UNIVERSIDADE DA BEIRA INTERIOR DEPARTAMENTO DE GESTÃO E ECONOMIA



INTERNAL MARKET ORIENTATION AND MARKET ORIENTATION IN HIGHER EDUCATION INSTITUTIONS: IMPLICATIONS ON WORKERS' ATTITUDES, BEHAVIOUR AND ON INTERNAL SERVICE QUALITY

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TESE DE DOUTORAMENTO EM GESTÃO

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COVILHÃ, PORTUGAL, 2014

ACKNOWLEDGEMENTS

First of all, I would like to thank Professor Ricardo Gouveia Rodrigues, for his unconditional and unique support, throughout, not only my PhD, but also my Master's Degree. Without his motivation and constant challenge, I would never have trusted my capabilities as much.

I would also like to thank my Graduation Advisor, Professor Samuel José Fonseca Monteiro, for his valuable advice during my Graduation, and for his remarkable availability and support during my PhD.

I would not have contemplated this road if not for my parents, who supported me unconditionally. To my father, Luís, who instilled in me a passion for learning. To my mother Edite, whose encouragement has taught me never to give up. I will never be able to express them all my gratitude.

To Professors Paulo Pinheiro, José Manuel Hernandéz Mogollón, António Damasceno Correia and João Marôco, for their exceptional availability and collaboration.

To Professor Maria José Silva, for being an inspirational role model.

To Professors Helena Alves, Mário Raposo, Mário Franco, Zélia Serrasqueiro and to Dr. Carla Loureiro, for all their support throughout this journey.

To my Ph.D. colleagues, Teresa Felgueira, António Fernandes, Manuel Belo, Fernando Lobo, Augusto Antunes, Cláudia Matias, Clotilde Passos, João Marques, Humberto Coelho, Lara Fonseca and Virgílio Porto, for all the fun and educational moments we spent together, as well as for their great support.

I am also very grateful to the Lecturing staff that collaborated in my research, for their consideration and for their patience. Without them this Thesis would have never been accomplished.

To Professor Ana Paula Rodrigues and Professor Petar Petrov, who provided encouraging and constructive feedback.

To Professors Agota Giedrė Raišienė, Ceren Giderler, Lázló Józsa, Maurice Murphy and Mirna Leko Šimić, for taking the time to evaluate my work and for their motivating feedback.

I would also like to thank the Professors that lectured me during my Organizational Psychology Graduation (2002 - 2007), who provided me with the basics about research, which is not a common practice in other Graduations.

To my small siblings, Sofia and Gabriel, to my Grandmother, Ana, and to my uncles, José and Joaquim, for understanding when I couldn't be there. To my Grandmother Ilda, for all her support throughout the last twelve years.

To my friends, Pedro A. Carlos, Elisa Pinto, Cátia Marques, Joana Macedo and Sílvia João, who encouraged me all the way, and to Wilson Vicente, who firstly gave me the drive to take this step.

RESUMO

O Ensino Superior tem enfrentado uma crescente concorrência, assim como uma maior pressão para usar os seus recursos de forma mais eficaz e eficiente e para, portanto, melhorar a Qualidade do Serviço prestado. Neste enquadramento, as práticas de Marketing e de Recursos Humanos (RH) têm vindo a tornar-se críticas. Uma orientação organizacional, com um foco interno e externo é mais eficaz na formulação de respostas estratégicas. Por outro lado, a Qualidade do Serviço Interno, bem como as atitudes e comportamentos relacionados com o trabalho desempenham um papel essencial na melhoria da qualidade entregue ao cliente externo.

Com a presente investigação pretende-se, portanto, avaliar o nível de Orientação para o Mercado e de Orientação para o Mercado Interno, assim como a Qualidade do Serviço Interno, medidos através da perceção do trabalhador, no contexto do Ensino Superior. Especificamente, a amostra inclui o corpo docente, que deverá ter uma melhor perceção acerca da forma como as Instituições de Ensino Superior (IES) agem perante os trabalhadores e os alunos. Pretende-se, também, avaliar a Motivação, Satisfação, o Compromisso e o Desempenho dos docentes. Para tal, é desenvolvido e validado um instrumento que mede o Desempenho no trabalho. Por outro lado, pretende-se avaliar as relações entre Orientação para o Mercado, Orientação para o Mercado Interno, Qualidade do Serviço Interno - um componente fundamental do Marketing Interno -, e as atitudes e comportamento do trabalhador. Considerando os recentes avanços tecnológicos, que criaram novas ferramentas de Marketing para as organizações, pretende-se, ainda, avaliar (1) se as IES utilizam os seus Web sites eficazmente como uma ferramenta de Marketing e, (2) numa perspetiva de Marketing Interno, o impacto do uso das Redes Sociais *Online* nas atitudes e comportamentos dos docentes, especificamente em Portugal.

Conclui-se que, em geral, as IES não estão orientadas para o mercado interno e que, embora o foco no mercado externo seja um pouco mais elevado é, ainda, insuficiente. Por outro lado, verifica-se que a Orientação para o Mercado influencia positivamente a Orientação para o Mercado Interno, e que ambos os conceitos influenciam positivamente a Qualidade do Serviço Interno. Concluímos, também, que a Orientação para o Mercado influencia positivamente a Motivação do trabalhador e que a Orientação para o Mercado Interno e a Qualidade do Serviço Interno influenciam positivamente a Satisfação no trabalho. Da mesma forma, existe uma relação positiva, quase sequencial, entre Motivação, Satisfação, Compromisso e Desempenho. No que diz respeito às ferramentas de Web Marketing, verifica-se que as IES não utilizam os seus Web sites eficazmente como uma ferramenta de Marketing, e que a utilização de Redes Sociais *Online* para manter contacto com os colegas de trabalho influencia positivamente as atitudes e comportamento do trabalhador e deve, portanto, ser encorajada pelas IES. Neste sentido, as Redes Sociais podem ser utilizadas como uma ferramenta de Marketing Interno.

No geral, os diversos tópicos desenvolvidos identificam 1) a necessidade de modificar as práticas de Marketing no Ensino Superior, inclusivamente no que diz respeito ao investimento em ferramentas de Web Marketing e à sua utilização, 2) a necessidade de desenvolver práticas de RH que influenciem positivamente as atitudes e o comportamento do trabalhador, assim como 3) a necessidade de integrar as funções de Marketing e RH, no sentido de melhorar a Qualidade do Serviço prestado, i.e. Educação, de satisfazer o cliente externo e, assim, obter vantagem competitiva, que atualmente é fundamental para este contexto.

PALAVRAS-CHAVE: Orientação para o Mercado, Orientação para o Mercado Interno, Marketing Interno, Qualidade do Serviço Interno, Motivação, Satisfação no trabalho, Compromisso organizacional, Desempenho, Ensino Superior, ferramentas de Web Marketing.

RESUMO ALARGADO

O aumento da competitividade no contexto do Ensino Superior é um fator chave, especialmente considerando o ambiente turbulento e as condições sociais e económicas que caracterizam a realidade mundial atual. Neste enquadramento, é necessário compreender como as Instituições de Ensino Superior (IES) podem diferenciar-se e atrair e manter o interesse dos alunos, docentes, empresas e outras IES a nível nacional e internacional. Neste sentido, as práticas de Marketing e de Recursos Humanos (RH) tornam-se críticas. Uma orientação organizacional com um foco interno e externo é mais eficaz na formulação de respostas estratégicas. Por outro lado, as atitudes e comportamentos relacionados com o trabalho desempenham um papel essencial na melhoria da qualidade entregue ao cliente externo.

Com a presente investigação pretende-se, então, avaliar o nível de Orientação para o Mercado e de Orientação para o Mercado Interno, assim como a Qualidade do Serviço Interno, medidos através da perceção do trabalhador, no contexto do Ensino Superior. Especificamente, a amostra inclui o corpo docente, que deverá ter uma melhor perceção acerca da forma como as IES agem perante os trabalhadores e os alunos. Neste sentido, é desenvolvido o Capítulo 2, focado na avaliação destas variáveis, especificamente no Ensino Superior Europeu. Pretende-se, ainda, avaliar a Motivação, a Satisfação, o Compromisso e o Desempenho dos docentes neste contexto. Para tal, é desenvolvido e validado um instrumento que mede o Desempenho no trabalho - Capítulo 1.

Um outro objetivo consiste na avaliação das relações entre Orientação para o Mercado, Orientação para o Mercado Interno, Qualidade do Serviço Interno - um componente fundamental do Marketing Interno -, e as atitudes e comportamento do trabalhador. Neste sentido, é desenvolvido um modelo de investigação que relaciona estas variáveis - Capítulo 3.

Considerando os recentes avanços tecnológicos, que criaram novas ferramentas de Marketing, pretende-se, ainda, (1) avaliar se as IES utilizam os seus Web sites como uma ferramenta de Marketing de forma eficaz, i.e. de forma a atrair e satisfazer o cliente externo - Capítulo 4 -, e (2) estudar o impacto do uso das Redes Sociais *Online* nas atitudes e comportamentos do trabalhador, especificamente em Portugal - Capítulo 5.

É possível concluir que, no geral, as IES não estão orientadas para o mercado interno, pelo menos na população estudada, e, embora o foco no mercado externo seja um pouco mais elevado, é, ainda, insuficiente. Foi possível verificar, também, que a perceção de Orientação para o Mercado Interno não varia de acordo com a região e que a Orientação para o Mercado é mais elevada nos países Nórdicos, em comparação com as restantes regiões da Europa. No entanto, salienta-se que é necessário investigar estes aspetos com uma amostra maior e alargar a investigação a outros países no sentido de generalizar estas conclusões. Realça-se,

ainda, que tanto a Orientação para o Mercado Interno como a Orientação para o Mercado são mais elevadas nas IES Privadas, em comparação com as Públicas, assim como o Compromisso do trabalhador.

Por outro lado, verifica-se que a Orientação para o Mercado influencia positivamente a Orientação para o Mercado Interno, e que ambos os conceitos influenciam positivamente a Qualidade do Serviço Interno. Conclui-se, ainda, que a Orientação para o Mercado tem uma influência positiva na Motivação do trabalhador e que a Orientação para o Mercado Interno influencia indiretamente a Satisfação, através da Qualidade do Serviço Interno. Por sua vez, a Qualidade do Serviço Interno aumenta diretamente a Satisfação do trabalhador. Existe, ainda, uma relação direta e positiva entre Motivação e Satisfação, entre Satisfação e Compromisso e Satisfação e Desempenho. Por outro lado, a relação direta entre Motivação e Compromisso é negativa. No entanto, quando mediada pela Satisfação, é positiva.

No que diz respeito às ferramentas de Web Marketing, é possível concluir que os Web sites das IES não têm uma qualidade elevada, o que sugere que as IES não investem na qualidade dos seus Web sites e, portanto, que não os utilizam eficazmente como uma ferramenta de Marketing. É, portanto, necessário que as IES invistam nos seus Web sites, dado que estes podem ser utilizados como uma ferramenta de Marketing Externo, contribuindo para atrair e manter o interesse do cliente externo, e de Marketing Interno, dado que também os trabalhadores utilizam os Web sites, seja para aceder à Intranet da instituição ou a notícias e informação sobre eventos, por exemplo. Neste sentido, o Web site pode, também, contribuir para satisfazer o cliente interno. Em relação às Redes Sociais Online, verifica-se que o uso destas redes para manter contacto com os colegas de trabalho influencia positivamente as atitudes e o comportamento do trabalhador, especificamente a Satisfação com as facetas do trabalho, a Participação na vida da organização e o Desempenho. As IES devem, portanto, utilizar as Redes Sociais Online como uma ferramenta de Marketing Interno, potenciando, assim, atitudes e comportamentos que beneficiam a organização. Realça-se que os dois estudos mencionados foram desenvolvidos em Portugal e que é, ainda, necessário investigar outros contextos para que os resultados possam ser generalizados.

Tendo em conta os resultados obtidos, é proposto que as IES modifiquem as suas práticas de Marketing, mais especificamente que adotem uma orientação organizacional com um foco interno e externo, no sentido de formular respostas estratégicas mais eficazes. Por outro lado, devem adotar práticas de RH que potenciem as atitudes e comportamentos do trabalhador no sentido de, consequentemente, aumentar a Qualidade do Serviço, i.e. a Educação, entregue ao cliente externo. Salienta-se, ainda, que a integração de ambas as áreas de gestão, como proposto noutros contextos, seria uma mais-valia para o Ensino Superior.

ABSTRACT

Higher Education (HE) is facing increasing competition and pressure to use resources more effectively and efficiently and, thus, to deliver higher quality to the external customer. Therefore, Marketing and Human Resource (HR) practices are becoming critical in this context. An organizational orientation that accommodates both an internal and an external focus on an equal level is more effective in formulating strategic responses. Moreover, Internal service quality (ISQ), a critical component of Internal marketing, and work-related attitudes and behaviour also play an important role in delivering high quality to the external customer.

In this sense, we intend to assess the level of Market orientation (MO), of Internal market orientation (IMO) and of ISQ in HE, measured according to the worker's perception. Specifically, our sample includes the Lecturing staff, that has a better idea of how Higher Education Institutions (HEI) act towards the workers and the students. We also evaluate the Lecturing staff's Motivation, Job satisfaction, Commitment and Performance. In order to do so, we develop and validate an instrument that measures Job performance, since, in our perception, there is a lack of relevant (available) scales to measure this variable. Furthermore, we study the relationships between MO, IMO, ISQ, and the worker's job-related attitudes and behaviour. Considering the latter technological advances, which have brought new Marketing tools for organizations, we also evaluate if HEI use their Web sites as an effective Marketing tool and the impact of using Online social networks (OSN) on the worker's attitudes and behaviour.

We conclude that HEI, at least in the studied population, devalue both MO and IMO, although there is a higher focus on the external market. Moreover, MO positively influences IMO, and both concepts positively influence ISQ. We also found that MO positively influences the worker's Motivation and that IMO and ISQ positively influence the worker's Satisfaction. Furthermore, there is a positive relationship between Motivation and Satisfaction, Motivation and Commitment, Satisfaction and Commitment and Satisfaction and Performance. In what concerns Web-based Marketing tools, we found that the use of OSN to maintain contact with co-workers positively influences job-related attitudes and behaviour, so HEI should use OSN as an Internal marketing tool.

On a general level, the several topics developed in this Thesis point out 1) the need of modifying Marketing practices in HE, including in what concerns the investment in and the use of Web 2.0 tools, 2) the need to develop HR practices that enhance the worker's attitudes and behaviours, as well as 3) the need for integration of the Marketing and HR functions, in order to, ultimately, deliver high quality service, i.e. Education, satisfy the external

customer and, thus, obtain competitive advantage, which is fundamental for this context nowadays.

KEYWORDS: Market orientation, Internal market orientation, Internal marketing, Internal service quality, Motivation, Job satisfaction, Organizational commitment, Job performance, Higher Education, Web marketing tools.

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ACRONYMS LIST

AC - Affective commitment

RMR - Root mean square residual

| AMOS - Analysis of moment structures |
|--|
| CC - Continuance commitment |
| CFA - Confirmatory factor analysis |
| EU - European Union |
| GFI - Goodness-of-fit index |
| HE - Higher Education |
| HEI - Higher Education Institutions |
| HR - Human Resources |
| HRM - Human Resource Management |
| IM - Internal marketing |
| IMO - Internal market orientation |
| ISQ - Internal service quality |
| JP - Job performance |
| JS - Job satisfaction |
| NC - Normative commitment |
| MCAR - Missing completely at random |
| MI - Modification indices |
| MO - Marketing orientation |
| MOT - Motivation |
| OC - Organizational commitment |
| OCB - Organizational citizenship behaviours |
| OSN - Online social networks |
| POB - Prosocial organizational behaviours |
| PGFI - Parsimony adjusted normed fixed index |
| RM - Relationship marketing |

- RMSEA Root mean square error of approximation
- ${\sf SEM-Structural\ equations\ modelling}$
- SPSS Statistical Package for Social Sciences
- USA United States of America

CHAPTER 1 INTRODUCTION

INTRODUCTION

Considering the uniqueness of today's competitive business environment, Marketing became more a Management matter than a specialist function. Moreover, the Marketing function is spread all over the organization, far outside the realms of the Marketing department and, often, the competitive edge can be created by outstanding Interactive marketing (Grönroos, 1989).

In Relationship marketing (RM), Interactive marketing is the dominating part of the Marketing function and of the elements of the Marketing mix - although they are important as well but to a much lesser degree and purely supporting Interactive marketing activities. An organization pursuing a RM strategy has created more value for its customers than is provided by the core product alone. Such an organization develops more and tighter ties with its customers over time. Such ties may, for example, be technological, knowledge or information-related, or social in nature (Grönroos, 1993).

RM stresses the need for effective internal relationships as a prerequisite to effective relationships with the external market, it recognizes and allows the utilization of customers in the service delivery process, it recognizes the importance of customer contact personnel in the development of successful Marketing relationships and it also incorporates some of the knowledge from Strategic management thinking, adding to our understanding how organizations can become Learning organizations and how the blurring of traditional boundaries between departments and between the organization and its customers can increase the resources of the organization (Lings, 1999).

The concept includes, among others, primarily externally oriented market relationships involving direct contact with customers, and 'nano' relationships with the 'employee market', that is, Internal marketing (IM), which can be seen as part of RM as it gives indirect and necessary support to the relationships with external customers (Gumesson, 2000). IM involves an active, coordinated and goal-oriented approach to all employee-oriented efforts which combines these internal efforts and processes with the external efficiency of the organization (that is, Interactive marketing performance in customer relationships). Also, it implies an emphasis on the need to view people, functions and departments that are internal to the organization as internal customers, to whom internal services have to be provided as they are to the external customer, in a customer-oriented manner (Grönroos, 2000). RM is, then, a process, a chain of activities. It stresses flows and context. It represents a holistic attitude to Marketing (Gumesson, 2000).

1. Market orientation, Internal market orientation and Internal service quality

An organizational orientation which accommodates both internal and external aspects on an equivalent level is more successful in formulating strategic responses to market intelligence than an organizational orientation which has, mostly, an external focus. Thus, the organization's external orientation not only allows managers to identify the organization's opportunities and threats but it may also provide excuses for poor Performance. An Internal orientation complements this view by identifying the causes of poor Performance in the strengths and weaknesses within the internal environment of the organization. So, while Market orientation (MO) focuses on the development of responses to the external market of customers and competitors, a more holistic approach allows the development of responses to the internal environment, as well as to the external market (Lings, 1999).

The need for an internal focus has been leading organizations to realize that their most important asset is the employee and that 'taking care of clients' requires an effort to take care of workers. These efforts include, among others, IM (Hartline & Bejou, 2004). The concept emerged from Services marketing. Its concern was to get everyone who was involved in service encounters to perform better in the interaction with the costumer (Gumesson, 2000). IM applied to the Service sector is critical to excellent service provision and to successful External marketing (Hwang & Chi, 2005).

IM evolved from the idea that workers represent an internal market within the organization and this market needs to be informed about its mission, about the benefits of its products/services and about the expectations of external customers (Gilmore, 2000). A market form of organization seems almost inevitable because it offers the only way of adapting to an age where harnessing knowledge is the key to dealing with constant, rapid changes (Halal, 2000). So, the employees are a first market for the organization's offerings, as well as for its External marketing programs (Grönroos, 2000).

