLE 7
DISTRIBUTION OF FIRMS BY MAIN ACTIVITY

Industry	Total of firms		Innovative firms		Outsourcing firms	
	Number	%	Number	%	Number	%
ACT1	16	14.81	9	10.71	15	16.30
ACT2	35	32.41	24	28.57	32	34.78
ACT3	57	52.78	51	60.71	45	48.91
Total	108	100	84	100	92	100

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TRANSLATED VERSION: SPANISH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSION TRADUCIDA: ESPAÑOL

A continuación se muestra una traducción aproximada de las ideas presentadas anteriormente. Esto se hizo para dar una comprensión general de las ideas presentadas en el documento. Por favor, disculpe cualquier error gramatical y no responsabilite a los autores originales de estos errores.

INTRODUCCIÓN

En un contexto competitivo y en un entorno económico incierto, el acceso a las mejores tecnologías disponibles y la creación de valor -entre otros- son dos objetivos que una empresa de servicios no siempre puede alcanzar internamente por sus propios medios. Es por esta razón que muchas empresas han recurrido a nuevas formas de gestionar las relaciones con su entorno. De hecho, las estrategias organizativas más utilizadas son el establecimiento de nuevas formas de colaboración con centros de investigación o clientes, utilizando nuevos métodos de integración con proveedores y externalizando los servicios propios de una organización (OCDE 2005). Entre estas formas, el presente documento se centra principalmente en la externalización, ya que representa una importante fuente potencial de innovación. La externalización permite el acceso a las competencias tecnológicas especializadas de las organizaciones externas, así como el mantenimiento más eficaz de las actividades de investigación y desarrollo (I+D) con el fin de desarrollar nuevos productos/servicios (es decir, reduciendo los costes, reduciendo el tiempo de comercialización, aumentando la flexibilidad y mejorando la calidad) (Quinn 2000; Espino-Rodríguez y Padrón-Robaina 2004 y Carson 2007).

Por lo tanto, después de afectar a las actividades industriales, el enfoque de externalización tiene ahora un impacto en el sector de servicios. De hecho, este enfoque se ha incrementado con el desarrollo de sectores intensivos en tecnología. La externalización ya no es nueva, ya que sus formas han sido bien desarrolladas en los países europeos. Según el Barómetro de Outsourcing publicado por Young (2010), el 70 % de las empresas europeas recurren a la externalización. En el contexto tunecino, por ejemplo, los servicios de subcontratación han experimentado recientemente una extraordinaria expansión con una expansión destacada con el 77 % de las empresas tunecinas que recurren a la externalización (Outsourcing Barometer 2006). Engardio y Arndt (2006) indican que se subcontrataron 18.400 millones de dólares en el comercio de las tecnologías de la información y 11.400 millones de dólares de los servicios de la empresa, lo que representa el 10 % del mercado potencial. Además, el informe de la OCDE de 2005 muestra que el número total de puestos que pueden verse afectados por la subcontratación representa aproximadamente el 20 % del empleo en determinados países.

Raros son los estudios empíricos que analizan la relación entre externalización y rendimiento, y estos se limitan a las motivaciones que incentivan a las empresas a externalizar. Girma y G-rg (2004) han demostrado que la externalización está vinculada positivamente a la productividad de la mano de obra y a la productividad total de los factores. También, Maskell y otros (2007) han llegado a la conclusión de que la subcontratación puede ofrecer a las empresas no sólo menores costos, sino también una mejor calidad y acceso a la innovación. Sin embargo, este tipo de análisis nunca ha incluido a los países emergentes, Túnez en particular. El presente documento tiene por objeto analizar el efecto de la externalización interna de las actividades auxiliares en el desarrollo de las innovaciones. Este trabajo es un intento de demostrar en qué medida la externalización interna de las actividades de servicios conduce a menores costos, mayor flexibilidad de producción y mejor calidad de servicio para las empresas de servicios tunecinas.