The use of the concept has broadened beyond services and become accepted terminology in all types of organization (Gumesson, 2000). Despite the rapid evolution in terms of literature, IM is applied by few organizations, and there is a wide variety of meanings attributed to the concept (Ahmed & Rafiq, 2002, 2003), which causes some disagreement about the objectives, tools and ways to implement it (Ahmed & Rafiq, 2002). According to Lings and Greenley (2009), IM can be operationalized through a set of behaviours oriented to the internal market. IM, along with the MO concept, originated the Internal market orientation (IMO) concept.

As mentioned, a more holistic orientation covering both internal and external aspects of the organization on a more equivalent level can be achieved by complementing an employee

orientation with the existing external (market) orientation (Lings, 1999). MO focuses on external stakeholders as targets of the market-oriented strategies, which is not enough to understand the effective implementation of these strategies, since the internal stakeholders provide the link between creative strategies and the external market (Schlosser & Mcnaughton, 2007).

Although MO and IMO are distinct from one another, they are inter-related concepts, and reflect a potential broadened view of the Marketing philosophy (Gounaris, 2006; Gounaris, Vassilikopoulou, & Chatzipanagiotou, 2010). Such a strategy, if developed, may increase the efficiency of market-oriented organizations' response to external market conditions because it allows the organizations' management to better align external market objectives with internal capabilities (Gounaris, 2006).

Through MO adoption, Customer perceived value, Customer perceived service quality (Gounaris et al., 2010), Customer satisfaction (Narver & Slater, 1990; Slater & Narver, 2000; Lings & Greenley, 2009;) and Financial performance (Narver & Slater, 1990; Slater & Narver, 2000; Raju & Lonial, 2002; Lings & Greenley, 2009;) increase. Through IMO adoption, the organization improves the level of employee Perceived value, which results in higher levels of (external) Customer perceived service quality (Gounaris et al., 2010), and it also improves Customer perceived service quality (Tortosa, Moliner & Sánchez, 2009; Gounaris et al., 2010), Customer satisfaction (Lings & Greenley, 2005; Lings & Greenley, 2009; Tortosa et al., 2009) and Financial performance (Lings & Greenley, 2009). So, a Marketing strategy with internal and external focus contributes to obtain competitive advantage (Mazzarol & Soutar, 1999).

MO, defined as a set of organizational behaviours associated with the implementation of the Marketing concept (Lings & Greenley, 2009), is seen as a way to improve Organizational performance (Narver & Slater, 1990; Jaworski & Kohli, 1993; Day, 1994; Slater & Narver, 2000; Raju & Lonial, 2002; Lings & Greenley, 2009). However, the lack of an internal focus limits the applicability of MO to the current organizational contexts, so the internal focus requires consideration of an IMO (Lings, 1999; Carter & Gray, 2007), which represents the adaptation of MO to the context of employer-employee exchanges in the internal market (Lings and Greenley, 2005; Gounaris, 2006) and it is one of the core components of MO (Naudé, Desai & Murphy, 2003), so its adoption complements the organization's MO (Gounaris, 2006). The measurement of the concept involves assessing the extent to which the IM task has been successfully achieved (Naudé et al., 2003; Lings, 2004; Gounaris, 2006). The behaviours that reflect the adoption of the principles of an IMO may be the organization's commitment to generating and delivering value to the different organizational stakeholders (Gounaris et al., 2010).

For high Customer satisfaction to occur, the needs of external customers must be tightly coupled with an organization's internal efforts, and Marketing personnel must extend their external boundary spanning responsibilities to include a greater understanding of internal customers and processes (Lassk, Norman, & Goolsby, 2004). So, there is the need to strike the right balance between the organization's internal and external orientation (Gounaris et al., 2010). To achieve this, and to ensure that IMO is successfully adopted, organizations have to invest in integrating the Marketing and the Human Resource (HR) functions, the same way in which they attempt to integrate Marketing with other organizational functions that also influence customers' experiences. Thus, managers must understand and subscribe to both Marketing and HR philosophies (Dunne & Barnes, 2000; Lings, 2004; Gounaris et al., 2010) and IMO provides the tools for Marketing managers to incorporate HR aspects into a Marketing plan and for HR managers to incorporate Marketing practices into an HR plan (Gounaris et al., 2010).

In this sense, the evaluation of MO and IMO seems highly relevant, not only to understand to which extent organizations apply the broadened Marketing philosophy but also to elevate its importance in the current competitive and turbulent organizational context. Moreover, this relevance is magnified if we take into consideration the worldwide crisis we are living, because many organizations are now struggling to survive.

In the internal perspective, the concept of Internal service quality (ISQ) arises. In fact, as Kang, James and Alexandris (2002) point out, a critical component of IM is the provision of ISQ. According to Berry and Parasuraman (1992: 5) "A service company is defined by its service quality". As Service quality is important in order to satisfy the external customer, so is ISQ, in order to satisfy the internal customer (Jun & Cai, 2010). Moreover, there is evidence that employees are more committed (Boshoff & Mels, 1995; Bai & Brewer, 2006), more cooperative and more likely to improve their general Performance (Bellou & Andronikidis, 2008) when ISQ is high.

2. The worker's Attitudes and Behaviour

Dramatic changes are affecting the world of work. Examples include increased global competition, the impact of information technology, the reorganization of business processes, the shift from making a product to providing a service, and the growing disappearance of the job as a fixed set of tasks. These trends have been producing a redefinition of work itself (Cascio, 1995). As organizations continue to adjust to a business world characterized by hyper-competition, they are forced to leverage all assets at their disposal in their attempt to differentiate product offerings, offer excellent quality and value, and deliver their promises of Customer satisfaction (Hartline & Bejou, 2004), and they are finding the human element to

be more and more important in order to achieve financial success (Mohamed, Taylor, & Hassan, 2006).

Therefore, the HR function's strategic role needs to focus more heavily on the workforce component of the organization's strategic capabilities, in order to achieve differentiation in relation to competitors and also more differentiation within the organization. Particularly, it is necessary to differentiate employee Performance (Becker & Huselid, 2006), a variable that is preceded by several job-related attitudes, namely Motivation (Heavey, Halliday, Gilbert, & Murphy, 2011), Job satisfaction (Samad, 2005; Jones, Jones, Latreille & Sloane, 2009; Khan et al., 2011; Ziegler, Hagen, & Diehl, 2012) or Commitment (Mowday et al., 1979; Meyer et al., 2002; Samad, 2005; Chen, Hwang, & Liu, 2009). These variables have been studied for years, and are central to the understanding of Organizational behaviour.

However, as Glisson and Durick (1988) mentioned, there is considerable disagreement among theorists concerning the mechanisms by which workers form attitudes regarding their jobs and the organizations where they work. Previous studies indicate that MO (Jaworski & Kohli, 1993; Zhou, Li, Zhou, & Su, 2008; Abzari, Ghorbani, & Madani, 2011) and IMO (Lings & Greenley, 2005; Gounaris, 2008; Lings & Greenley, 2009; Tortosa, Moliner, & Sánchez, 2009; Tortosa-Edo, Sánchez-García, & Moliner-Tena, 2010; Abzari, Ghorbani, & Madani, 2011) positively influence job-related attitudes. We also found one research (Carter & Gray, 2007) that suggests that IMO may influence the worker's Performance. Moreover, in addition to IMO and MO, also Motivation (Franco, Bennett & Kanfer, 2002), Satisfaction, Commitment (Malhotra & Mukherjee, 2004) and individual Performance (Tsaur & Lin, 2004) are associated with an improvement in the quality delivered to external customers. Therefore, it is likely that MO, IMO and ISQ influence the formation of positive job-related attitudes and behaviour (i.e. high Job satisfaction and Performance, for example), that also contribute for delivering higher quality to the external customer.

3. Marketing in the Higher Education context

The functions of teaching and research in Higher Education Institutions (HEI) are being revalued, particularly in what concerns their contribution to the welfare of the economic and social environment where they are inserted (Alves, Mainardes, & Raposo, 2010). Potential benefits of applying Marketing theories and concepts that have been effective in the business world are gradually being recognized by researchers in the field of Higher Education (HE) Marketing. However, the literature on this area is incoherent, inchoate, and lacks theoretical models that reflect upon the specific context of HE and the nature of the services provided (Hemsley-Brown & Oplatka, 2006).

The existence of an information society builds enormous pressure towards the production and transfer of knowledge and the economic contraction is juxtaposed against the globalization of capital, which demands that productive enterprises compete on a worldwide scale. Universities are not exempt from this dynamic. They are also propelled towards a MO, since market mechanisms predominate. Knowledge produced within such a context becomes a product. It can be bought and sold as it is intellectual property, private intellectual property. The transfer of knowledge may occur between Universities in one or more than one country or between Universities and industry. In all instances, the transfer occurs within the relationships determined by the social context. It affects the formulation of knowledge, the transfer of knowledge and the character of knowledge (Buchbinder, 1993).

During the last decade, there has been increasing pressure on HE to use resources more effectively and efficiently, since teaching performances and reputation are, in fact, crucial to attract students (Arena, Arnaboldi, Azzone & Carlucci, 2009). In the context of increasing competition for home-based and overseas students, HEI are beginning to realize that they need to market themselves (Hemsley-Brown & Oplatka, 2006) and that there is the need to establish long-term relationships with their clients through the provision of high-value services (Alves, 2011). Therefore, delivering quality service has become an important goal for most HEI (Athiyaman, 1997; Mustafa & Chiang, 2006; Sahney, Banwet, & Karunes, 2008).

In this perspective, Education is becoming much more of a 'product' with varying stakeholders (Sahney, Banwet, & Karunes, 2008; Alves et al., 2010). Thus, there are huge pressures to become more accountable and responsive to customer needs (Mustafa & Chiang, 2006; Sahney et al., 2008), and more efficient and effective (Mackenzie & Mackenzie, 1995; Sahney et al., 2008). However, it seems important to stress that there is some evidence of negative feelings towards the need for Marketing activities, and some concerns about the application of business or industry sector models to HE (Hemsley-Brown & Oplatka, 2006). Nevertheless, in some contexts, HE follows the developments of other sectors, such as the increasing interest in Performance measurement (Sarrico, 2010).

Continuously improving the students' learning and development remains the primary goal of Universities and should be the focus of any concern over quality in HEI (Tam, 2013). Although the benefits of MO are widely recognized, some service organizations, such as Universities, usually do not implement this concept (Hampton, Wolf, Albinsson & McQuitty, 2009; Pavičić, Alfirević, & Mihanović, 2009). On the other hand, the emphasis has been put, essentially, on the external customer's perspective. The internal customer's side has generally been ignored (Sahney et al., 2008). Therefore, there is a great need to expand Marketing research in HE.

4. Research goals

On a general level, our main goal is to understand MO and IMO in the HE context. Specifically, we intend to verify whether HEI are (internal and external) market oriented or not, that is, if they apply the broadened Marketing philosophy. Also, we intend to propose the integration of Marketing and HR-related practices in HE. In order to do so, we evaluate the relationships between IMO, MO, ISQ and work-related attitudes and behaviour, which enhance the quality delivered to the external customer.

The research in question may contribute to both academic and organizational levels. Our main focus is to evaluate the external - MO - and the internal focus - IMO - of organizations, specifically of HEI, since, as mentioned, MO and IMO contribute to Perceived service value, to Perceived quality and to Customer satisfaction. Specifically in the context of HE, Perceived value was found to strongly influence the students' Satisfaction, and, consequently, their Loyalty (Alves, 2011). Therefore, HE should invest in enhancing these aspects through MO and IMO adoption. We also note that organizations which are better equipped to respond to market requirements and anticipate changing conditions are expected to enjoy long-run competitive advantage and superior profitability (Day, 1994), so MO and IMO may act as competitive factors in the context of HE, which is still understudied.

On the other hand, we intend to evaluate the relationships between MO, IMO and ISQ and the worker's attitudes and behaviour, key variables for organizations, which may contribute to obtain higher quality in HE. We follow the perspective that identifies the need for Marketing and HR integration, and this research may be one more step towards this shift. The Management approach used in organizations is crucial in determining Organizational performance. Thus, if, in fact, there are relationships between MO, IMO, ISQ and the worker's attitudes and behaviour in HE, it will be possible to understand how the Management of HEI should be done, in order to positively influence the workers and then, productivity in this context, i.e., the quality of Education. Nowadays, knowledge plays indeed a key role due to the increasing organizational competitiveness and, particularly, the economic problems that characterize the current global context. It is, therefore, necessary that HEI recognize which methods to use in order to boost Education and attract the interest of students, teachers, businesses and other HEI.

Concerning, particularly, the HE workers, we aim to assess the relationships between work-related attitudes and behaviours. Since the relationships proposed were previously supported, we attempt to verify if they hold in the context of HE. Moreover, considering that the internal market's attitudes and behaviours are associated to an increase on the quality delivered to the external customer, unraveling these relationships, once more, will allow us

to expand the empirical evidence of these relationships and elevate their importance in the organizational context.

Taking into account that we are now a Web 2.0 society, HEI should also use Web 2.0 tools as part of their Marketing strategy, as it has been done by other types of organizations. These tools allow the development of long lasting relationships, enhancing the interest and Satisfaction of users, through the incredibly fast dissemination of knowledge and information and through a much greater interactivity. Moreover, Web-based Marketing allows servicebased organizations to equally compete with each other, regardless the differences that may exist. This 'equality for all' postulation finds some support in the world of business, where the recent success of 'dot com' companies suggests that, with the help of the Internet, it is possible for small, relatively unknown businesses to successfully compete with large, established organizations (Klassen, 2002), so the Web site of a company is becoming an important tool in a competitive environment (Davidavičienė & Tolvaišas, 2011). In this sense, we focus on the quality of the Web sites of HEI. There are many factors influencing the perception of quality in HE. The rapid uptake of Web 2.0 tools and dynamics in society is no predictor of a similar uptake in formal learning practices in HE (Collis & Moonen, 2008). Existing work shows that Web 2.0 applications can be successfully exploited for technology learning enhancement (Ullrich et al., 2008) and HEI use methods such as E-learning and Distance education. On the other hand, the Web site of a HEI is a 'window to the world', contributing not only to attract the interest of students, lecturers, researchers, businesses and other HEI, at national or international level, but also to maintain the interest of current students and workers.

Still concerning Web 2.0 tools, the use of Online social networks (OSN), when allowed by the organization, may also be used as a Marketing tool, specifically an IM tool, with the aim of achieving the External marketing strategy and goals. In this perspective, we intend to evaluate the influence of using OSN on the worker's attitudes and behaviours, in the context of HE, that is, if the use of such networks to maintain contact with co-workers positively influences job-related attitudes and behaviours.

The five articles developed in this Thesis follow a logic sequence. First, we present the article related to the development of a Performance measure, used to evaluate this concept in the following two articles. Next, we describe the means for MO, IMO, ISQ and work-related attitudes and behaviour of academics in Europe, we make group comparisons according to the type of HEI, age, qualifications, length of career and region, and we compare Europe to two American countries - USA and Brazil. Then, in the third article, the relationships between the mentioned variables are evaluated. Finally, we present two articles regarding Web 2.0 tools, which may be used by HEI, as well as by organizations in general, as Marketing tools, with the aim of achieving the goals of the organization's External marketing strategy. First, we

identify the use of the Web site and the investment in its quality as an External and Internal marketing tool, and then we propose the use of OSN as an IM tool and we evaluate the influence of using OSN to maintain contact with co-workers on the worker's attitudes and behaviours, as well as the existing relationships between the worker's attitudes and behaviours.

Next, we describe each of the five articles developed, particularly regarding their main goals, contributions and methodology.

The first article (*Development and validation of a Self-reported measure of Job performance*) has been accepted for publication by the journal *Social Indicators Research*. In order to evaluate the concept of Job performance (in-role and extra-role) in the following two articles, we develop an instrument, amenable of application in different cultural and job-related contexts, since we found no such measures available. The instrument may be used for research on the JP concept and, in what concerns organizations in general, HRM can use it as a complementary means to objective measures or to evaluate the worker's Performance anonymously, in order to understand the workers' behaviour as a whole, as well as its relationships with other variables that are relevant to HRM practices, thus supporting decision-making in organizations. We analyse the data using the statistical package AMOS, which provides the Structural equation modelling (SEM) method, allowing the consideration of simultaneous equations with many endogenous variables (Bollen & Long, 1993). Specifically, we perform Confirmatory factor analysis (CFA) in order to test the adequacy of the model.

The second article (Internal and External market orientation, Internal service quality and work-related Attitudes and Behaviour in European Higher Education) has been submitted to the journal Higher Education. In this article, we intend to verify whether European HEI are (internal and external) market oriented or not, and to determine the levels of Motivation, Satisfaction, Commitment and Performance of academics. We also intend to study the level of Internal service quality (ISQ) in this context (Which is the perception of the Lecturing staff regarding the degree of Internal market orientation (IMO) and Market orientation (MO) in HE? Which is the perception of the Lecturing staff regarding ISQ? Which are the levels of Motivation, Satisfaction, Commitment and Performance of the Lecturing staff in European HEI?). Moreover, we intend to compare the levels of IMO, MO and of ISQ in HEI, and the levels of Motivation, Satisfaction, Commitment and Performance of academics, according to several variables (Does the degree of IMO, MO and of ISQ differ depending on the type of HEI, age, qualifications, length of career and context? Does the degree of Motivation, of Satisfaction, Commitment and Performance vary according to the type of HEI, age, qualifications, length of career and context?). Specifically, we make group comparisons in Europe, considering the type of HEI, age, qualifications, length of career and region, and we compare Europe to two American countries - USA and Brazil. In this research, we intend to understand whether

European HEI are internal and external market oriented or not, that is, if they are applying the broadened Marketing philosophy. HEI must understand, as mentioned earlier, that for high Customer satisfaction to occur, the needs of external customers must be strongly tied with an organization's internal efforts, and Marketing personnel must take in a greater understanding of internal customers and processes. Also, the research alerts to the fact that, in order to accomplish this, and to guarantee that IMO is successfully adopted, HEI have to invest in integrating the Marketing and the HR functions. On the other hand, understanding the level of ISQ, a critical component of the IM strategy, in this context may also alert HEI to the need of changing their Marketing strategy. Furthermore, the research allows the understanding of some work-related attitudes and behaviour of academics, which contribute as well to deliver higher quality to the external customer. In this sense, the research is useful for HEI, considering they should be aware of the need to improve quality, and this could be done by enhancing the academics' work-related attitudes and behaviour.