CONCLUSIÓN

Este documento se esforzó por analizar cómo la externalización nacional de las actividades de servicios contribuye al desarrollo de innovaciones. Para ello, un modelo probit ordenado estándar se utiliza, en primer lugar, para explicar la relación entre la externalización y la innovación. En segundo lugar, para tener en cuenta el efecto de selección, se adopta un modelo probit ordenado con selección. Los resultados de los dos modelos estimadores muestran que, de conformidad con los de Glass and Saggi (2001) y Gorg y Hanley (2011), la externalización afecta positivamente a la innovación reduciendo los costes, aumentando la flexibilidad y mejorando la calidad de los servicios. Por otro lado, se constata que la concentración corporativa afecta positivamente a la innovación. Si una empresa está situada en un entorno intensivo en competencias que incluye actividades como TI, I+D, gestión de datos, arquitectura y servicios de ingeniería, es más probable que se adapte a los cambios frecuentes y a la evolución de su entorno. Esta infraestructura tecnológica ventajosa permite a las empresas acceder a las experiencias y competencias de las empresas vecinas. Por lo tanto, es mejor que las empresas de servicios se establezcan cerca de otras para aprovecharse de los beneficios de productividad e innovación. Por lo tanto, si una empresa se establece en un área determinada, puede tener una idea bastante buena sobre las empresas circundantes. Por lo tanto, puede hacer una selección entre los proveedores a los que se alojará. En consecuencia, puede gestionar todo o parte de su sistema de información con el fin de concentrarse en su propia tarea básica, al tiempo que se beneficia de la adaptación, flexibilidad y competitividad frente a las demandas y necesidades del mercado.

TRANSLATED VERSION: FRENCH

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VERSION TRADUITE: FRANÇAIS

Voici une traduction approximative des idées présentées ci-dessus. Cela a été fait pour donner une compréhension générale des idées présentées dans le document. Veuillez excuser toutes les erreurs grammaticales et ne pas tenir les auteurs originaux responsables de ces erreurs.

INTRODUCTION

Dans un contexte concurrentiel et dans un environnement économique incertain, l'accès aux meilleures technologies disponibles et la création de valeur - entre autres - sont deux objectifs qu'une entreprise de services ne peut pas toujours atteindre à l'interne par ses propres moyens. C'est pour cette raison que de nombreuses entreprises ont eu recours à de nouvelles façons de gérer les relations avec leur environnement. En effet, les stratégies organisationnelles les plus fréquemment utilisées sont l'établissement de nouvelles formes de collaboration avec des centres de recherche ou des clients, l'utilisation de nouvelles méthodes d'intégration avec les fournisseurs et l'externalisation des propres services d'une organisation (OCDE, 2005). Parmi ces formes, le présent document se concentre principalement sur l'externalisation car il représente une source potentielle importante d'innovation. L'impartition permet l'accès aux compétences technologiques spécialisées des organisations externes ainsi que le maintien plus efficace des activités de recherche et développement (R-D) afin de développer de nouveaux produits/services (c.-à-d. En réduisant les coûts, en réduisant le temps de mise sur le marché, en augmentant la flexibilité et en améliorant la qualité) (Quinn, 2000; Espino-Rodríguez et Padrón-Robaina 2004 et Carson 2007).

Par conséquent, après avoir affecté les activités industrielles, l'approche d'externalisation a maintenant un impact sur le secteur des services. En effet, cette approche a incrémenté avec le développement de secteurs à forte intensité technologique. L'externalisation n'est plus nouvelle car ses formes ont été bien développées dans les pays européens. Selon le Baromètre de l'externalisation publié par Young (2010), 70 % des entreprises européennes ont recours à l'externalisation. Dans le contexte tunisien, par exemple, les services d'externalisation ont récemment connu une expansion exceptionnelle avec 77 % des entreprises tunisiennes ayant recours à l'externalisation (Baromètre de l'externalisation 2006). Engardio et Arndt (2006) indiquent que 18,4 milliards de dollars de commerce des technologies de l'information et 11,4 milliards de dollars de services aux entreprises ont été externalisés, ce qui représente 10 % du marché potentiel. En outre, le rapport 2005 de l'ocde montre que le nombre total de postes qui peuvent être affectés par l'externalisation représente environ 20 % de l'emploi dans certains pays.

Rares sont les études empiriques qui analysent la relation entre l'impartition et le rendement, et celles-ci se limitent aux motivations qui incitent les entreprises à externaliser. Girma et Görg (2004) ont montré que l'externalisation est positivement liée à la productivité du travail et à la productivité totale des facteurs. De plus, Maskell et coll. (2007) ont conclu que l'impartition peut offrir aux entreprises non seulement des coûts moins élevés, mais aussi une meilleure qualité et un meilleur accès à l'innovation. Pourtant, ce type d'analyse n'a jamais inclus les pays émergents, la Tunisie en particulier. Le présent document vise à analyser ensuite l'effet de l'externalisation domestique des activités auxiliaires sur le développement des innovations. Ce travail est une tentative de prouver dans quelle mesure l'externalisation nationale des activités de service conduit à une baisse des coûts, à une plus grande flexibilité de production et à une meilleure qualité de service pour les entreprises de services tunisiennes.