We also intend to evaluate the relationship between IMO, MO and ISQ (Are there positive relationships between the perception of IMO, the perception of MO and the perception of ISQ in HEI?). Another goal of the research is to determine whether IMO, MO and ISQ have a positive influence on the academics' Motivation, Satisfaction, Commitment and Performance (Do IMO, MO and ISQ positively influence the attitudes and behaviour of the Lecturing staff?). Moreover, we intend to evaluate the relationship between Motivation, Satisfaction, Commitment and Performance (Are there positive relationships between the attitudes and behaviour of the Lecturing staff?). In this perspective, we develop the third article (Internal market orientation and Market orientation in Higher Education - Implications on the academics' Attitudes and Behaviour, and on Internal service quality), submitted to the Journal of Business Economics and Management, in which we propose a research model based on the mentioned relationships. We analyse the data using the statistical package AMOS, which provides the Structural equation modelling (SEM) method. If supported, these relationships may alert HEI, in a Marketing and HRM perspective, to the need of adopting a holistic Marketing approach and assuring that their workers are motivated, thus enhancing Satisfaction, Commitment and, consequently, Performance. The research is also useful for organizations in general, since enhancing the worker's Motivation, Satisfaction and Commitment will improve the worker's In and Extra-role performance, that improve the quality delivered by the organization, which is particularly relevant considering the current global economic context.

In the scope of MO and IMO, delivering quality service has become an important goal for most HEI, and taking into account the competitive environment in which they are inserted nowadays, they should, as other organizations do, use their Web sites as a Marketing tool. In this sense, we develop a fourth article (*Web site quality evaluation in Higher Education Institutions*) - published in *Procedia Technology* and, later, after extending and adapting it,

accepted for publication by IGI-Global - with the aim of answering the following question: Do HEI invest in the quality of their Web sites, i.e. use their Web sites as an effective Marketing tool?. In this study, among other goals, we intend to verify whether the means for Web site quality and its dimensions are statistically different depending on the type of institution and the utilization/non-utilization of E-learning and Distance education methods. In this case, the method used was the t-student test, for independent samples, which makes it possible to test whether the means of two populations are significantly different. The ANOVA method was also used in order to understand if there are variations among different groups in the sample, specifically among the types of HEI - Universitary, Polytechnic and Concordat. The research may contribute for HEI to realize that they need to invest more in the quality of their Web sites, as part of the External and the Internal marketing strategy, since they can be used to enhance the interest and Satisfaction of both the external and the internal market. In what concerns organizations in general, the research may contribute to alert them to the need to invest time and money on Web site service quality, design and evaluation, since nowadays Web sites may be one of the most important tools in a competitive environment. In a Web 2.0 based society, it is fundamental that organizations understand the benefits of investing in Web 2.0 tools.

Finally, and also in a perspective of integration of Marketing and HR practices, we develop the fifth article (The influence of (online) Social networks on the worker's Attitudes and Behaviours in Higher Education Institutions), which assesses the impact of using OSN to maintain contact with co-workers on the worker's attitudes and behaviours, specifically in the Portuguese HE context (Does the use of OSN to maintain contact with co-workers positively influence the Satisfaction, the Commitment, the Organizational citizenship behaviours and the Performance of the Lecturing staff?). Considering that Web 2.0 technologies are in constant development and are now a part of our day-to-day, there is the need for organizations to understand how to use them to their benefit. This research may, then, contribute to organizations in general, and to HEI in particular, since it evaluates whether the use of OSN should be encouraged or not, in the sense that it may or may not have a direct relationship to the internal market's attitudes and behaviours, which influence the quality delivered to the external customer. If supported, we will be able to infer that HEI should encourage the use of OSN at work as part of their IM strategy, with the aim of meeting the organization's External marketing goals. Another goal of the research is to understand if there are positive relationships between the academics' attitudes and behaviours (Does Job satisfaction influence Commitment, Organizational citizenship behaviours and Performance? Does Commitment influence Organizational citizenship behaviours and Performance? Do Organizational citizenship behaviours influence Performance?). In a perspective of Marketing and HRM integration, if supported, these relationships may alert HEI, as well as organizations in general, to the need of assuring that their workers are satisfied, thus enhancing

Commitment and, consequently, In-role and Extra-role performance, which improve the quality delivered by the organization, which is particularly relevant nowadays considering the current global economic context. Also, HEI must understand the importance of being oriented towards the internal market, since IMO positively influences variables that enhance the student's Satisfaction and Loyalty, such as Perceived value. In order to understand the relationships between the use of OSN and the academics' attitudes and behaviours we verify whether the means, for each variable, are statistically different depending on the use of OSN to maintain contact with co-workers. In this case, the method used was the t-student test for independent samples. In order to test the relationships between the academics' attitudes and behaviours, we use the PLS method, since our sample is small (N=157). This method has been increasingly used because of its ability to shape latent constructs under conditions of non-normality and small to medium samples (Chin, Marcolin, & Newsted, 2003).

Besides the mentioned contributions, the five articles developed may be useful for researchers in the Marketing, HRM, Organizational behaviour, Organizational psychology and Higher Education areas.

Alves et al. (2010) proposed a theory of stakeholder Management in HE. According to the authors, in addition to other stakeholders, as the student for example, Lecturing and Research staff should also be considered important stakeholders in HE, since they represent the core of scientific production in this context. Therefore, in addition to Motivation, Satisfaction, Commitment, Organizational citizenship behaviours, Performance and the use of OSN, the evaluation of MO, IMO and ISQ is done according to the worker's perception, particularly according to the perception of the Lecturing staff, since they should have a clearer vision of how the Management of HEI is done, particularly regarding the workers and the students.

5. Structure of the Thesis

This Thesis is divided into seven chapters:

CHAPTER 1 - Introduction

CHAPTER 2 - Development and validation of a self-reported measure of Job performance

CHAPTER 3 - Internal and External market orientation, Internal service quality and work-related Attitudes and Behaviour in European Higher Education

CHAPTER 4 - Internal market orientation and Market orientation in Higher Education - Implications on the academics' Attitudes and Behaviour, and on Internal service quality

CHAPTER 5 - Web site quality evaluation in Higher Education Institutions

CHAPTER 6 - The influence of (online) Social networks on the worker's Attitudes and Behaviours in Higher Education Institutions

CHAPTER 7 - Conclusions, Limitations and Perspectives for future research

CHAPTER 2

DEVELOPMENT AND VALIDATION OF A SELF-REPORTED MEASURE OF JOB PERFORMANCE

ABSTRACT

The current turbulent context we live in requires, more and more, that organizations focus on improving Performance. Considering the fact that most individual Performance measures are developed to be applied in particular job-related contexts or cultures, our goal is to develop a Job performance measure that might be applicable across jobs and cultures. After extensive literature review, and based on studies developed in different cultural and job-related contexts, two dimensions - Task and Contextual - and eight sub dimensions of Job performance were proposed: job knowledge, organizational skills, efficiency, persistent effort, cooperation, organizational consciousness, personal characteristics and interpersonal and relational skills. Confirmatory factor analysis was used in order to test their relevance. The dimensions 'personal characteristics' and 'persistent effort' were merged. The resulting 29 item scale presents appropriate psychometric properties, so it may be used for research on the JP concept. Also, Human Resource Management can use it as a complementary means to objective measures or to evaluate the worker's Performance anonymously, in order to understand the workers' behaviour as a whole, thus supporting decision-making in organizations.

KEYWORDS: Job performance, Behaviour, Measurement, Task performance, Contextual performance, Structural equations modelling, Confirmatory factor analysis

1. INTRODUCTION

The globalization of markets, the competition and the fast pace of technological development (Boumarafi, 2009) are factors that impact on organizations, that are forced to have the intellectual capital (Daud, Fadzilah, & Yusoff, 2010) and knowledge which enable them to obtain and maintain competitiveness (Almashari, Zairi, & Alathari, 2002; Daud et al., 2010; Lee & Choi, 2010). So, nowadays, the focus is the optimization of Performance (Heavey, Halliday, Gilbert & Murphy, 2011).

Brewer and Selden (2000) proposed a model to explain Organizational performance, according to which there are two factors which characterize the concept: (1) factors relating to the organization and (2) individual factors. The individual factors are characterized by several aspects, namely individual Performance. The authors also note that the variables that have a major impact on Organizational performance are those that require more involvement from the workers. So, while measuring and analysing Organizational performance as a whole plays an important role in turning organizational goals into reality (Popova & Sharpanskykh, 2010),

measures of individual Performance are particularly important in order to understand the effects of various interventions on occupational functioning (Pransky et al., 2006).

In this sense, with the purpose of understanding Organizational performance, it is necessary to comprehend individual Performance, since we must consider not only organizational factors, but also factors that are inherent to the workers or that affect them, individually.

Individual Performance is more than just the execution of specific tasks and it involves a wide variety of organizational activities that have important implications for the understanding and measurement of Job performance (Arvey & Murphy, 1998). The concept is mainly treated as a dependent variable, which makes perfect sense from a practical point of view: individual Performance is something organizations want to enhance and optimize (Sonnentag & Frese, 2002). Due to the unavailability of objective measurements of work function and Performance, various self-reported measures have been employed in a wide range of studies (Pransky et al., 2006).

Therefore, considering the particular importance that individual Performance has for organizations nowadays, and the fact that there seems to be a lack of relevant Performance measures available, our main goal is to develop a scale that may be applied across contexts and jobs. In order to accomplish this intent, we define the Job performance concept. Then, we analyse several studies proposing different Performance dimensions, from which we build our own set of dimensions. After, we describe the methodology used and the results.

2. JOB PERFORMANCE DEFINITION

Job performance (JP) is characterized as a *dynamic* (e.g.: Motowidlo, Borman, & Schmit, 1997; Sonnentag & Frese, 2002), *multidimensional* (e.g.: Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001; Sonnentag & Frese, 2002; Cheng, Li & Fox, 2007), *behavioural* (e.g.: Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001), *episodic* (e.g.: Motowidlo et al., 1997) and *evaluative* (e.g.: Motowidlo et al., 1997) concept.

JP is considered to be *dynamic* because it is not constant over time. Variability in an individual's Performance reflects (1) learning processes and other long-term changes and (2) temporary changes in Performance (Sonnentag & Frese, 2002). Individual differences in personality and cognitive abilities, in addition to learning experiences, lead to variability in knowledge, skills, work habits and traits, which mediate the effects of personality and cognitive ability on JP. An ability may be defined as a trait (innate or learned) that allows a person to do something mentally or physically (Gibson, Ivencevich & Donnelly Jr., 1994). Cognitive ability refers, in particular, to mental qualification or capacity (Ree, Carretta & Steindl, 2001). So, the measurement of JP should be done considering one particular period

and, preferably, one specific job. JP is multidimensional, since one attribute, one outcome or one factor cannot be referred to as JP (Campbell et al., 1990). Thus, there are several manifestations of JP and the explanation of the construct requires the identification of the different dimensions it is composed of (Viswesvaran, 2001). JP is behavioural, because it consists of manifestations of Performance (Viswesvaran, 2001), behaviours (Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001) or activities that are considered important to achieve the organizational goals (Campbell et al., 1990; Borman & Motowidlo, 1997; Bergeron, 2007). The concept is also considered to be episodic, since, during a work day, workers adopt several behaviours that neither help nor hinder the organization accomplish its goals, so this kind of behaviours has no effect on their Performance. Therefore, streams of work-related behaviour are characterized by occasions when people adopt behaviours that make a difference regarding the organizational goals (Motowidlo et al., 1997). JP is evaluative as well, that is, Performance consists of behaviours that may be positive or negative to the organization or to the individual and it is possible to scale the extent to which they are desirable, with enough precision to distinguish between them (Motowidlo et al., 1997).

Table 2.1 - Job performance definitions

| Authors | Definition |
|--------------------------------|---|
| Campbell et al. (1990) | The total population of behaviours and activities that are considered important to accomplish organizational goals. Each of the activities performed at work may require different knowledge and skills, which may be functions of different abilities. |
| Borman and Motowidlo (1997) | There are two types of Job performance: Task and Contextual. |
| Motowidlo et al. | The aggregated value to the organization of the discrete behavioural episodes that an individual performs over a standard period. There are two types of Job performance: task and contextual activities. |
| (1997) | Behaviour is what people do at work. Performance is behaviour with an evaluative component, that is, behaviour that can be evaluated as positive or negative for the individual or for the organization. |
| Viswesvaran (2001) | Performance consists of evaluable behaviours. There are several manifestations of individual Job performance with the actual operational measures varying across contexts. In this sense, the explanation of the construct involves identifying the dimensions it is composed of. |
| Bergeron (2007) | Behaviours needed to help the organization reach its goals. |

Source: Own

One problem related to the Performance concept is the distinction between behaviours and outcomes. Performance includes both a behavioural and an outcome aspect (Sonnentag & Frese, 2002), and the difference between the two concepts is not always clear (Viswesvaran, 2001). Behaviour is what people do at work. Results are the course through which an individual's Performance helps or hinders the achievement of organizational goals, and this is the reason why it is more tempting to focus on results (Motowidlo et al., 1997).

However, there are two motives why Performance models should focus on behaviour. Firstly, states/conditions of things/people that are changed by JP are also influenced by other factors that are not under the worker's control. Without adjustments for these irrelevant factors, the perceptible results of an individual's Performance do not authentically represent his/her own input to the achievement of organizational goals. Secondly, a behavioural focus is required in order to build up a psychological understanding of selection processes and apply the full range of psychological principles and tools to the problem of prediction more successfully (Motowidlo et al., 1997).

Based on the JP theory that posits the existence of two types of Performance, we define Task and Contextual performance, two distinct types of behaviour that contribute independently to the effectiveness outcomes of organizations (Griffin, Neal & Neale, 2000). Task performance can be defined as (1) activities that transform raw materials into the goods and services that are the organization's products (i.e.: teaching, performing surgery, cashing checks) or (2) activities that service and maintain the technical core by replenishing supply of raw materials, by distributing finished products or providing important planning, coordination, supervising or staff functions that enable the organization to function effectively and efficiently. Thus, Task performance is directly related to the organization's technical core, either by carrying out its technical processes or by maintaining and servicing its technical requirements (Motowidlo et al., 1997).

The kinds of knowledge, skills, work habits and traits related to Task performance differ from the ones related to Contextual performance (Motowidlo et al., 1997). Contextual activities contribute to organizational efficiency in ways that shape the organizational, social, and psychological context that serves as the catalyst for task-related activities or processes. Contextual performance includes volunteering to perform activities that are not formally part of the job and helping or cooperating with others in order to get tasks accomplished (Borman & Motowidlo, 1997). Thus, Contextual performance accounts for a type of behaviour that is mainly under the motivational control of workers (Griffin, Neal & Neale, 2000), and it originated from three concepts previously studied: Prosocial organizational behaviours (POB), Effectiveness behaviours and Organizational citizenship behaviours (OCB).

The construct of POB is defined as acts such as helping, sharing, donating, cooperating and volunteering. They are defined as positive social acts performed to create and maintain the well-being and integrity of other individuals. They vary according to whether they are functional or dysfunctional for the organization's effectiveness, prescribed or not prescribed as part of one's organizational role, and directed towards an individual or an organizational target (Brief & Motowidlo, 1986).

Borman, Motowildo and Rose (1987) sought to identify a set of criterion behaviours that would include elements of soldier effectiveness not directly related to Task performance, but related to a broader conception of JP. The notion was that being a good soldier from the USA Army's perspective is more than just performing the job in a technically proficient manner. It also means performing a variety of other activities that contribute to a soldier's effectiveness in the unit and to his/her overall worth to the Army. The authors developed a model including the following concepts: Organizational commitment, Organizational socialization and Morale. Commitment and Socialization combine to define Allegiance, Socialization and Morale merge to define Teamwork, and Morale and Commitment combine to define Determination.

The concept of OCB has different origins: (1) in Barnard's (1938) proposal, according to which the workers' will to cooperate is indispensable for the organization, (2) in Katz and Kahn's (1978) distinctions of behavioural typologies in organizations, and (3) in Organ's (1977) essay, which states that people can adopt a cooperative behaviour in order to respond reciprocally to the work experiences that provide satisfaction, as opposed to the behaviours inherent to the role, which depend on certain restrictions. Based on Organ's work (1977), Bateman and Organ (1983) measured this new kind of Performance.

From then on, several definitions and dimensions were proposed for the concept (e.g.: Graham, 1991; Williams & Anderson, 1991; Organ & Moorman, 1993; Van Dyne, Graham, & Dienesch, 1994; Konovsky & Organ, 1996; Podsakoff, MacKenzie, Paine & Bachrach, 2000). According to González and Garazo (2006), there are five dimensions of OCB that are more frequently used, which is in agreement with the OCB studies found:

- (1) Altruism (MacKenzie, Podsakoff, & Fetter, 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego, Ribeiro, & Cunha, 2010) that is defined as 'helping behaviour' (Lo & Ramayah, 2009);
- (2) Civic Virtue (MacKenzie et al., 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego et al., 2010) the responsibility of the workers to participate in the life of the organization (Podsakoff et al., 2000);
- (3) Sportsmanship (MacKenzie et al., 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego et al., 2010) behaviour of warmly tolerating unavoidable irritations (Podsakoff & MacKenzie, 1997);
- (4) Conscientiousness (MacKenzie et al., 1993; Rego et al., 2010) based on how organized, hardworking and responsible the worker is (Lo & Ramayah, 2009); and
- (5) Courtesy (Organ & Lingl, 1995; Konovsky & Organ, 1996; Rego et al., 2010) related to the prevention of problems at the workplace (Lo & Ramayah, 2009).

Borman and Motowidlo (1997) argue that Contextual performance is importantly different from Task performance in, at least, three ways. Firstly, task activities vary considerably across jobs whereas contextual activities tend to be more similar across jobs. Secondly, task activities are more likely than contextual activities to be role-prescribed. Thirdly, antecedents of Task performance are more likely to involve cognitive ability, whereas antecedents of Contextual performance are more likely to involve personality variables. This perspective is in agreement with other studies (e.g.: Borman, Hanson, & Hedge, 1997; Motowidlo et al., 1997). However, Ackerman and Heggestad (1997) concluded that abilities, interests and personality develop in tandem, such that ability level and personality dispositions determine the likelihood of success in a particular task, and interests determine the motivation to execute the task.

Borman and Motowidlo (1997) propose five dimensions of Contextual performance:

- (1) Persisting with enthusiasm and extra effort as necessary to complete own task activities successfully (perseverance and conscientiousness; extra effort on the job);
- (2) Volunteering to carry out task activities that are not formally part of own job (suggesting organizational improvements, initiative and taking on extra responsibility; making constructive suggestions; developing oneself);
- (3) Helping and cooperating with others (assisting/helping co-workers; assisting/helping customers; organizational courtesy; sportsmanship; altruism; helping co-workers);
- (4) Following organizational rules and procedures (following orders and regulations; complying with organizational values and policies; conscientiousness; meeting deadlines; civic virtue); and
- (5) Endorsing, supporting, and defending organizational objectives (organizational loyalty; concern for unit objectives; staying with the organization during hard times and representing the organization favourably to outsiders; protecting the organization).

Later, other authors revised the proposed taxonomy (e.g.: Coleman & Borman, 1999; Borman, Penner, Allen & Motowidlo, 2001).

Based on the literature review, we define JP as evaluative and episodic behaviours that an individual adopts towards her/his work and job, as a result of the dynamics between cognitive abilities, personality and learning experiences, that aggregate value to the organization.