CONCLUSION

Ce document s'est efforcé d'analyser comment l'externalisation domestique des activités de services contribue au développement des innovations. Pour ce faire, un modèle probit commandé standard est d'abord utilisé pour expliquer la relation entre l'externalisation et l'innovation. Deuxièmement, pour tenir compte de l'effet de sélection, un modèle probit commandé avec sélection est adopté. Les résultats des deux modèles d'estimation montrent que, conformément à celles de Glass et Saggi (2001) et Görg et Hanley (2011), l'externalisation affecte positivement l'innovation en réduisant les coûts, en augmentant la flexibilité et en améliorant la qualité des services. D'autre part, il est constaté que la concentration des entreprises affecte positivement l'innovation. Si une entreprise est située dans un environnement à forte

intensité de compétences qui comprend des activités telles que l'informatique, la R&D, la gestion des données, l'architecture et les services d'ingénierie, elle est plus susceptible de s'adapter aux changements fréquents et à l'évolution de son environnement. Cette infrastructure technologique avantageuse permet aux entreprises d'accéder aux expériences et aux compétences des entreprises voisines. Par conséquent, les entreprises de services feraient mieux d'être établies à proximité d'autres entreprises pour tirer parti des bénéfices de productivité et d'innovation. Ainsi, si une entreprise est établie dans une région donnée, elle peut avoir une assez bonne idée des entreprises environnantes. Il peut donc faire une sélection parmi les fournisseurs qu'il accueillera. Par conséquent, elle peut gérer tout ou partie de son système d'information afin de se concentrer sur sa propre tâche fondamentale tout en bénéficiant de l'adaptation, de la flexibilité et de la compétitivité par rapport aux exigences et aux besoins du marché.

TRANSLATED VERSION: GERMAN

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

ÜBERSETZTE VERSION: DEUTSCH

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

EINLEITUNG

In einem Wettbewerbsumfeld und in einem unsicheren wirtschaftlichen Umfeld sind der Zugang zu den besten verfügbaren Technologien und die Wertschöpfung - unter anderem - zwei Ziele, die ein Dienstleistungsunternehmen nicht immer mit eigenen Mitteln selbst erreichen kann. Aus diesem Grund haben viele Unternehmen neue Wege in die Wege des Umgangs mit ihrer Umwelt eingegriffen. Die am häufigsten verwendeten Organisationsstrategien sind die Etablierung neuer Formen der Zusammenarbeit mit Forschungszentren oder Kunden, die Verwendung neuer Methoden der Integration mit Lieferanten und das Outsourcing der eigenen Dienstleistungen einer Organisation (OCDE 2005). Unter diesen Formularen konzentriert sich das vorliegende Papier hauptsächlich auf Outsourcing, da es eine wichtige potenzielle Quelle für Innovation darstellt. Outsourcing ermöglicht den Zugang zu den spezialisierten technologischen Kompetenzen der externen Organisationen sowie die Unterstützung der Forschungs- und Entwicklungsaktivitäten (F&E), um neue Produkte/Dienstleistungen zu entwickeln (d. H. Durch Kostensenkung, Verkürzung der Markteinführungszeit, Erhöhung der Flexibilität und Verbesserung der Qualität) (Quinn 2000; Espino-Rodriguez und Padrén-Robaina 2004 und Carson 2007).

Nach Auswirkungen auf die industriellen Aktivitäten hat der Outsourcing-Ansatz nun Auswirkungen auf den Dienstleistungssektor. Tatsächlich hat sich dieser Ansatz mit der Entwicklung technologieintensiver Sektoren in die Jahre gekommen. Outsourcing ist nicht mehr neu, da seine Formen in den europäischen Ländern gut entwickelt sind. Laut dem von Young (2010) veröffentlichten Outsourcing Barometer greifen 70 % der europäischen Unternehmen auf Outsourcing zurück. Im tunesischen Kontext beispielsweise verzeichneten Outsourcing-Dienstleistungen in jüngster Zeit eine hervorragende Expansion: 77 % der tunesischen Unternehmen greifen auf Outsourcing zurück (Outsourcing Barometer 2006). Engardio und Arndt (2006) geben an, dass 18,4 Milliarden Dollar Handel mit Informationstechnologien und 11,4 Milliarden Dollar an Unternehmensdienstleistungen ausgelagert wurden, was 10 % des potenziellen Marktes entspricht. Darüber hinaus zeigt der OECD-Bericht 2005, dass die Gesamtzahl der Stellen, die von Outsourcing betroffen sein können, etwa 20 % der Beschäftigung in bestimmten Ländern ausmacht.