3. JOB PERFORMANCE DIMENSIONS AND MEASUREMENT

The measurement of JP has long been recognized as one of the significant challenges faced by managers and researchers (Murphy, 2008). Methods used to evaluate individual Performance

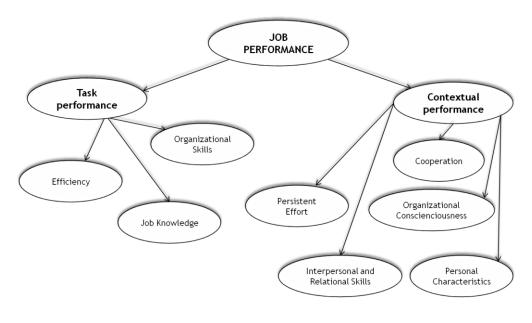
can be broadly classified into (1) organizational records, and (2) subjective evaluations -based on criteria referenced judgments, where an individual is evaluated without reference to other individuals (i.e. ratings), or on norm-referenced judgments, where an individual is evaluated in comparison to other individuals (i.e. rankings). In what concerns subjective evaluations, the question of who should rate arises. Typically, the rating evaluation is done by the supervisor (Viswesvaran, 2001). However, ratings of JP are viewed as poor measures of Performance (Murphy, 2008). Although self-ratings may give a biased view of reality (Van Woerkom & Reuver, 2009), many authors have measured Performance through self-reported measures (e.g.: Tyagi, 1985; Coleman & Borman, 1999) and, in our particular case, the fact that we are creating a self-reported measure is not expected to bias the results because the collected data is for research purposes only.

After an extensive review of literature, it was possible to verify that, although many studies identify Performance dimensions, most of them do not specify the items or the scale used to evaluate these dimensions. On the other hand, usually, self-reported Performance measures are adapted or built in order to be applied to specific contexts: Sales (e.g.: Conte & Gintoft, 2005; Miao & Evans, 2007), Healthcare (e.g.: Greenslade & Jimmieson, 2007) or Higher Education (Molefe, 2010), for example. So, apparently, there is the need to develop an instrument that can be applied across jobs and cultures and this is one of our main goals. Many factors can affect the validity of a measure used in different cultures. Cultural beliefs, political structures, languages, economies, technologies and acceptability of and familiarity with measures may influence their effectiveness. Thus, it is important to cross-validate measures (Aguinis, Henle, & Ostroff, 2001). The development of the instrument is based on Performance dimensions previously proposed in different cultures, so that the application of the instrument to all types of cultures can be possible. Also, it is developed in English in order to facilitate blind back translation in different cultures.

According to Campbell and Lee (1988), self-appraisal may complement evaluative supervisory ratings and it may also be used to help employees improve their JP, so we intend to create an instrument that complements objective measures. Also, since measurement can provide accurate and relevant information that leads to informed decision-making (Aguinis et al., 2001), the instrument may support decision-making on organizations. On the other hand, the instrument may be useful to researchers, since it may be utilized to evaluate the relationships between JP and other variables relevant to organizations in a multitude of contexts.

Based on the perspective proposed by Borman and Motowidlo (1997), according to which there are two types of JP (Task and Contextual), and considering the most mentioned dimensions in the reviewed studies (see Appendix A), we propose eight JP dimensions: job knowledge, organizational skills, efficiency, persistent effort, cooperation, organizational

consciousness, personal characteristics and interpersonal and relational skills (see Figure 2.1). Task performance includes three dimensions - job knowledge, organizational skills and efficiency (see Appendix B) - and Contextual performance includes five dimensions - persistent effort, cooperation, organizational conscientiousness, personal characteristics and interpersonal and relational skills (see Appendix C).



Source: Own

Figure 2.1 - A suggested conceptualization of Job performance

4. METHOD

Given the lack of relevant measures, a new scale was developed following Churchill's (1979), Aguinis, Henle and Ostroff's (2001) and Viswesvaran's (2001) guidance.

In order to build the instrument, the steps below were followed:

- 1. Review of the JP literature, including theories and measures used in different contexts, as well as theoretically proposed dimensions;
- 2. Proposal of a Job performance definition based on the literature review;
- 3. Synthesis of the JP dimensions previously proposed and grouping of these dimensions into broader dimensions;
- 4. Creation of items for each sub dimension proposed;
- 5. Revision of the instrument by experts;
- 6. Pre-test;
- 7. Scale administration;

8. Confirmatory factor analysis (CFA) to determine whether the items are grouped correctly.

As mentioned, we based our instrument on the distinction between Task and Contextual performance. A total of 31 studies were reviewed with the aim of extracting JP dimensions. Although our aim is to develop a self-reported measure, we also considered studies that used supervisor Performance ratings. Also, we considered studies that do not distinguish between Task and Contextual performance (see Appendix A). Since the objective is to build a questionnaire that can be applied across jobs and contexts, it was necessary to adopt the following steps:

- 1. Dimensions that are too specific to a particular job were not considered (Task-related dimensions);
- 2. Dimensions that were likely to be role-prescribed in specific jobs (e.g.: Leadership and supervision in management positions) but that are included in Contextual performance according to the perspective proposed by Borman and Motowidlo (1997), were included in the broad dimension 'Contextual performance'. For example, one of the behaviours managers must adopt in order to accomplish their tasks is persuasiveness, but this type of behaviour is typically included in Contextual performance, so we considered this type of behaviours as Contextual performance.

Based on two dimensions (Task and Contextual performance) and on eight JP sub dimensions (job knowledge, organizational skills, efficiency, persistent effort, cooperation, organizational consciousness, personal characteristics and interpersonal and relational skills), a pool of items was developed. This initial pool of 57 individual items was sent to 12 experts in the area of JP, 14 journal editors and 18 academics in the following areas: Human resource management, Psychology, Work/Organizational psychology and/or Organizational behaviour, along with a detailed explanation of the scope of the study, of what the instrument attempted to measure and a request to evaluate each item according to their expert opinion as to whether each item was measuring what it intended to measure (content validity). 3 revisions were received. This process resulted in a slightly modified pool of items: 2 items were dropped and 11 were rephrased according to the experts' suggestions.

The target population of the instrument includes workers employed in organizations with 4 or more workers, since the questionnaire includes some items that inquire the worker about interpersonal and relational skills. To answer the questionnaire, one has to work in a given organization for, at least, 6 months, since Performance is a dynamic concept, so the respondent must have a clear idea of how he/she performs his/her work in a particular organization. We chose to use a 7-point Likert scale, which allows a broader understanding of the concept in study.

A pre-test was applied to 40 individuals in several different jobs, in order to verify that there were no doubts in what concerns the language used in the instrument. The sample is composed by Lecturing staff of Higher Education Institutions (HEI). The contacts of European HEI were gathered online, based on a list created by Bonaccorsi et al. (2010). First, the general e-mails (information, communication, international relations or rectory contacts) were gathered. In the case of countries with more than 150 HEI, 90 HEI were chosen randomly. In the case of European countries that do not belong to the European Union, 20 HEI were chosen randomly, since searching for the contacts of all the HEI would create time constraints. Then, in a second phase, the program Atomic E-mail Hunter, version 3.5¹, was used to gather the e-mails contained in the Web sites of the HEI. In what concerns the non-European countries, the contact gathering was based on Scimago Institutions Rankings - SIR world report 2012: Global Ranking, so we used the program to extract e-mails from the HEI listed in the ranking. In many cases, the extraction was not possible, and whenever the program extracted e-mails from a Web site, some e-mails that clearly did not belong to the Lecturing staff were deleted. Initially, we intended to extract e-mails from other North and South American countries. However, due to time constraints, we only gathered contacts of HEI in Brazil and in the USA.

The questionnaire was made available online in English. In addition to the questions regarding the variable under study, the respondents had to provide personal data. Anonymity and confidentiality were assured and the participation was voluntary. 1 357 European HEI, 104 USA HEI and 62 Brazilian HEI were requested, via e-mail, to invite the Lecturing staff to participate in the study. Then, in a second phase, a total of 175 646 individual e-mails inviting Lecturing staff to collaborate in the research were sent. Of the 1 523 e-mails sent to HEI, a total of 66 were returned and 33 HEI refused to divulge the request to the Lecturing staff, based on motives such as the institution policy, the vacation period or not wanting to overload their workers. Of the 175 646 individual requests sent, 17 046 were returned and 341 people refused to collaborate. Their motives included the fact that the questionnaire was too long, the lack of time, the disagreement with/lack of interest in the area of research and the difficulty in answering due to the technical language used or the inability to understand English. Also, some people were not part of the Lecturing staff (researchers, PhD. Students, Emeritus Professors or other staff), which was a requirement.

A total of 1 135 responses were gathered. However, 25 responses were deleted because we suspected that they do not belong to the Lecturing staff, and 3 responses were deleted because the individuals did not specify their country, so the sample is composed of 1 107 individuals, from 41 European countries, the USA and Brazil.

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¹ Atomic E-mail Hunter 3.5 (2006). Alexandria: AtomPark Software. Retrieved from http://www.massmailsoftware.com/extractweb/download/

To analyse the data we used the statistical package *SPSS*² and *AMOS*³, versions 19.0. The method used was the Structural equation modelling (SEM), which allows the consideration of simultaneous equations with many endogenous variables (Bollen & Long, 1993). We performed CFA, which is used to test the adequacy of a well-defined model. Unlike standard regression models, SEM accommodates regression relationships among latent variables and between observed and latent variables (Bowen & Guo, 2011). The model is composed of 55 reflective indicators, since they are theoretically parallel, (i.e., equivalent in their measurement of the underlying construct), and no *a priori* emphasis is given to a particular indicator included in the set (Chin, Marcolin & Newsted, 2003).

5. RESULTS

5.1. Sample profile

Table 2.2 - Sample characterization

| TYPE OF H | El | MAIN TEACHING AR | EA |
|---------------------------|-----------------|---------------------------|---------------|
| Public | 81.9% | Physical Sciences | 8.4% |
| Private | 17.2% | Life Sciences | 4.3% |
| Combined | 0.5% | Social and Human Sciences | 56.9 % |
| Foundation owned | 0.1% | Applied Sciences | 16.8% |
| Did not specify | 0.4% | Formal Sciences | 6.4% |
| TYPE OF EDUCA | ATION | Interdisciplinary areas | 2.4% |
| Universities | 85.5% | Did not specify | 4.7% |
| Colleges | 6% | AGE | |
| Polytechnics | 5.8% | 25 - 28 years old | 2.3% |
| Specialized Schools | 1.4% | 29 - 32 years old | 6.4% |
| University Colleges | 0,2% | 33 - 36 years old | 8.4% |
| Higher Vocational Schools | 0.9% | 37 - 40 years old | 10.9% |
| Did not specify | 0.3% | 41 - 44 years old | 9.1% |
| CONTINEN | T | 45 - 48 years old | 12% |
| North America (USA) | 16% (N = 177) | 49 - 52 years old | 10.4% |
| South America (Brazil) | 7.5% (N = 83) | 53 - 56 years old | 12.1% |
| Europe | 76.5% (N = 847) | 57 - 60 years old | 9.8% |
| LENGTH OF ACADEM | IIC CAREER | > 60 years old | 13.4% |
| 3 - 6 years | 13% | Did not specify | 5.2% |
| 7 - 10 years | 13.9% | QUALIFICATION: | 5 |
| 11 - 14 years | 14% | Foundation Degree | 0.1% |
| 15 - 18 years | 12.2% | Bachelor Degree | 1.3% |
| 19 - 22 years | 11.2% | Graduation | 0.5% |
| 23 - 26 years | 8.7% | Master's Degree | 21.6% |
| 27 - 30 years | 7.2% | Ph.D. | 73.4% |
| 31 - 34 years | 5.9% | Post-Doc | 0.1% |
| 35 - 38 years | 3.5% | Doctor of Science | 0.2% |
| > 39 years | 5.5% | MD (Doctor of Medicine) | 0.7% |
| Did not specify | 0.3% | Aggregation | 0.1% |
| | | Did not specify | 2% |

Source: Own

2

² IBM SPSS Statistics Rel. 19.0.0. (2010). Chicago: IBM. Retrieved from http://www-01.ibm.com/software/analytics/spss/

5.2. Analysis of the model

Using the Generalized Least Squares (GLS) method, which can be used to estimate the parameters of a factor model (Kaplan, 2000), we estimated a JP 1st order recursive measurement model, based on 10 associated latent variables, i.e., unobserved variables implied by the covariance among two or more indicators (Hoyle, 1995). 2 latent variables represent the dimensions (Task and Contextual) and 8 latent variables represent the sub dimensions. Regarding the sub dimensions, 3 latent variables correspond to Task performance, with 22 items as reflective indicators, and 5 latent variables correspond to Contextual performance, with 33 items as reflective indicators. Then, we added 12 constraints, a current practice when using SEM.

Since we had problems concerning negative variance in the measurement error corresponding to one of the exogenous variables, we performed the collinearity diagnosis to identify which indicators were creating multicollinearity, and we deleted those indicators. During this process, we verified that there still were multicollinearity problems in the Contextual performance dimension, so we carefully read the items again. We concluded that the items included in the dimension 'personal characteristics', in fact, reflected behaviours that relate to effort, such as initiative, motivation to perform, to learn (information seeking) and to work hard, creativity, adaptability and stress tolerance. Therefore, we merged the dimensions 'persistent effort' and 'personal characteristics'. Then, we deleted, one by one, the items with higher Modification Indices (MI). MI reflects an approximation of how much the overall model Chi square would decrease if the fixed or constrained parameter was freely estimated (Brown, 2006).

The errors of items 8 and 9 were correlated. This can be explained by the fact that both items concern the time needed to perform tasks. In total, 26 items were deleted. Then, the 2nd order model was specified. Estimation of the model produced a good fit, although Chisquare value is considered tolerable. However, we must stress that the Chi square test, when applied to SEM, has several limitations, in addition to problems related to sample size sensitivity and lack of a defined power function (Bentler & Bonett, 1980; Fornell & Larcker, 1981). Therefore, the performance of Chi statistics are inaccurate under dependence conditions (Hu & Bentler, 1995).

Using Chi test criteria, the value of 3.54 (p = .000) for this model indicates a tolerable fit. Other criteria of Goodness of fit were used, such as the Root mean square error of approximation [RMSEA] = .048, which indicates a very good fit, the Goodness-of-fit index [GFI] = .918, which indicates a good fit, and the Parsimony GFI [PGFI] = .781, which indicates a good fit. These results equal the ones obtained when analysing the 1st order model.

Then, we analysed the model using two different samples, to confirm the results. With this purpose, the original sample was randomly divided into two samples. For the first sample (70%; N = 833), the estimation of the model produced a good fit. Chi-square divided by the number of degrees of freedom was used as the goodness of fit indicator. Using this test criteria, the value of 3.02 (p = .000) for this model indicates a tolerable fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .049, which indicates a very good fit, [GFI] = .909, which indicates a good fit, and [PGFI] = .771, which indicates a good fit. In what concerns the second sample (30%; N = 277), there were problems concerning negative variance. This may be due to the fact that small samples are more likely to yield unreliable results (Chou & Bentler, 1995). However, when fixing the negative variances at 0 - a practice that is accepted when the solution is not admissible (Gerbind & Anderson, 1987), - Chi square divided by the degrees of freedom presents a value of 1.76 (p = .000), which indicates a good fit. [RMSEA] = .049 indicates a very good fit, [GFI] = .857 indicates a tolerable fit, and [PGFI] = .731 indicates a good fit.

We also had problems related to negative variance when we tested the model for America (USA and Brazil) (N = 260). However, when fixing the negative variances at 0, Chi square divided by the degrees of freedom presents a value of 1.64 (p = .000), which indicates a good fit. [RMSEA] = .05 indicates a very good fit, [GFI] = .838 indicates a tolerable fit, and [PGFI] = .716 indicates a good fit. Although these results are satisfying, suggesting that the instrument is adequate to be used in America, they are not as good as we expected.

We also tested the model considering only the European observations (n = 847). Using Chi test criteria, the value of 2.94 (p = .000) for this model indicates a tolerable fit. Other criteria of goodness of fit were used, such as [RMSEA] = .048, which indicates a very good fit, [GFI] = .912, which indicates a good fit, and [PGFI] = .773, which indicates a good fit.

Table 2.3 - Goodness of fit criteria

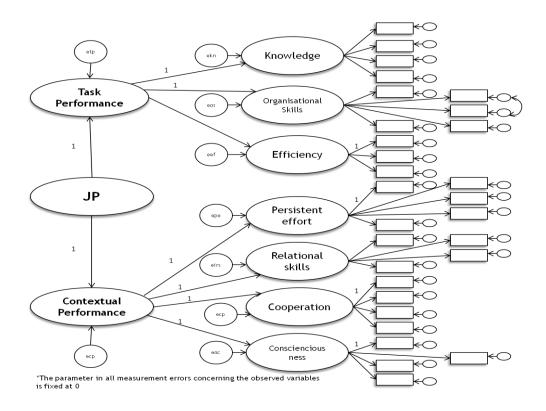
| | Final model | 70% of the sample | 30% of the sample | America | Europe |
|----------|-------------|-------------------|-------------------|---------|--------|
| Chi test | 3.54 | 3.02 | 1.76 | 1.64 | 2.94 |
| p-value | .000 | .000 | .000 | .000 | .000 |
| GFI | .918 | .909 | .857 | .838 | .912 |
| PGFI | .781 | .771 | .731 | .716 | .773 |
| RMSEA | .048 | .049 | .049 | .05 | .048 |

Source: Own

The results found suggest two possibilities: either the instrument is more adequate to evaluate Performance in Europe or the size of the sample, as mentioned, has implications in the results.

High reliability is a necessary condition for high validity, and an important prerequisite for applications of scale scores that are frequently used for purposes of behavioural assessment (Raykov & Grayson, 2003). Cronbach's alpha was used to estimate the internal consistency of the measure. Results indicate a satisfying level of internal consistency (.749), suggesting that this theoretical construct exhibits appropriate psychometric properties (Cronbach, 1951). Composite reliability of the JP construct is .878, which is moderately high (Raykov, 2000).

The final model is presented in Figure 2.2. The final scale, which includes 10 items that must be reverse scored for statistical analysis, is presented in Appendix D.



Source: Own

Figure 2.2 - Final Model

6. CONCLUSIONS

From the theoretical aspects mentioned earlier, we may infer that the great importance of the JP concept lays in the fact that Organizational performance can only be understood if we, firstly, understand individual Performance, since we must consider not only organizational factors, but also factors that are inherent to the workers or that influence them individually. Similarly, the concept is mainly treated as a dependent variable since, as it was mentioned by Sonnentag and Frese (2002), individual Performance is something organizations want to enhance and optimize.

Based on the extensive literature review we carried out, we define JP as evaluative and episodic behaviours that an individual adopts towards his/her work and job, as a result of the dynamics between cognitive abilities, personality and learning experiences, that aggregate value to the organization.

Initially, based on a review of 31 studies, we proposed eight JP sub dimensions: job knowledge, organizational skills, efficiency, persistent effort, cooperation, organizational consciousness, personal characteristics and interpersonal and relational skills. In Task performance we included three dimensions - job knowledge, organizational skills and efficiency - and in Contextual performance we included five dimensions: persistent effort, cooperation, organizational conscientiousness, personal characteristics and interpersonal and relational skills.

However, and although it is not usual to merge sub dimensions when using CFA, multicollinearity problems alerted to the fact that the theoretical analysis could be improved, so items that measure behaviours such as initiative, motivation to perform, to learn (information seeking) and to work hard, creativity, innovation, adaptability and stress tolerance - included in the dimension 'personal characteristics' -, were later included in the sub dimension 'persistent effort'. These behaviours are, in fact 'personal characteristics', but behaviours such as the will to help others (cooperation) or compliance with organizational rules (organizational consciousness) are personal characteristics as well, so those behaviours should have been included in the dimension 'persistent effort' from the beginning. Therefore, according to our analysis, the concept may be measured using two major dimensions and seven sub dimensions: Task performance (job knowledge, organizational skills, efficiency) and Contextual performance (persistent effort, cooperation, organizational consciousness and interpersonal and relational skills).

Particularly concerning the HE context, the instrument is validated for the European HEI, and results suggest that it is adequate to the American context as well. However, we stress that, probably, the fact that the American sample is small may have had some negative implications in the results. Nevertheless, the instrument seems adequate to evaluate Performance in Western HE.

Even though the psychometric properties of the instrument are not excellent, we think this research contributes to the academic context, since the instrument presents good psychometric properties, so it may be used for research on the JP concept. On the other

hand, although many studies identify Performance dimensions and sub dimensions, most of them do not specify the items used to evaluate them, so we insist on disclosing the scale.

Also, we highlight that, usually, self-reported Performance measures are adapted or built in order to be applied to specific contexts, and this particular one was developed in order to be useful in any job-related context. On the other hand, there is a high probability that its application worldwide is possible, considering that some studies we based the instrument on were developed in other cultural contexts.

Bearing in mind that individual Performance is highly important for an organization as a whole, as well as for the individuals working for it (Sonnentag & Frese, 2002), the research is also a contribution for organizations in general. Considering our instrument is a self-reported measure, HRM can use it as a complementary means to objective measures or to evaluate the worker's Performance anonymously, in order to understand the workers' behaviour as a whole, as well as its relationships with other variables that are relevant to HRM practices, thus supporting decision-making in organizations.

7. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

According to Viswesvaran (2001), the rational method of synthesizing and theory building is affected by the personal bias of the researcher. Although this could also have happened unwittingly, we are aware that we biased the research in what concerns our theoretical approach, specifically concerning the merging of the sub dimensions 'persistent effort' and 'personal characteristics'. However, we found relevant to modify the model, not only due to multicollinearity problems, which we could have solved by eliminating one dimension, but mostly so we could present a theory that, indeed, reflects reality.

The fact that the instrument was not applied worldwide arises as a limitation of the research, since we cannot assert that it is amenable of application in all kinds of cultural contexts, although it was developed considering studies from different cultural backgrounds. However, as Aguinis, Henle and Ostroff (2001) mention, we must take into account that cultural beliefs, political structures, languages, economies, technologies and acceptability of and familiarity with measures may influence their effectiveness. Hence, it is important to cross-validate measures.

Moreover, in what concerns America, only two countries were studied - Brazil and the USA - and the number of responses obtained from these countries is significantly lower than the number obtained from Europe. So, there is the need to validate the scale, not only in other Western countries, but also in other cultural contexts, and to apply the instrument to Brazil

and USA using a larger sample, in order to verify if the problems we had are in fact related to size of the sample.

One other limitation is the fact that all individuals included in the sample work in the HE context. However, although the instrument is validated only to this context, we believe that the scale will be useful in other professional areas, since we considered studies carried out in several professional fields. Nevertheless, there is a lack of scientific validation outside the HE field, so it would be important to apply the scale to different sectors, other than Education.

CHAPTER 3

INTERNAL AND EXTERNAL
MARKET ORIENTATION,
INTERNAL SERVICE QUALITY
AND WORK-RELATED
ATTITUDES AND BEHAVIOUR
IN EUROPEAN HIGHER EDUCATION

ABSTRACT

Higher Education (HE) is facing increasing competition and pressure to use resources more effectively and efficiently. Therefore, Marketing and Human Resource (HR) practices are becoming critical in this context. An organizational orientation which integrates both an internal and an external focus on a balanced level is more effective in formulating strategic responses. Moreover, Internal service quality, as well as work-related attitudes and behaviour also play a fundamental role in delivering higher quality to the external consumer. Therefore, understanding the outcomes of Marketing and HR practices in this context is fundamental. Particularly, our focus is European HE. We explore the European context and make some comparisons to American countries. We conclude that European HE, in general, devalues both Internal and External market orientation, although there is a higher focus on the external market. Moreover, we stress that Internal and External market orientations are higher in Private HE, when compared to Public HE. Regarding work-related attitudes and behaviour in European HE, Satisfaction and Performance are somewhat high, and Motivation and Organizational commitment are medium. Based on our findings, we recommend that European Higher Education Institutions invest more in Marketing practices focused on both the external and the internal customer in order to increase the quality of the services delivered, and in Human Resource practices that enhance the development of more positive job-related attitudes and behaviour and, thus, the delivery of high quality to the external customer. Moreover, we highlight the need to integrate the Marketing and the HR functions.

KEYWORDS: Market orientation, Internal market orientation, Motivation, Job satisfaction, Organizational commitment, Job performance, Internal service quality, European Higher Education

1. INTRODUCTION

Nowadays, knowledge plays a key role due to the growing organizational competitiveness and, particularly, the economic problems that illustrate the current global context. It is, thus, essential that Higher Education Institutions (HEI) recognize which methods to use in order to improve Education and attract the interest of students, academics, businesses and other HEI.

Possible benefits of applying Marketing theories that have been successful in the business world are increasingly being recognized by researchers in the Higher Education (HE) Marketing field and the HE market is now acknowledged as a global phenomenon. Considering the increasing competition for home-based and overseas students, HEI now recognize that they need to market themselves (Hemsley-Brown & Oplatka, 2006), and that there is the need to establish long-term relationships with their clients through the provision of high-value

services (Alves, 2011). Therefore, delivering quality service has become an important goal for most HEI (Athiyaman, 1997; Mustafa & Chiang, 2006; Sahney et al., 2008). The continuing improvement of the students' learning and development remains the primary goal of Universities and, therefore, it should be the focus of any concern over quality in HEI (Tam, 2013).

Although the benefits of Market orientation (MO) are widely recognized, some service organizations, such as Universities, usually do not implement this concept (Hampton, Wolf, Albinsson & McQuitty, 2009; Pavičić, Alfirević & Mihanović, 2009). Moreover, the emphasis has been put, essentially, on the external customer's perspective. In general, the internal customer's side is disregarded (Sahney et al., 2008). We stress that an organizational orientation, which integrates both an internal and an external focus on an equivalent degree, is more effective in formulating strategic responses to market intelligence than an organizational focus which is, mainly, external (Lings, 1999).

Considering that the HE Marketing literature is incoherent, even inchoate, and lacks theoretical models that reflect the realities of the HE context and the nature of the services delivered (Hemsley-Brown & Oplatka, 2006), we intend to evaluate the level of external and internal focus of HEI, and to assess the worker's attitudes and behaviour in this context, which - along with MO and Internal market orientation (IMO) (Tortosa et al., 2009; Gounaris et al., 2010) - are associated with an increase in the quality delivered to the consumer (Franco, Bennett & Kanfer, 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004). Also, we intend to evaluate Internal service quality (ISQ) in this context, which is a critical component of the Internal marketing (IM) strategy (Kang, James & Alexandris, 2002). Particularly, our focus is to understand European HE.

First, we briefly describe the concepts of MO, IMO, ISQ and work-related attitudes - Motivation, Job satisfaction and Commitment - and behaviour - Performance. Then, we describe the research hypotheses and the method used. Next, the results are described and discussed. Finally, we present the main conclusions and limitations and we propose some perspectives for future research.

2. MARKET ORIENTATION

Kohli and Jaworski (1990) define Market orientation (MO) as the implementation of the Marketing concept. A market-oriented organization is one whose actions are in agreement with the Marketing concept and in which the three pillars of the Marketing concept are operationally manifest: customer focus, coordinated Marketing and profitability. MO encompasses (1) one or more departments engaging in activities directed towards the development of an understanding of customers' existing and future needs, as well as factors

affecting them, (2) sharing this understanding across departments, and (3) the various departments engaging in activities intended to meet the customers' needs. In other words, MO refers to the organizations' broad generation, dissemination, and responsiveness to market intelligence. Narver and Slater (1990) add that, for a business to enhance its long-run profits, it must continuously generate superior value for its targets, and to create continuous superior value for customers, an organization must be customer oriented, competitor oriented and interfunctionally coordinated. A MO promotes an awareness of the external market, which requires responses at adequate levels and functions of the organization. Thus, MO prompts a reconfiguration of resources through the processing and use of MO (Schlosser & Mcnaughton, 2007). Mavondo, Chimhanzi and Stewart (2005) define the concept as a hybrid construct sharing aspects of exploration but stressing exploitation of market opportunities. It is, therefore, an element of the organization's culture, but it is also action oriented (behaviour). Thus, MO is a series of norms and values and also a set of behaviours and activities.

3. INTERNAL MARKET ORIENTATION

Internal market orientation (IMO) emerges from the perspective that customer contact personnel have a fundamental importance to service industries, and that satisfied, committed and motivated front line employees are essential for customers to perceive that they have received a good service (Lings, 2004). This concept was originated by two concepts: MO and Internal marketing (IM).

The term IM was first used by Berry, Hensel and Burke (1976). According to the authors, IM was concerned with making available internal products (jobs) that satisfy the needs of an internal market (employees) while allowing the organization to reach its goals. In the same year, Sasser and Arbeit (1976) stated that the employer-employee relationship is a transaction, an exchange of values between two parties. If the employer identifies the exchange values (what the employee seeks from the job and what he is prepared to give up to get it) he/she will be capable of offering appropriate values in order to produce the desired responses in the employees. Later, George (1977) stressed that, in order to have satisfied customers, the firm must have satisfied employees, that is, to serve the needs of the market, the firm must first serve the needs of its internal market. In 1989, Grönroos reinforces the idea of exchange, presented by Sasser and Arbeit. According to the author, the resources of the firm have to be used in such manner that the customer's trust in these resources, and thus in the firm, is maintained and strengthened. From then on, several definitions of IM have been presented (e.g.: Berry, Conant, & Parasuraman, 1991; Berry & Parasuraman, 1991; Mohr-Jackson, 1992; Ahmed & Rafiq, 1993; Gilmore, 2000; Ballantyne, 2000, 2003; Rafiq & Ahmed, 2000). Although these definitions may differ in several aspects, they all come up with the same end, that is, to satisfy the external customer, which means that IM complements the MO concept.

According to Lings and Greenley (2009), IM can be operationalized through a set of behaviours oriented to the internal market. Thus, the extent to which the IM task has been successfully achieved is measured through IMO (Naudé et al., 2003; Lings, 2004; Gounaris, 2006). IMO represents the adaptation of MO to the context of employer-employee exchanges in the internal market (Lings & Greenley, 2005; Gounaris, 2006). The concept is regarded as one of the core components of MO (Naudé, Desai & Murphy, 2003), so its adoption complements the organization's MO (Gounaris, 2006). According to Gounaris (2006), IMO is an organizational philosophy underlying its IM efforts, while also having a direct effect on the effectiveness of these efforts. Hence, IMO adoption concerns the extent to which the organization is committed to create value for its employees through successfully managing the relationships among employees, supervisors and management. Taking into account that IMO adoption complements the organization's MO, it should - directly or indirectly - influence the organization's market performance. Moreover, the conception of IMO refers to the organization's orientation in what concerns the internal market, and demonstrates the management's commitment towards this market, regarding the understanding of what workers value, and becoming responsive to their individual needs, while assuring that they have all the resources necessary to deliver the type and level of service that the organization's (external) Marketing objectives and strategy dictate (Gounaris, 2008).

4. INTERNAL SERVICE QUALITY

According to Parasuraman, Zeithmal and Berry (1988), the construct of quality in the services literature differs from objective quality. It represents the consumer's perception of quality and it is defined as a form of attitude, related, but not correspondent, to Satisfaction, and it derives from a comparison of expectations with perceptions of Performance. To measure service quality, the authors developed SERVQUAL. The instrument measures five dimensions: Tangibles (physical facilities, equipment and appearance of personnel), Reliability (capability to perform the promised service dependably and precisely), Responsiveness (motivation to help customers and provide service on time), Assurance (knowledge and courtesy of employees and their ability to inspire trust and confidence) and Empathy (caring, individualized attention the firm provides to its customers). Later, Kang et al. (2002) adapted the instrument to the internal market of organizations, that is, to measure Internal service quality (ISQ), using all the five dimensions measured by SERVQUAL.

As service quality is important in order to satisfy the external customer, so is ISQ, a critical component of IM (Kang, James and Alexandris, 2002), in order to satisfy the internal customer. Previous studies found that ISQ enhances Satisfaction (Jun & Cai, 2010),

Commitment (Boshoff & Mels, 1995; Bai & Brewer, 2006), and also Performance (Bellou & Andronikidis, 2008).

5. JOB-RELATED ATTITUDES AND BEHAVIOUR

As organizations continue to adjust to a business world characterized by increasing competition, they need to leverage all their resources in an attempt to differentiate product offerings, offer outstanding quality and value, and deliver their promises of Customer satisfaction (Hartline & Bejou, 2004). In this sense, they are finding the human element to be critical in achieving financial success (Mohamed, Taylor & Hassan, 2006). Thus, the HR function's strategic role should focus more deeply on the workforce element of the organization, in order to obtain differentiation in relation to competitors and more differentiation within their own organization (Becker & Huselid, 2006).

In this sense, three job-related attitudes (Motivation, Satisfaction and Commitment) and one type of behaviour (Performance - Task-related and Contextual), which contribute to the delivery of higher quality to the external customer, are described next.

5.1. Motivation

Motivated employees play a key role in the success of organizations (Drake, Wong & Salter, 2007), giving an important contribution to obtaining competitive advantage (Kang, 2007; Salami & Idowu, 2010). The Motivation (MOT) concept has been studied for many years, and it was originated in Lewin's (1935) work. The author states that the effect of an intention is the formation of a quasi-need, that is, dynamically, of a tension system, which is directed towards discharge and causes activities that serve the execution of the intention. From then on, several theories emerged. Some of them focus on the content of MOT - for example, Hierarchy of needs theory (Maslow, 1954), Need theory (Mcclelland, 1965), Two factor theory (Herzberg, 1965, 1966) and Self-determination theory (Deci, 1972; Deci & Ryan, 2000) -, that is, the needs of the individual act as motivators; other theories focus on the process of Motivation - for example, Expectancy theory (Vroom, 1964) and Equity theory (Adams, 1965) -, stating that people vary in what concerns their motivations according to certain inputs; and there are theories that focus on the results - Goal setting and task performance theory (Locke, Shaw, Saari & Latham, 1980; Locke & Latham, 2002), Operant behaviour and organizational behaviour modification (Luthans & Otteman, 1973; Hamner & Hamner, 1976) and Attribution theory (Green & Mitchell, 1979) -, stating that the definition of goals and the use of reinforcements enhance Performance at work.

In this research, we follow the Self-determination theory. Deci and Ryan (1985, 2000) consider needs to be innate, rather than learned, and, thus, they give motivational content to life. Although they recognize physiological drives, they give primacy to the core psychological needs, such as competence, autonomy and relatedness, whose satisfaction leads to intrinsic MOT and internalization. The authors distinguish between (1) MOT and Amotivation, that is, a state in which people lack the intention to behave, and, therefore, lack Motivation, and between (2) Intrinsic MOT and Extrinsic MOT. Intrinsic MOT and well-internalized extrinsic MOT are the basis for autonomous or self-determined behaviour. In contrast, behaviour is considered as controlled/non-self-determined to the extent that people feel pressured to adopt it. According to the authors, the behaviour that is autonomously regulated leads to a variety of more positive outcomes, including higher quality Performance, improved maintenance of behaviour change, and better mental health, in relation to behaviour that is controlled.

5.2. Job satisfaction

The concept of Job satisfaction (JS) has been originating some controversy (Staw, 1986), since it is characterized as a "complex emotional reaction to work" (Locke, 1968: 9), and also as an attitude (Saari & Judge, 2004). Locke (1990: 1432) defines JS as "the pleasurable emotional state resulting from the perception of one's job as fulfilling or allowing the fulfillment of one's important job values, providing these values are compatible with one's needs".

JS theories may be divided according to the following categorization: (1) Situational theories, which state that Satisfaction is a result of the nature of work and of environmental factors, (2) Dispositional theories, which postulate that Satisfaction results from personal and personality factors, and (3) Interactive theories, which suggest that JS is a result of the interaction between personality factors and situational factors (Judge, Parker, Colbert, Heller & Ilies Remus, 2001; Judge & Klinger, 2008). Dispositional theories are the most recent, but also the less developed ones. Several theories describing JS have emerged (e.g. Herzberg, 1965; Hackman & Oldham, 1975, 1976; Salancik & Pfeffer, 1978; Dawis, 1980; Hulin, Roznowski, & Hachiya, 1985; Staw, 1986; Locke, 1990; Quarstein, McAfee & Glassman, 1992). In this research we follow the Job characteristics model. According to this theory, the nature of the task or of the job is an important determiner of how people act (Hackman, 1969). This model is used to measure three classes of variables: work objective characteristics, mediator psychological stages and individual needs of growth. The central characteristics of each task like the diversity of competencies, the identity and the meaning of the tasks, the autonomy and the level of information given to the worker about his/her Performance, - influence the individual's psychological stage, that is, jobs that contain intrinsically motivating characteristics lead to higher levels of JS. Moreover, the function characteristics and Satisfaction are also regulated by the worker's need for growth (Hackman & Oldham, 1976).

5.3. Organizational commitment

Organizational commitment (OC) is recognized as a key factor in the employment relationship (Mohamed et al., 2006). Several decades of research have been devoted to the concept. Among the reasons that may explain this fact are the characteristics of today's markets and organizations. The involvement of people in organizations becomes crucial when innovation, high quality standards, and competitive prices are demanded of companies, and employee discretionary effort becomes a fundamental asset (González & Guillén, 2007). The origins of the concept are presented in Barnard's (1938) book The functions of the executive, according to which the workers' will to cooperate is crucial for the organization. Later, Whyte (1956: 7) refers, in his book The organization Man, that "man exists as a unit of the society and on himself he is isolated, meaningless; only as he collaborates with others does he become worthwhile". In other words, the worker needs to cooperate with others. From then on, several insights on OC emerged (e.g.: Becker, 1960; Kanter, 1968; Buchanan, 1974; Steers, 1977; Cook & Wall, 1980; Allen & Meyer, 1990; Meyer & Herscovitch, 2001). Similarly to what Meyer and Herscovitch (2001) stressed in their work some years ago, the OC insights mentioned have, explicitly or implicitly, two aspects in common: (1) Commitment consists of a force of connection - a psychological stage or attitude, and (2) Commitment determines a direction in what concerns the individual's behaviour.

The perspective that we follow in this research is the one proposed by Allen and Meyer (1990). The authors define three types of OC: (1) *affective*, which consists of a connection, identification and involvement with the organization; (2) *continuance*, referring to the Commitment based on the cost that the individual associates with leaving the organization and (3) *normative*, related to the feelings of obligation to stay in the organization.