Selten sind die empirischen Studien, die den Zusammenhang zwischen Outsourcing und Leistung analysieren, und diese beschränken sich auf die Motivationen, die Unternehmen zur Auslagerung anregen. Girma und Görg (2004) haben gezeigt, dass Outsourcing positiv an die Arbeitsproduktivität und die Gesamtfaktorproduktivität gekoppelt ist. Auch Maskell et al. (2007) sind zu dem Schluss gekommen, dass Outsourcing Unternehmen nicht nur niedrigere Kosten, sondern auch bessere Qualität und Zugang zu Innovationen bieten kann. Diese Art von Analyse hat jedoch noch nie die Schwellenländer, insbesondere Tunesien, einbezogen. Das vorliegende Papier zielt darauf ab, die Auswirkungen der inländischen Auslagerung der Hilfsaktivitäten auf die Entwicklung von Innovationen zu analysieren. Diese Arbeit ist ein Versuch, zu beweisen, inwieweit die inländische Auslagerung von Dienstleistungstätigkeiten zu niedrigeren Kosten, höherer Produktionsflexibilität und besserer Servicequalität für tunesische Dienstleistungsunternehmen führt.

SCHLUSSFOLGERUNG

In diesem Papier wurde analysiert, wie das inländische Outsourcing von Serviceaktivitäten zur Entwicklung von Innovationen beiträgt. Dazu wird zunächst ein bestelltes Standard-Probitmodell verwendet, um die Beziehung zwischen Outsourcing und Innovation zu erklären. Zweitens wird zur Berücksichtigung des Auswahleffekts ein geordnetes Probitmodell mit Auswahl übernommen. Die Ergebnisse der beiden Schätzmodelle zeigen, dass Outsourcing gemäß glass und Saggi (2001) und Görg und Hanley (2011) die Innovation positiv beeinflusst, indem es Kosten senkt, die Flexibilität erhöht und die Qualität der Dienstleistungen verbessert. Andererseits wird festgestellt, dass sich die Unternehmenskonzentration positiv auf die Innovation auswirkt. Wenn ein Unternehmen in einem kompetenzintensiven Umfeld angesiedelt ist, das Aktivitäten wie IT, F&E, Datenmanagement, Architektur und Ingenieurdienstleistungen umfasst, ist es eher geeignet, sich an häufige Veränderungen und die Entwicklung seiner Umgebung anzupassen. Diese vorteilhafte technologische Infrastruktur ermöglicht es den Unternehmen, auf die Erfahrungen und Kompetenzen der benachbarten Unternehmen zuzugreifen. Daher sollten Dienstleistungsunternehmen besser in der Nähe von anderen gegründet werden, um von Produktivitäts- und Innovationsgewinnen zu profitieren. Wenn also ein Unternehmen in einem bestimmten Gebiet gegründet wird, kann es eine ziemlich gute Vorstellung von den umliegenden Unternehmen haben. Sie kann daher eine Auswahl unter den Anbietern treffen, die sie aufnehmen wird. Dementsprechend kann sie ihr Informationssystem ganz oder teilweise verwalten, um sich auf ihre eigene Kernaufgabe zu konzentrieren und gleichzeitig von Anpassung, Flexibilität und Wettbewerbsfähigkeit gegenüber den Anforderungen und Bedürfnissen des Marktes zu profitieren.

TRANSLATED VERSION: PORTUGUESE

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

VERSÃO TRADUZIDA: PORTUGUÊS

Aqui está uma tradução aproximada das ideias acima apresentadas. Isto foi feito para dar uma compreensão geral das ideias apresentadas no documento. Por favor, desculpe todos os erros gramaticais e não responsacule os autores originais responsáveis por estes erros.