5.4. Job performance

Job performance (JP) is a *dynamic* (Motowidlo, Borman & Schmit, 1997; Sonnentag & Frese, 2002), *multidimensional* (Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001; Sonnentag & Frese, 2002; Cheng, Li, & Fox, 2007), *behavioural* (Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001), *episodic* (e.g.: Motowidlo et al., 1997) and *evaluative* (Motowidlo et al., 1997; Viswesvaran, 2001) concept.

JP is considered *dynamic* because it is not stable over time. Variability in an individual's Performance over time reflects (1) learning processes and other long-term changes and (2) temporary changes in Performance (Sonnentag & Frese, 2002). Moreover, individual differences in personality and cognitive abilities, in combination with learning experiences, lead to variability in knowledge, skills, work habits, and traits, that mediate the influence of

personality and cognitive ability on Performance (Motowidlo et al., 1997). JP is *multidimensional*, since one attribute, outcome or factor cannot be labelled as Performance (Campbell et al., 1990). Thus, there are different manifestations of JP and the description of the concept involves identifying the different dimensions it is composed of (Viswesvaran, 2001). Individual Performance is *behavioural*, since it consists of manifestations of Performance (Viswesvaran, 2001), behaviours (Campbell et al., 1990; Viswesvaran, 2001) or activities that are considered important to accomplish the goals of the organization (Campbell et al., 1990; Borman & Motowidlo, 1997; Bergeron, 2007). JP is also *episodic* since, during the course of a work day, people do many things that neither help nor hinder the organization accomplish its goals, so these kind of behaviours have no effect on job-related Performance. Thus, streams of work behaviour are marked by occasions when people do something that makes a difference in relation to the organizational goals (Motowidlo et al., 1997). The concept is also *evaluative*, that is, Performance behaviours may be more or less desirable to the organization and it is possible to measure the degree to which they are desirable, with enough accuracy to distinguish between them (Motowidlo et al., 1997).

We adopt the perspective that distinguishes between Task-related performance and Contextual performance. While Task performance bears a direct relation to the organization's technical core (Motowidlo et al., 1997), contextual activities contribute to organizational efficiency in ways that shape the organizational, social, and psychological context, that serves as a vehicle for task activities and processes (Borman and Motowidlo, 1997). Based on previous studies, we define JP (both Task and Contextual) as evaluative and episodic behaviours that an individual adopts towards his/her work and job, as a result of the dynamic between cognitive abilities, personality and learning experiences, that aggregate value to the organization.

6. RESEARCH HYPOTHESES

IMO, MO and ISQ of HEI are measured according to the academics' perspective. Therefore, we are referring to the perception of the worker concerning these variables.

Considering that Private HEI need to raise their financial resources, it is expected that they are more oriented towards the external market, and more oriented towards the internal market, so they are able to satisfy the external customer (Narver & Slater, 1990; Slater & Narver, 2000; Lings & Greenley, 2005; Lings & Greenley, 2009; Tortosa & Moliner, 2009). On the other hand, motivated, satisfied, committed employees, showing a high Performance, also positively influence the quality delivered to the external customer (Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004), so it is expected that Private institutions invest more than Public HEI in enhancing these attitudes and behaviour. Therefore, we

propose the following hypotheses: (H_1) The perception of IMO; (H_2) The perception of MO; (H_3) The perception of ISQ; (H_4) MOT; (H_5) JS; (H_6) OC; (H_7) JP is higher in Private HE.

With the aim to explore the influence of some personal and academic characteristics in all the seven variables in study, 21 hypotheses are proposed.

It is likely that the length of career, which entails more work experience, influences the workers' perception of IMO, MO and ISQ, as well as their work-related attitudes and behaviour. Kumar and Giri (2009) found that JS and OC differ significantly across different career stages of employees. Also, the higher the work experience of employees, the higher is their JS, OC (Kumar & Giri, 2009) and JP (McDaniel, Schmidt, & Hunter, 1988; Avolio, Waldman, & McDaniel, 1990). Since the length of career influences the development of more positive attitudes and behaviour, it is likely that the worker's perception regarding managerial practices is also influenced by the worker's length of career. Specifically, we expect that more experienced academics show higher levels of MOT, JS, OC and JP, and also that they perceive higher levels of IMO, MO and ISQ. Therefore, we propose that: *The longer the career is, the higher* (H_8) *the perception of IMO* (H_9) *the perception of MO* (H_{10}) *the perception of ISQ* (H_{11}) *the MOT* (H_{12}) *the JS* (H_{13}) *the OC* (H_{14}) *the JP*.

Previous studies have found that older workers tend to show higher levels of JS (Altimus & Tersine, 1973; Lambert, Lynne Hogan, & Barton, 2001; Kumar & Giri, 2009) and OC (Huang & Hsiao, 2007; Kumar & Giri, 2009), for example. Moreover, considering that work experience positively influences job-related attitudes and behaviour, it is likely that the perception of IMO, MO and ISQ also varies with age. Specifically, we expect that older workers show higher levels of MOT, JS, OC and JP, and also that they perceive higher levels of IMO, MO and ISQ. Therefore, we propose the following hypotheses: *The older the workers are, the higher* (H_{15}) the perception of IMO (H_{16}) the perception of MO (H_{17}) the perception of ISQ (H_{18}) the MOT (H_{19}) the JS (H_{20}) the OC (H_{21}) the JP.

We also believe that qualifications may exert some kind of influence on the perception of IMO, MO, ISQ and on work-related attitudes and behaviour. According to Rose (2005) qualifications are associated with a firming up of what employers or personnel managers would consider positive and desirable work attitudes. Specifically, the author studied the influence of qualifications on OC. It was also found that JS (Ahmed et al., 2010) and JP (Ng & Feldman, 2009) are higher in workers with higher qualification levels. Considering that qualifications positively influence job-related attitudes and behaviour, it is likely that the perception of IMO, MO and ISQ is also higher in workers with higher qualifications. Therefore, we propose that: (H_{22}) The perception of IMO (H_{23}) The perception of MO (H_{24}) The perception of ISQ (H_{25}) MOT (H_{26}) JS (H_{27}) OC (H_{28}) JP varies according to the qualifications.

Considering that Northern European countries are seen as innovative regions, with a high level of economic and technological development, characterized by high educational levels (Marsan & Maguire, 2011), it is likely that, in these countries, there is a higher awareness of the need to satisfy the external customer in HE, so we expect the perception of IMO, of MO and of ISQ, as well as MOT, JS, OC and JP, to be higher in these countries. Therefore, we propose that: (H_{29}) The perception of IMO (H_{30}) The perception of MO (H_{31}) The perception of ISQ (H_{32}) MOT (H_{33}) JS (H_{34}) OC (H_{35}) JP is higher in Northern Europe countries when compared to the rest of Europe.

We also intend to explore if there are differences regarding the variables under study, according to the Continent. As stated by Hofstede (1984), effectiveness within a given culture, and judged according to the values of that culture, requires management skills that are adapted to the local culture. Klassen, Usher and Bong (2010) also mention that the cultural context influences how Motivation beliefs are understood and expressed in diverse settings. Therefore, with the aim of understanding the variation of IMO, MO, ISQ, MOT, JS, OC and JP according to the Continent, we propose the following hypotheses: (H_{36}) The perception of IMO (H_{37}) The perception of MO (H_{38}) The perception of ISQ (H_{39}) MOT (H_{40}) JS (H_{41}) OC (H_{42}) JP varies according to the Continent.

7. METHOD

7.1. Sample and data collection

The research is based on seven variables: Market orientation (MO), Internal market orientation (IMO), Internal service quality (ISQ), Motivation (MOT), Job satisfaction (JS), Organizational commitment (OC) and Job performance (JP). The evaluation of the variables was done according to the Lecturing staff's perception. Other HE workers were excluded because the Lecturing staff is more likely to have a global vision of how HEI act towards the students and towards the workers.

The contacts of European HEI were gathered online, based on a list created by Bonaccorsi et al. (2010). First, the general e-mails (information, communication, international relations or rectory contacts) were gathered. In the case of countries with more than 110 HEI, 90 HEI were chosen randomly. In the case of European countries that do not belong to the European Union, 20 HEI were chosen randomly, since searching for the contacts of all the HEI would create some time constraints. Then, in a second phase, the program Atomic E-mail Hunter, version 3.5¹, was used to gather the e-mails contained in the Web sites of the HEI. In what concerns the non-European countries, the contact gathering was based on *Scimago*

¹ Atomic E-mail Hunter 3.5 (2006). Alexandria: AtomPark Software. Retrieved from http://www.massmailsoftware.com/extractweb/download/

Institutions Rankings - SIR world report 2012: Global Ranking, so we used the program to extract e-mails from the HEI contained in the ranking. In many cases, the extraction was not possible, and whenever the program extracted e-mails from a Web site, some e-mails that clearly did not belong to Lecturing staff were deleted. Initially, we intended to extract emails from more North and South American countries. However, due to time constraints, we only gathered contacts of HEI in Brazil and in the USA. The final questionnaire (see Appendix E), divided into eight parts, was made available online. Since academics conduct much of their academic work and publications in English, they are familiar with the language, so there was not the need to translate the questionnaire into different languages. Anonymity and confidentiality were assured and the participation was voluntary. 1 357 European HEI, 104 US HEI and 62 Brazilian HEI were requested, via e-mail (see Appendix F), to invite the Lecturing staff to participate in the study. Then, a total of 175 646 individual e-mails (see Appendix G) inviting Lecturing staff to collaborate in the research were sent. Of the 1 523 e-mails sent to HEI, a total of 66 was returned and 33 HEI refused to divulge the request to the Lecturing staff, based on motives such as the institution policy, the vacation period or not wanting to overload their workers. Of the 175 646 individual requests sent (136 848 to Europe, 28 503 to USA and 10 295 to Brazil) to 429 HEI, 17 046 were returned and 341 people refused to collaborate. Also, some people were not part of the Lecturing staff (researchers, PhD. Students, Emeritus Professors or other staff). 1 135 responses were gathered, but 25 of them were deleted because we suspected that they do not belong to the Lecturing staff, and other 3 were deleted because the individuals did not specify their country, so the sample is composed of 1 107 individuals, 847 from 41 European countries and 260 from America (83 from Brazil and 177 from the USA).

7.2. Instruments

After the literature review, six instruments were gathered and the scale to measure Performance was created (See Chapter 2). All of the variables were measured through a 7-point Likert scale, which allows a wide appreciation of the concepts under study. To measure IMO we used an instrument developed by Gounaris (2006), containing 43 items divided by 3 IMO dimensions (Internal market intelligence generation - 17 items, Internal intelligence dissemination - 10 items, Response to intelligence - 16 items). In order to make the instrument more suitable for the context of HE, we changed some terms: 'company' to 'institution', 'industry' to 'Higher Education field', 'senior level management' to 'higher level management' and 'employee' to 'worker'. 6 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. MO was measured using an instrument developed specifically for the HE context (Hemsley-Brown & Oplatka, 2010), that contains 32 items divided by 3 MO dimensions (Student (costumer) orientation - 18 items, Competition orientation - 6 items, Intra-functional orientation - 8 items). In this instrument,

we changed the term 'University' to 'Higher Education Institution'. ISQ was measured using Internal Service Quality Battery (Kang, James & Alexandris, 2002). The instrument contains 22 items divided by 5 dimensions (Reliability - 5 items, Assurance - 4 items, Tangibles - 4 items, Empathy - 5 items, Responsiveness - 4 items). The Work Extrinsic and Intrinsic Motivation Scale (Tremblay, Blanchard, Taylor, Pelletier & Villeneuve, 2009) was used to measure MOT at work. The instrument contains 18 items divided by 6 dimensions: Intrinsic motivation (3 items), Integrated regulation (3 items), Identified regulation (3 items), Introjected regulation (3 items), External regulation (3 items) and Amotivation (3 items). 9 items were reverse scored for statistical purposes. Job Diagnostic Survey (JDS) was developed by Hackman and Oldham (1975) to measure global JS and Satisfaction with job facets. Global JS is measured through three dimensions, which include General satisfaction (5 items), Internal work motivation (6 items) and Satisfaction with growth (4 items). JDS also measures Satisfaction with the following job facets: job security (2 items), pay (2 items), social (3 items) and supervision (3 items). 3 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. We changed the term 'boss' to 'supervisor', since we considered it more adequate to the context of HE. OC was measured using Allen and Meyer's (1990) scale. The instrument contains 24 items divided by 3 dimensions of Commitment (Continuance - 8 items, Normative - 8 items, Affective - 8 items). We changed the term 'organization' to 'institution'. 9 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. To measure JP we used the instrument we developed (see Chapter 2). The instrument contains 29 items divided by 7 dimensions of Job performance (Task performance dimension: job knowledge - 4 items, organizational skills - 5 items, efficiency - 3 items; Contextual performance dimension: persistent effort - 5 items, cooperation - 3 items, organizational conscientiousness - 5 items, interpersonal and relational skill - 4 items). 10 of the items are written in the negative form, so their score must be reversed for statistical analysis purposes. Apart from the questions regarding the mentioned variables, the Lecturing staff had to provide personal data. The name of the HEI was not asked because that could create some concern about the disclosing of internal information.

7.3. Data analysis methods

To analyse the results we used the statistical package SPSS, version 19.0^2 . T-student test was used to compare the means of independent samples. We also used ANOVA to test the equality of three or more population means using data obtained from the observational study (Anderson, Sweeney, & Williams, 2012).

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² IBM SPSS Statistics Rel. 19.0.0. (2010). Chicago: IBM. Retrieved from http://www-01.ibm.com/software/analytics/spss/

8. RESULTS

MCAR Little's test was used to analyse the missing data. Since p = .513, we conclude that data was missing completely at random. Next, the missing values were replaced using the EM method.

8.1. Sample profile

The sample profile is described on tables 3.1 and 3.2.

Table 3.1 - European sample characterization

| TYPE OF HE | | MAIN TEACHIN | G AREA |
|--------------------------|-----------------|---------------------------|--------------|
| Public | 81.9% | Physical Sciences | 8.4% |
| Private | 17.2% | Life Sciences | 4.3% |
| Combined | 0.5% | Social and Human Sciences | 56.9% |
| Foundation owned | 0.1% | Applied Sciences | 16.8% |
| Did not specify | 0.4% | Formal Sciences | 6.4% |
| TYPE OF EDUCA | ΓΙΟΝ | Interdisciplinary areas | 2.4% |
| Universities | 85.5% | Did not specify | 4.7% |
| Colleges | 6 % | AGE | |
| Polytechnics | 5.8% | 25 - 28 years old | 2.3% |
| Specialized Schools | 1.4% | 29 - 32 years old | 6.4% |
| University Colleges | 0,2% | 33 - 36 years old | 8.4% |
| igher Vocational Schools | 0.9% | 37 - 40 years old | 10.9% |
| Did not specify | 0.3% | 41 - 44 years old | 9.1% |
| CONTINENT | | 45 - 48 years old | 12% |
| North America (USA) | 16% (N = 177) | 49 - 52 years old | 10.4% |
| South America (Brazil) | 7.5% (N = 83) | 53 - 56 years old | 12.1% |
| Europe | 76.5% (N = 847) | 57 - 60 years old | 9.8% |
| LENGTH OF ACADEMI | C CAREER | > 60 years old | 13.4% |
| 3 - 6 years | 13% | Did not specify | 5.2 % |
| 7 - 10 years | 13.9% | QUALIFICATIONS | |
| 11 - 14 years | 14% | Foundation Degree | 0.1% |
| 15 - 18 years | 12.2% | Bachelor Degree | 1.3% |
| 19 - 22 years | 11.2% | Graduation | 0.5% |
| 23 - 26 years | 8.7% | Master's Degree | 21.6% |
| 27 - 30 years | 7.2% | Ph.D. | 73.4% |
| 31 - 34 years | 5.9% | Post-Doc | 0.1% |
| 35 - 38 years | 3.5% | Doctor of Science | 0.2% |
| > 39 years | 5.5% | MD (Doctor of Medicine) | 0.7% |
| Did not specify | 0.3% | Aggregation | 0.1% |
| | | Did not specify | 2% |

Source: Own

Table 3.2 - American sample characterization

| TYPE OF H | El | MAIN TEACHING AR | REA |
|------------------------|-----------------|---------------------------|-------|
| Public | 70% | Physical Sciences | 7.3% |
| Private | 28.5% | Life Sciences | 6.9% |
| Combined | 0.8% | Social and Human Sciences | 48.1% |
| Did not specify | 0.8% | Applied Sciences | 25.8% |
| TYPE OF EDUCA | ATION | Formal Sciences | 4.2% |
| Universities | 96.5% | Interdisciplinary areas | 3.8% |
| Colleges | 0.8% | Did not specify | 3.8% |
| Polytechnics | 1.5% | AGE | |
| Specialized Schools | 1.5% | 25 - 28 years old | 0.8% |
| Did not specify | 0% | 29 - 32 years old | 4.6% |
| CONTINEN | Т | 33 - 36 years old | 5.4% |
| North America (USA) | 68.1% (N = 177) | 37 - 40 years old | 9.2% |
| South America (Brazil) | 31.9% (N = 83) | 41 - 44 years old | 8.5% |
| LENGTH OF ACADEM | IIC CAREER | 45 - 48 years old | 10.4% |
| <3 years | 1 .9 % | 49 - 52 years old | 9.2% |
| 3 - 6 years | 12.3% | 53 - 56 years old | 12.3% |
| 7 - 10 years | 13.5% | 57 - 60 years old | 10.4% |
| 11 - 14 years | 10.8% | > 60 years old | 24.6% |
| 15 - 18 years | 11.5% | Did not specify | 4.6% |
| 19 - 22 years | 12.7% | QUALIFICATIONS | |
| 23 - 26 years | 10% | Foundation Degree | 0.1% |
| 27 - 30 years | 6.5% | Bachelor Degree | 0.4% |
| 31 - 34 years | 6.2% | Master's Degree | 12.3% |
| 35 - 38 years | 4.2% | Ph.D. | 83.8% |
| > 39 years | 10% | MD (Doctor of Medicine) | 2.7% |
| Did not specify | 0.4% | Did not specify | 0.8% |

Source: Own

8.2. Consistency of the measures

High reliability is a fundamental condition for high validity, and an important precondition for applications of scale scores that are frequently used for purposes of behavioural evaluation (Raykov & Grayson, 2003). Confirmatory factor analysis (CFA) was performed for all the measures. Items 2, 12 and 18 in the scale that measures IMO were deleted. Item 24 in the scale that measures JS was deleted. Criterions of Goodness of fit showed appropriate fit for every measure (Root mean square error of approximation [RMSEA] < .07, Goodness-of-fit index [GFI] > .90, and Parsimony GFI [PGFI] > .69). Composite reliability is > .88 for all the measures, that is, all of them show moderate to high reliability (Raykov, 2000). Cronbach's alpha was also used to estimate the internal consistency of the measure. Results indicate a satisfying to high level of internal consistency (Cronbach, 1951) (see table 3.3).

Table 3.3 - Consistency of the measures

| | IMO | MO | ISQ | МОТ | JS | OC | JP |
|-----------------------|------|------|------|------|------|------|------|
| Chi test | 2.92 | 3.61 | 5.81 | 5.96 | 4.65 | 3.20 | 3.54 |
| p-value | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| GFI | .904 | .909 | .903 | .923 | .917 | .923 | .918 |
| RMR | .231 | .142 | .240 | .349 | .389 | .362 | .209 |
| PGFI | .803 | .771 | .728 | .696 | .724 | .724 | .781 |
| RMSEA | .042 | .049 | .066 | .067 | .057 | .051 | .048 |
| Cronbach alpha | .945 | .957 | .954 | .797 | .895 | .794 | .749 |
| Composite reliability | .980 | .982 | .984 | .884 | .947 | .936 | .878 |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

8.3. Mean values for the constructs

Table 3.4 shows the mean values for the seven constructs under study.

Table 3.4 - Means values for the constructs

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---------|-----|---------|---------|------|----------------|
| IMO | 847 | 1.23 | 6.43 | 3.71 | .99091 |
| MO | 847 | 1.00 | 7.00 | 4.89 | .999 |
| ISQ | 847 | 1.00 | 7.00 | 4.90 | 1.012 |
| MOT | 847 | 1.78 | 6.94 | 4.66 | .73379 |
| JS | 847 | 1.92 | 7.00 | 5.05 | .80749 |
| OC | 847 | 1.75 | 6.38 | 4.17 | .72625 |
| JP | 847 | 3.00 | 7.00 | 5.22 | .82531 |
| Valid N | 847 | | | | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

As we can see on table 3.4, there is a perception of low IMO (3.71) in European HE. The mean concerning MO, although we cannot say is high, is significantly higher (4.89) when compared to IMO. In what concerns work-related attitudes and behaviour, JS (5.05) and JP (5.22) means are higher when compared to MOT (4.66) or to OC (4.17), which are medium. The perception of ISQ is somewhat high (4.9). We stress that the mean values for each construct relate to the mean of all the items included in the measures, except for the ones that were removed from the measure when performing the CFA.

8.4. Group comparisons

a) Type of HEI

In what concerns the type of institution, we compared Public and Private HEI, using the t-student test, since 'combined' and 'foundation owned' institutions included only a few cases.

Regarding IMO, there are significant statistical differences between the means for Public and Private HEI (p = .025 < .05). Specifically, the perception of IMO is higher in Private HEI (3.92), when compared to Public HEI (3.67). It is possible to check, regarding the variable MO, that p = .025 < .05, which means that there are significant statistical differences between the means for Public and Private HEI. Specifically, in Private HE, the perception of MO is higher (5.08) than in Public HE (4.86) (H₁ and H₂ are supported). OC also varies according to the type of HEI (p = .043 < .05). Specifically, OC is higher in Private HE (4.30) than in Public HE (4.15). Thus, H₆ is supported. In what concerns the perception of ISQ, MOT, JS and JP, there are no differences when considering the type of institution. Therefore, H₃, H₄, H₅ and H₇ are rejected.

b) Length of career

ANOVA was performed to test the equality of three or more population means. Concerning IMO, individuals that lecture for more than 39 years have a perception of higher IMO when compared to individuals that lecture for 15 to 22 years. JS is higher in individuals that lecture more than 39 years when compared to individuals that lecture for 3 to 6 and for 15 to 18 years. The perception of ISQ is also higher in individuals that lecture for more than 39 years, when compared to individuals that lecture for 11 to 22 years. Thus, H_8 , H_{10} and H_{12} are supported, and we reject H_9 , H_{11} , H_{13} and H_{14} .

c) Age

When performing ANOVA to compare the variables according to age, we verify that only JP (p = 0.008 < .05) varies according to age. To understand this result, we performed the Tukey's test. Only individuals that are over 60 show a higher Performance (5.38), when compared to individuals that are 37 to 40 years old (5.12). Therefore, H_{21} is supported and we reject H_{15} , H_{16} , H_{17} , H_{18} , H_{19} and H_{20} .

a) Qualifications

In what concerns qualifications, we used the t-test to verify whether the means are significantly different between the Lecturing staff that have a Master's and a Ph.D. Degree. We excluded other qualifications because they included few cases. In what concerns MOT, there are significant statistical differences (p = .049 < .05) between the means for the individuals that have a Ph.D. degree and the means for the individuals that have a Master's Degree. Specifically, the Lecturing staff that has a Ph.D. is more motivated (4.68) than the Lecturing staff that has a Masters Degree (4.56), which means that H_{25} is supported. In what concerns the other variables, there are no significant differences according to qualifications, so H_{22} , H_{23} , H_{24} , H_{26} , H_{27} and H_{28} are rejected.

b) Region

We also performed ANOVA to compare four European regions. For MO, JS, MOT and OC, p < .05, which means that the perception of MO, the worker's MOT, JS and OC vary according to the region. The perception of IMO, of ISQ and JP do not vary according to the region, considering a significance level of 5%. Therefore, we reject H_{29} , H_{31} and H_{35} . After performing the Tukey's test, in order to better understand these results, we found that:

- 1. MO is significantly higher in Northern Europe (5.15), when compared to Eastern (4.75), Western (4.87) and Southern Europe (4.65) (H₃₀ is supported);
- 2. MOT is significantly higher in Eastern Europe (4.73), when compared to Western Europe (4.488), and in Northern Europe (4.69), when compared to Western Europe $(H_{32}$ is partially supported).
- 3. JS is higher in Northern Europe (5.16), when compared to Southern (4.92) and Eastern Europe (4.94) (H_{33} is partially supported);
- 4. OC is significantly higher in Eastern Europe (4.42), when compared to Northern (3.99) and Western Europe (4.14), and in Southern Europe (4.27), when compared to Northern Europe (we reject H_{34}).

The differences according to the region are summarized in table 3.5.

Table 3.5 - Differences in Europe, according to the region

| VARIABLE | Northern | Western | Eastern | Southern |
|----------|----------|-------------|---------|----------|
| IMO | | NO DIFFEREI | NCES | |
| MO | Higher | Lower | Lower | Lower |
| ISQ | _ | NO DIFFEREI | NCES | |
| MOT | Higher | Lower | Higher | |
| JS | Higher | | Lower | Lower |
| OC | Lower | Higher | Higher | Higher |
| JP | | NO DIFFEREI | NCES | J |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

In order to better understand the results found in what concerns OC, we analysed the three dimensions of this concept - Affective, Normative and Continuance - according to the region. We found that there are significant differences in Normative OC, according to the region. Specifically, it is significantly higher in Eastern countries (4.14), when compared to Northern (3.33), Western (3.66) and Southern Europe (3.81). It is also significantly higher in Southern Europe when compared to Northern Europe. In what concerns the other two dimensions, no significant differences were found.

c) Continent

ANOVA was performed to compare Europe, North America (USA) and South America (Brazil). We found that the perception of MO, MOT, JS, OC, JP and the perception of ISQ (p <.05) vary according to the Continent. The Tukey's test was performed in order to better understand the results. Considering a significance level of 5%, we found that:

- 1. The perception of IMO does not vary according to the Continent (we reject H₃₆);
- 2. The perception of MO is higher in European countries (4.89) when compared to South America (4.51) and in North America (5.02) when compared to South America (4.51) (H₃₇ is supported);
- 3. The perception of ISQ is higher in North America (5.09) than in South America (4.64) $(H_{38}$ is supported).
- 4. MOT is higher in North America (4.82) and in South America (4.89) than in Europe (4.66) (H₃₉ is supported);
- 5. JS is higher in North America (5.28) when compared to Europe (5.05) (H_{40} is supported);
- 6. OC is higher in Europe (4.17) than in North America (3.91) and in South America (4.22) than in North America (H_{41} is supported);
- 7. JP is higher in North America (5.16), when compared to Europe (5.01) (H_{42} is supported).

The differences between European and American countries are summarized in table 3.6.

Table 3.6 - Differences between European and American countries

| VARIABLE | North America | South America | Europe | |
|----------------------------|-----------------------------------|------------------------------------|--------------------------|--|
| IMO | NO DIFFERENCES | | | |
| MO | Higher | Lower | Higher | |
| ISQ | Higher | Lower | | |
| MOT | Higher | Higher | Lower | |
| JS | Higher | | Lower | |
| OC | Lower | Higher | Higher | |
| JP | Higher | _ | Lower | |
| IMO- Internal market orien | tation; MO - Market orientation; | ISQ - Internal service quality; MO | T - Motivation; JS - Job | |
| sat | isfaction: OC - Organizational co | mmitment: IP - Job performance | | |

Source: Own

When comparing Europe to America, we verify that MOT, JS and JP are lower in Europe.

9. CONCLUSIONS

There is a perception of low Internal market orientation (IMO) in European HE, so we can infer that European HEI, in general, are not internal market oriented. Moreover, there are no

significant differences between European and American countries, so we can deduce that IMO is devalued in HE, at least in the studied population.

The perception of Market orientation (MO) in Europe, although we cannot say is high, is higher when compared to IMO, which means that European HEI are more oriented to the external market than to the internal market. The same conclusion applies to the USA and to Brazil. These results are in agreement to previous studies we found, which mention the fact that, in HE, the internal customer's side has generally been disregarded. However, we stress that the perception of MO is higher in Europe and in the USA, when compared to Brazil. This result may be related to the fact that the USA is more developed compared to Brazil and, therefore, there is a higher awareness of the need to satisfy the external customer in HE. Nevertheless, it could also be related to the cultural background, and this can be explained using the Uncertainty Avoidance Index proposed by Hofstede (1984). According to the author, Weak Uncertainty Avoidance societies preserve a more relaxed atmosphere in which practice counts more than principles, and deviance is more easily tolerated. On the other hand, Strong Uncertainty Avoidance societies preserve rigid codes of belief and behaviour and are intolerant concerning deviant people and ideas. In this index, Brazil is ranked higher (29-30) when compared to the USA (11), which means that the USA is a more tolerant culture. It is possible that in Strong Uncertainty Avoidance societies the idea of applying the MO concept to HE is not well accepted. We note that, during the data gathering, we found some resistance from some faculty members, who oppose to the implementation of typical business models to the area of HE, so it is possible that this opposition is higher in some cultural contexts. In what concerns Europe, it is diverse in what concerns economic and cultural aspects, so it is difficult to explain and understand the results found.

As MO, the perception of Internal service quality (ISQ) in European HE is somewhat high. However, we underline the need to continuously improve quality in HE. Therefore, HEI should focus on changing or improving their Marketing strategy. There are no differences in ISQ between the European and the American Continent. However, ISQ is higher in North America when compared to South America. This result could also be related to the cultural background, and it can also be explained using also the Uncertainty Avoidance index (Hofstede, 1984). In what concerns this index, Brazil is ranked higher (29-30) when compared to the USA (11), which means that the USA is a more tolerable culture. Therefore, the USA work context may be more favourable to higher quality in what concerns Internal service, not only in HE but, possibly, in other sectors as well.

Regarding work-related attitudes and behaviour in European HE, Job satisfaction (JS) and Job performance (JP) are somewhat high, when compared to Motivation (MOT) or to Organizational commitment (OC). However, when compared to American countries, MOT, JS

and JP are lower in Europe, and OC is significantly higher in Europe and in Brazil, when compared to the USA. This may be due to the fact that the USA is a predominately individualistic country (Hofsted, 1984; Sayles, 1995), and, according to Hofstede (1984), in more collectivist cultures, the relationship between the employee and employer has a more moral component, which is not as common in individualistic cultures. When compared to the USA, Brazil is a more collectivist country (Hofstede, 1984), which explains the difference regarding OC. Also, most European countries analysed by Hofstede (1984) are more individualistic than Brazil, but less than the USA.

We conclude that there are significant differences in MO, in ISQ and in work-related attitudes and behaviour according to the Continent. In addition to the cultural background, the results found may be explained by differences in what concerns economic development, Human Resource (HR) practices or working conditions. It would be important to study these variables, in order to better understand the results obtained.

Regarding the differences depending on the European region, we found significant differences concerning MO, MOT, JS and OC. The perception of IMO does not vary according to the region, which reinforces the fact that, in general, European HEI do not adopt an IMO. Regarding JP, there are no significant differences according to region. In what concerns MO, we found that it is higher in Northern countries when compared to the other European regions, as predicted. This result is not surprising since, as mentioned, Northern countries are innovative regions, with a high level of economic and technological development, and the adoption of a MO leads to increased Customer perceived value, Customer perceived service quality (e.g.: Gounaris, Vassilikopoulou & Chatzipanagiotou, 2010), Customer satisfaction (e.g.: Narver & Slater, 1990; Slater & Narver, 2000; Lings & Greenley, 2009) and higher Financial performance (e.g.: Narver & Slater, 1990; Slater & Narver, 2000; Raju & Lonial, 2002; Lings & Greenley, 2009). MOT is also higher in Northern Europe when compared to Western Europe and JS is higher when compared to Southern and Eastern Europe. We stress that both concepts also lead to an increase on the quality delivered to the external customer (e.g.: Franco et al., 2002; Malhotra & Mukherjee, 2004).

Contrary to what we predicted, OC is higher in Southern Europe when compared to Northern Europe. We found significant differences in the dimension 'Normative' of OC, which is related to the feelings of obligation to stay in the organization, and no differences concerning the other two dimensions. This result allows us to conclude that workers in Southern European HE are more loyal to the HEI they work for than workers in Northern Europe. We also found that MOT (when compared to Western Europe) and OC (when compared to Northern and Southern Europe) are significantly higher in Eastern Europe. This could be explained by the cultural values of the different regions. According to Taras, Kirkman and Steel (2010), the predictive power of cultural values is significantly lower than that of personality traits and demographics

for certain outcomes (for example, Performance) but is significantly higher for others (for example, Commitment). Cultural values are most strongly related to emotions, followed by attitudes, then behaviours. We stress that the Eastern countries, which, in some cases, occupy the Asian territory, may be influenced by the Asian cultural background, which is predominantly collectivist. Once more, we highlight that in more collectivist cultures the relationship between the employee and employer has a moral component, that is, loyalty toward the employer, which is not very common in more individualistic cultures (Hofstede, 1984).

Although the perception of IMO does not vary according to the region, we found that it varies according to the type of HEI. Particularly, the perception of IMO and of MO is higher in Private HEI than in Public HEI. This result makes sense, since Private HEI usually have to raise their own financial resources. Therefore, it is essential for them to be aware of the internal and the external customer's needs in order to deliver higher quality and, therefore, attract and retain students. It is possible that European Private HEI are beginning to value both the internal and the external focus. However, although IMO and MO are higher when compared to Public Education, they are not high and, therefore, they are still insufficient given the increasing competition in this context. We also found that workers in Private HE are more committed, which could mean that that IMO and MO positively influence the worker's Commitment in the context of HE, as previously noted in other contexts (e.g.: Jaworski & Kohli, 1993; Abzari, Ghorbani, & Madani, 2011). Regarding Private HE, we must stress that the sample size of these institutions is very small (N = 116) when compared to Public HE (N = 725).

We found some significant differences concerning the characteristics of the European sample. Qualifications influence the worker's MOT. The Lecturing staff that has a Ph.D. degree is more motivated than the Lecturing staff that has a Master's Degree. This result may stand to the fact that individuals who engage in a Ph.D. are already more motivated. JP varies according to age, which makes sense since demographics is a good predictor for JP (e.g.: Taras et al., 2010) and the perception of IMO, of ISQ and JS vary according to the length of career. Although the results regarding age and length of career are inconclusive and seem, at first, hardly relevant, they suggest that, possibly, older and or more experienced Lecturing staff has a more positive attitude and/or a more positive perception about their job and/or about the institution they work for, which is in agreement with the studies found regarding other job-related contexts.

Although the results are not surprising, considering other authors have mentioned the lack of focus in the internal market, they reinforce previous studies. We also highlight the need for HEI to focus on the external market, since the results found show that the perception of MO is

somewhat high, which is insufficient considering that HE is facing increasing competition and increasing pressure to use resources more effectively and efficiently. The same applies to ISQ. As mentioned, an organizational orientation which accommodates both an internal and an external focus on an equal level is more effective in formulating strategic responses, and contributes to obtain competitive advantage (e.g.: Mazzarol & Soutar, 1999). In this sense, we recommend the modification of Marketing practices in HE. Furthermore, along with IMO and MO (e.g.: Gounaris et al., 2010), the worker's attitudes and behaviour are associated with a higher quality delivered to external customers (e.g.: Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004), so this research alerts HEI to the need to develop HR practices that enhance the development of more positive work-related attitudes and behaviour. Moreover, as several authors point out, organizations have to invest in integrating the Marketing and the HR functions, the same way in which they attempt to integrate Marketing with other organizational functions that also influence customers' experiences (e.g.: Dunne & Barnes, 2000; Lings, 2004; Gounaris et al., 2010) and the HE context, as a service provider, is not an exception.

Considering the worldwide crisis we are living, European organizations, in general, should invest in differentiation and in delivering superior quality, whether in the sales or service context, so they could achieve superior competitive advantage comparatively to the rest of the world and, thereby, contribute to overcome the European financial crisis.

10. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

One main limitation of our research is the size of the sample, since we gathered only 260 responses from USA and Brazil. Moreover, European countries are diverse in what concerns their characteristics, and the American Continent is represented only by two countries. Thus, it would be important to replicate the research using a larger sample, including other American countries. Further, it would be important to analyse the HR practices, the cultural differences and working conditions that could influence the worker's attitudes and behaviour at work, both in America and in Europe. If we were to compare Western and Eastern culture and differences were found, they would possibly be more easily explained, since cultural distinctions between these two types of cultures are more evident.

It would also be important to study the reasons why OC is higher in Eastern Europe than in the other European regions and why it is higher in Southern Europe when compared to Northern Europe, using, of course, the typology we used to divide the Continent into regions.

Studying other work-related attitudes and behaviours in the context of HE would also be highly relevant. Moreover, it would be important to continue studying the influence of personal and academic characteristics on the perception of IMO, MO and ISQ, as well as on

job-related attitudes and behaviour, specifically in the HE context, since it is still an understudied context.

One other limitation of our study is the low number of answers obtained from some European countries, particularly from countries outside the European Union. Therefore, it would be important to replicate the research using data from all European countries and using a larger sample from non EU members.

It would also be relevant to reassess the variables in the future, in order to verify if the results remain the same. Particularly, it would be interesting to replicate the research in a more economically stable moment, since the financial crisis we are living could have had some influence on the results, particularly regarding the perception of IMO and job-related attitudes.