INTRODUÇÃO

Em um contexto competitivo e em um ambiente econômico incerto, o acesso às melhores tecnologias disponíveis e a criação de valor - entre outros - são dois objetivos que uma empresa de serviços nem sempre consegue alcançar internamente por seus próprios meios. É por essa razão que muitas empresas têm recorrido a novas formas de gerenciar as relações com seu ambiente. De fato, as estratégias organizacionais mais utilizadas estão estabelecendo novas formas de colaboração com centros de pesquisa ou clientes, utilizando novos métodos de integração com fornecedores e terceirizando os serviços próprios de uma organização (OCDE 2005). Entre essas formas, o presente artigo foca principalmente na terceirização, pois representa uma importante fonte potencial de inovação. A terceirização permite o acesso às competências tecnológicas especializadas das organizações externas, bem como a manutenção das atividades de pesquisa e desenvolvimento (P&D) de forma mais eficaz, a fim de desenvolver novos produtos/serviços (ou seja, reduzindo custos, diminuindo o tempo de comercialização, aumentando a flexibilidade e aumentando a qualidade) (Quinn 2000; Espino-Rodríguez e Padrón-Robaina 2004 e Carson 2007).

Portanto, após afetar as atividades industriais, a abordagem de terceirização passa a impactar o setor de serviços. De fato, essa abordagem tem incrementado com o desenvolvimento de setores intensivos em tecnologia. A terceirização não é mais nova, pois suas formas foram bem desenvolvidas nos países europeus. De acordo com o Barômetro de Terceirização publicado pela Young (2010), 70 % das empresas europeias recorrem à terceirização. No contexto tunisiano, por exemplo, os serviços de terceirização testemunharam recentemente uma expansão excepcional com 77 % das empresas tunisianas recorrendo à terceirização (Barômetro de Terceirização 2006). Engardio e Arndt (2006) indicam que 18,4 bilhões de dólares de comércio em tecnologias da informação e 11,4 bilhões de dólares em serviços da empresa foram terceirizados, representando 10 % do mercado potencial. Além disso, o relatório da OCDE de 2005 mostra que o número total de cargos que podem ser afetados pela terceirização representa cerca de 20 % do emprego em determinados países.

Raros são os estudos empíricos que analisam a relação entre terceirização e desempenho, e estes estão restritos às motivações que incentivam as empresas a terceirizar. Girma e Görg (2004) mostraram que a terceirização está positivamente ligada à produtividade do trabalho e à produtividade total dos fatores. Além disso, Maskell et al. (2007) concluíram que a terceirização pode oferecer às empresas não apenas custos mais baixos, mas também melhor qualidade e acesso à inovação. No entanto, esse tipo de análise nunca incluiu países emergentes, a Tunísia em particular. O presente artigo tem como objetivo analisar, então, o efeito da terceirização doméstica das atividades auxiliares no desenvolvimento de inovações. Este trabalho é uma tentativa de provar até que ponto a terceirização doméstica das atividades de serviços leva a custos mais baixos, maior flexibilidade de produção e melhor qualidade de serviço para as empresas de serviços tunisianas.

CONCLUSÃO

Este artigo se esforçou para analisar como a terceirização doméstica das atividades de serviços contribui para o desenvolvimento de inovações. Para isso, um modelo padrão de probit ordenado é, em primeiro lugar, usado para explicar a relação entre terceirização e inovação. Em segundo lugar, para explicar o efeito de seleção, um modelo de probit ordenado com seleção é adotado. Os achados dos dois modelos estimados mostram que, de acordo com os de Glass e Saggi (2001) e Görg e Hanley (2011), a terceirização afeta positivamente a inovação, reduzindo custos, aumentando a flexibilidade e aumentando a qualidade dos serviços. Por outro lado, constata-se que a concentração corporativa afeta positivamente a inovação. Se uma empresa está situada em um ambiente intensivo em competências que inclui atividades como TI, P&D, gestão de dados, arquitetura e serviços de engenharia, é mais provável que se adapte às mudanças frequentes e à evolução de seu ambiente. Essa infraestrutura tecnológica vantajosa permite que as empresas tenham acesso às experiências e competências das empresas vizinhas. Portanto, as empresas de serviços seriam melhor estabelecidas perto de outras para aproveitar os lucros de produtividade e inovação. Assim, se uma empresa for estabelecida em uma determinada área, ela pode ter uma ideia bastante boa sobre as empresas vizinhas. Ele pode, portanto, fazer uma seleção entre os provedores que irá acomodar. Assim, ele pode gerenciar toda ou parte de seu sistema de informações, a fim de se concentrar em sua própria tarefa

principal, beneficiando-se da adaptação, flexibilidade e competitividade em relação às demandas e necessidades do mercado.