CHAPTER 4

INTERNAL MARKET ORIENTATION
AND MARKET ORIENTATION
IN HIGHER EDUCATION:
IMPLICATIONS ON THE ACADEMICS'
ATTITUDES AND BEHAVIOUR,
AND ON INTERNAL SERVICE QUALITY

ABSTRACT

Higher Education (HE) is facing growing competition and increasing pressure to use resources more effectively and efficiently. Hence, it is essential that Higher Education Institutions (HEI) identify which methods to use in order to improve the service delivered, and to attract and maintain the interest of students, academics, businesses and other HEI. In this perspective, Marketing and Human Resource (HR) practices are becoming rather critical in this context. A holistic Marketing approach allows the development of responses to the internal environment, as well as to the external market. Furthermore, Internal service quality (ISQ), a critical component of Internal marketing, as well as work-related attitudes and behaviour, also play an important role in delivering high quality to the external consumer. In this sense, we aim at studying the relationships between the Internal and the External market focus, ISQ and jobrelated attitudes and behaviour. We conclude that there is a positive strong relationship between Market orientation (MO) and Internal market orientation (IMO). Moreover, both concepts influence ISQ. Although low, we found positive relationships between MO and Motivation and between IMO and Job satisfaction. ISQ also influences the worker's Satisfaction. Motivation increases Satisfaction and Commitment, through Satisfaction, and Satisfaction enhances Commitment and Performance. Moreover, we found that HEI are not internal market oriented. In this sense, we recommend that HEI invest in changing or improving their Marketing strategies and adopt HR practices that are focused on enhancing Motivation and Satisfaction, in order to, consequently, enhance the worker's Commitment and Performance. Furthermore, Marketing and HR functions should be integrated, in order to achieve a greater efficacy in delivering high quality services.

KEYWORDS: Market orientation, Internal market orientation, Internal service quality, Motivation, Job satisfaction, Organizational commitment, Job performance, Higher Education, Structural equations modelling

1. INTRODUCTION

Considering today's competitive business environment, Marketing became more a Management issue than a specialist function (Grönroos, 1989). An organizational orientation which integrates both internal and external aspects on an equal level will be more effective in formulating strategic responses to market intelligence than an organizational orientation which has a predominantly external focus. A holistic approach allows the development of responses to the internal environment, as well as to the external market (Lings, 1999), and contributes to obtaining competitive advantage (Mazzarol & Soutar, 1999). Potential benefits

of applying Marketing theories and concepts that have been efficient in the business world are progressively being recognized by researchers in the field of Higher Education (HE) Marketing. In the context of increasing competition, Higher Education Institutions (HEI) now recognize that they need to market themselves (Hemsley-Brown & Oplatka, 2006).

Further, the functions of teaching and research in HEI are being reassessed, particularly in what concerns their contribution to the welfare of the economic and social environment that surrounds them (Alves et al., 2010). Thus, there is a growing pressure on HEI to use resources more effectively and efficiently (Arena, Arnaboldi, Azzone & Carlucci, 2009) and to establish long-term relationships with their clients through the provision of high-value services (Alves, 2011), so delivering quality service has become an important goal for most HEI (Athiyaman, 1997; Mustafa & Chiang, 2006; Sahney, Banwet & Karunes, 2008).

Hence, it is essential that HEI identify which methods to use in order to improve the service delivered, i.e. Education, and to attract and maintain the interest of students, academics, businesses and other HEI. Although the benefits of Market orientation (MO) are broadly acknowledged, some service organizations, such as Universities, usually do not implement the concept (Hampton, Wolf, Albinsson & McQuitty, 2009; Pavičić, Alfirević & Mihanović, 2009). On the other hand, when implemented, the emphasis has been put, essentially, on the external customer. The internal customer's side has generally been ignored (Sahney et al., 2008).

Considering that HE Marketing literature is inchoate and lacks theoretical models that reflect upon the particular context of HE (Hemsley-Brown & Oplatka, 2006), we intend to evaluate the relationships between Internal market orientation (IMO), MO, Internal service quality (ISQ) and some job-related attitudes and behaviour in HE, key variables for organizations, which contribute to deliver higher quality to the external customer (Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004; Gounaris et al., 2010).

First, we briefly define the concepts of MO, IMO, ISQ and work-related attitudes - Motivation, Job satisfaction and Commitment - and behaviour - Performance. Then, we describe the research hypotheses and the method used. Next, the results are described, we present the conclusions, and, finally, we refer to the main limitations and propose some topics for future research.

2. MARKET ORIENTATION

Market orientation (MO) is defined by Kohli and Jaworski (1990) as the implementation of the Marketing concept. Hence, a market-oriented organization is one whose actions are

consistent with the Marketing concept and in which the three pillars of the Marketing concept - customer focus, coordinated Marketing, profitability - are operationally manifest. MO entails (1) one or more departments engaging in activities geared towards developing an understanding of the customers' current and future needs, and the factors affecting them, (2) sharing this understanding across departments, and (3) the various departments engaging in activities designed to meet the customers' needs. In other words, a MO refers to the organizations' wide generation, dissemination, and responsiveness to market intelligence. To the definition presented by these authors, Narver and Slater (1990) add that, for a business to maximize its long-run profits, it must continuously create superior value for its customers, and, in order to do so, a business must be customer oriented, competitor oriented and interfunctionally coordinated.

Later, Berry et al. (1991) stated that the extent to which an organization excels in Services marketing will depend on how well it performs on six distinct, but interrelated, dimensions, including, among others, MO and Internal marketing (IM). The authors defined MO as the degree to which the activities and decisions of an organization reflect a main focus on the external customer. The evaluation of MO involves examining the organizations' Marketing research efforts, its Marketing planning, implementation, and control actions, the extent to which senior managers interact with customers and employees, and the extent to which a customer focus pervades the organization.

According to Day (1994), organizations can become more market oriented by identifying and building the special capabilities that set market-driven organizations apart, such as market-sensing - i.e. how well the organization is equipped to continuously sense changes in its market and to anticipate the responses to Marketing actions -, and customer-linking capabilities - i.e. abilities and processes required to achieve collaborative customer relationships.

Later, Mavondo, Chimhanzi and Stewart (2005) proposed another definition of the concept: a hybrid construct sharing elements of exploration but emphasizing exploitation of market opportunities. It is, thus, partly an element of organizational culture and partly action oriented (behaviour). Thus, MO is a set of norms and values and simultaneously a set of behaviours and activities.

In short, a MO fosters an awareness of the external market, which requires responses at appropriate levels and functions of the firm. Therefore, the value of MO lies in its ability to prompt a reconfiguration of resources through the processing and use of MO (Schlosser & Mcnaughton, 2007).

3. INTERNAL MARKET ORIENTATION

Internal market orientation (IMO) arises from the notion that customer contact personnel are of major importance to service industries, and that satisfied, committed and motivated front line employees are essential for customers to perceive that they have received a good service (Lings, 2004). This concept has its origins in two other concepts: MO and Internal marketing (IM).

The term IM was first used by Berry, Hensel and Burke (1976), who stated that IM was related to making available the internal products (jobs) that satisfy the needs of an internal market (employees), while also satisfying the goals of the organization. Sasser and Arbeit (1976) contributed to the initial development of the concept as well. According to the authors, the employer-employee relationship is a transaction, an exchange of values between two parties. If the employer identifies the exchange values, i.e. what the employee seeks from the job and what he is willing to give up to obtain it, the employer will be able to offer values that are appropriate to producing the desired responses in the employees.

Later, George (1977) stressed that, in order to have satisfied customers, the firm must have satisfied employees; to serve the needs of the market the firm must first serve the needs of its internal market. Tansuhaj, Randall and Mccullough (1987) reinforced George's idea stating that IM programs should be oriented to employee development. Also, the importance of employee Motivation proposed by George was strengthened in Berry, Parasuraman and Zeithmal's (1988) work, according to which maintaining Service quality depends not only on recognizing the customer's wishes and establishing appropriate standards, but also on maintaining a workforce of people willing and able to perform at specific levels.

In 1989, Grönroos (1989) reinforces the idea of exchange, presented by Sasser and Arbeit. According to the author, Marketing is to establish, develop and commercialize long term customer relationships so that the goals of the parties involved are met, and this is done by a mutual exchange and keeping of promises. The customer relationship concept is the core of Marketing. The resources of the firm - personnel, technology and systems - have to be used in such manner that the customer's trust in the various resources, and, thus, in the firm itself, is maintained and strengthened. From then on, several definitions of IM have been presented (see table 4.1).

Table 4.1 - Internal marketing definitions

| Authors | Definition |
|-------------------------------|--|
| Berry et al. (1991) | IM concerns the degree to which an organization uses Marketing concepts to attract, prepare, motivate, and retain high-quality employees. |
| Mohr-Jackson (1992) | The internal customer focus implies that a customer orientation further entails (a) understanding internal customers' requirements that affect external customer needs and wishes, (b) obtaining information about external customers needs and preferences through internal customers, and (c) creating additional value by increasing internal customer benefits. |
| Berry & Parasuraman (1991) | The quality of employees influences the quality of services, which, in turn, influences the quality of Services marketing. IM is to attract, develop, motivate and retain qualified employees by satisfying their needs. |
| Ahmed & Rafiq (1993) | IM involves a planned effort to overcome organizational resistance to change and to align, motivate and integrate employees towards the effective implementation of corporate and functional strategies. |
| Ballantyne (2000, 2003) | IM is a strategy to develop relationships between staff across internal organizational boundaries, so that staff autonomy and know-how combine in opening up knowledge creation processes that challenge any internal activities that need to be changed. The purpose of this activity is to improve the quality of External marketing relationships. |
| Gilmore (2000) | IM means a focus on Marketing concepts and theories that can be adopted to manage the efforts in an organization, with the aim of meeting the needs of the internal costumers, so that, in turn, they can understand and value the philosophy of satisfying the external costumer. |
| Rafiq & Ahmed (2000) | IM is a planned effort, using a Marketing approach, to overcome organizational resistance to change and to align, motivate and inter-functionally co-ordinate and integrate employees towards the effective implementation of corporate and functional strategies in order to deliver Customer satisfaction through a process of creating motivated and customer orientated employees. |
| Lings and Greenley (2009) | IM is a set of internal-market oriented behaviours. |

Source: Own

Although the definitions presented may differ in several aspects, they all come up with the same end, that is, to satisfy the external customer, which means that IM complements the MO concept.

According to Lings and Greenley (2009), IM can be operationalized through a series of internal market oriented behaviours. Thus, the extent to which the IM task has been successfully accomplished is measured through IMO (Naudé et al., 2003; Lings, 2004; Gounaris, 2006). IMO represents the adaptation of MO to the context of employer-employee exchanges in the internal market (Lings & Greenley, 2005; Gounaris, 2006), it is one of the core components of MO (Naudé, Desai & Murphy, 2003), so its adoption complements the organization's MO (Gounaris, 2006).

Gounaris (2006) sustains that IMO is a company philosophy that underlies its IM efforts, while also having a direct influence on the effectiveness of these efforts. The IMO adoption concerns the extent to which the organization commits to producing value for its employees

through successfully managing the relationships between employees, supervisors and management. Since the adoption of IMO complements the company's MO, it should, directly or indirectly, influence the organization's market performance. Moreover, the notion of IMO refers to the organization's orientation in relation to the internal market and demonstrates the management's commitment towards the workers. Specifically, this commitment regards the understanding of what employees value and becoming responsive to their individual needs, while ensuring that they have all the means necessary to deliver the type and level of service defined by the organization's (external) Marketing objectives and strategy (Gounaris, 2008).

However, for high Customer satisfaction to occur, the needs of external customers must be strongly tied with the organization's internal efforts. Therefore, a culture of internal and external customer service must be present, so Marketing personnel must extend their external boundary spanning responsibilities to include a superior understanding of internal customers and processes (Lassk et al., 2004). Furthermore, ensuring that IMO is successfully adopted requires that managers comprehend and adopt both Marketing and Human Resources (HR) philosophies, and the concept of IMO provides the tools for Marketing managers to incorporate HR issues into a Marketing plan and for HR managers to incorporate Marketing practices into an HR plan (Lings, 2004).

4. INTERNAL SERVICE QUALITY

"Quality is vital" (Sahney, Banwet & Karunes, 2008: 515) and it can be used to achieve a higher productivity (Leonard & Sasser, 1982), differentiation (Berry, Parasuraman & Zeithmal, 1988) and, therefore, competitive advantage (Leonard & Sasser, 1982; Berry et al., 1988; Kanji, 1990). In Kanji's (1990) perspective, 'quality' refers to the continuing satisfaction of the requirements expected by the client. According to Parasuraman, Zeithmal and Berry (1988), the construct of quality in the services literature differs from objective quality. It represents the consumer's perception of quality and it is defined as a form of attitude, related, but not equivalent, to Satisfaction, and it results from a comparison of expectations with perceptions of Performance.

According to Berry and Parasuraman (1992:5), "A service company is defined by its service quality". The authors state that exceptional service is mainly a function of common sense and passionate leadership, that is, listening to customers and employees, designing the service system to, in fact, serve the customer, investing in the performers of the service, stressing team work in service delivery, making the service promise unwavering and emphasizing effective recovery service. To measure Service quality, Parasuraman et al. (1988) developed SERVQUAL. The instrument measures five dimensions: *Tangibles* (physical facilities,

equipment, and appearance of personnel), *Reliability* (ability to perform the promised service dependably and accurately), *Responsiveness* (motivation to help customers and provide prompt service), *Assurance* (knowledge and courtesy of employees and their ability to inspire trust and confidence) and *Empathy* (caring, individualized attention the firm provides to its customers). Later, Frost and Kumar (2001) and Kang et al. (2002) adapted the instrument to the internal market of organizations, that is, to measure Internal service quality (ISQ), using the five dimensions proposed by Parasuraman et al. (1988), and named them, respectively, INTSERVQUAL and *Internal Service Quality Battery*. Kang et al. (2002) concluded that not all the five dimensions are significant determinants of overall service quality perception, only reliability and responsiveness, which means that employees perceive some quality aspects to be more important than others.

Therefore, as Service quality is important in order to satisfy the external customer, so is ISQ, in order to satisfy the internal customer. There is evidence that ISQ positively influences Job satisfaction (Jun & Cai, 2010) and Organizational commitment (Boshoff & Mels, 1995; Bai & Brewer, 2006), Performance and the Will to cooperate (Bellou & Andronikidis, 2008). According to Kang, James and Alexandris (2002), ISQ is a critical component of IM. Thus, considering that internal market oriented organizations are the ones that have successfully implemented the IM concept, ISQ is also a critical component of IMO.

5. JOB-RELATED ATTITUDES AND BEHAVIOUR

As Cascio (1995) mentioned almost two decades ago, remarkable changes are affecting the world of work. Examples include increased global competition, the impact of information technology, the redesign of business processes, the shift from making a product to providing a service, and the increasing disappearance of the job as a fixed set of tasks. These trends have been creating a redefinition of work itself. As organizations continue to adjust to a business world characterized by hyper-competition, they are forced to use all assets at their disposal in their attempt to differentiate product offerings, offer unique quality and value, and deliver their promises of Customer satisfaction (Hartline & Bejou, 2004). In this sense, they are finding the human element to be more and more important to achieve financial success (Mohamed, Taylor & Hassan, 2006). Therefore, the HR function's strategic role needs to focus more deeply on the workforce component of the organization's strategic capabilities, in order to achieve differentiation in relation to competitors, and also more differentiation within the organization (Becker & Huselid, 2006).

In this sense, three job-related attitudes (Motivation, Satisfaction and Commitment) and one type of behaviour (Performance - Task-related and Contextual), which contribute to the delivery of higher quality to the external customer, are described next.

5.1. Motivation

Nowadays, Motivation (MOT) is a key factor for the success of organizations (Drake, Wong & Salter, 2007; Kang, 2007; Salami & Idowu, 2010).

The MOT concept has been studied for many years. Its origins are present in the work of Lewin (1935), who posits that the effect of a purpose is the formation of a quasi-need, that is, dynamically, of a tension system, which drives towards discharge and causes activities which serve the execution of the purpose. From then on, several MOT theories emerged. Some of them focus on the content of MOT - for example, *Hierarchy of needs theory* (Maslow, 1954), *Need theory* (Mcclelland, 1965), *Two factor theory* (Herzberg, 1965, 1966) and *Self-determination theory* (Deci, 1972; Deci & Ryan, 2000) -, that is, the needs of the individual act as motivators; others focus on the process of Motivation - for example, *Expectancy theory* (Vroom, 1964) and *Equity theory* (Adams, 1965) -, stating that people vary in what concerns their motivations according to certain inputs; and there are theories that focus on the results - *Goal setting and task performance theory* (Locke, Shaw, Saari & Latham, 1980; Locke & Latham, 2002), *Operant behaviour and organizational behaviour modification theory* (Luthans & Otteman, 1973; Hamner & Hamner, 1976) and *Attribution theory* (Green & Mitchell, 1979) -, stating that the definition of goals and the use of reinforcements enhance Performance at work.

Franco, Bennett and Kanfer (2002) define MOT in the work context as an individual's degree of willingness to exert and sustain an effort towards organizational goals. It is an internal psychological process and a transactional process, that is, the worker's MOT is the result of the interactions between individuals and their work environment, and the fit between these interactions and the broader societal context.

In this research, we followed the Self-determination theory. The theory seems to have its basis on Deci's (1972) work, which posits that Intrinsic MOT of a person in performing an activity decreases when he/she receives a monetary payment consonant to Performance, threats of punishment for poor Performance, or negative feedback about his/her Performance. While extrinsic rewards can motivate behaviour, they do so at the expense of Intrinsic MOT. A system for motivating employees such as participative management which, through participation and job enlargement, attempts to arouse Intrinsic MOT, motivates effective Performance, at the same time that it satisfies higher-order needs. Later, Deci and Ryan (1985, 2000) deepened the theory. They consider needs to be innate, rather than learned, and, therefore, they give motivational content to life. Although they acknowledge physiological drives, they give primacy to the core psychological needs, such as competence, autonomy and relatedness, whose satisfaction leads to Intrinsic MOT and Internalization. The

authors distinguish between (1) MOT and Amotivation, that is, a state in which people lack the intention to behave, and thus lack Motivation, and between (2) Intrinsic MOT (which includes intrinsic regulation) and Extrinsic MOT. Extrinsic MOT includes: (a) External regulation (in which people's behaviour is controlled by specific external contingencies), (b) Introjection (which entails individuals taking in External regulations and maintaining them in a form that is somewhat isomorphic with the External regulations), (c) Identification (the process through which people recognize and accept the underlying value of a behaviour), and (d) Integration (the most complete form of Internalization of Extrinsic MOT, for it not only involves identifying the importance of behaviours but also integrating those identifications with other aspects of the Self). When the process of Internalization is differentially effective, in such a way that External regulations are internalized through the processes of Introjection, Identification or Integration, the result will be different types of Extrinsic MOT that vary, which means they can be controlled versus autonomous. These four types of regulatory processes represent the outcomes of an ongoing person-environment interaction in which the person has been less or more effective in internalizing and integrating the regulation of an activity. External and Introjected regulations are the processes through which behaviour is controlled; autonomous and controlled activities involve different types of regulatory processes, although they consist of motivated behaviour. In contrast, there is Amotivation, that is, the lack of MOT. Intrinsic MOT and well-internalized Extrinsic MOT are the foundation for autonomous or self-determined behaviour. In contrast, behaviour is considered controlled or non-self-determined to the extent that people feel pressured to adopt it. According to the authors, the behaviour that is autonomously regulated leads to a diversity of more positive outcomes, including higher quality performance, enhanced maintenance of behaviour change, and better mental health, in comparison to the behaviour that is controlled.

Employees experiencing a high motivating potential at work report more Organizational citizenship behaviours, i.e., Extra-role performance (Wegge, Van Dick, Fisher, Wecking & Moltzen, 2006), higher Job satisfaction (Sledge et al., 2008; Wegge et al., 2006) and Commitment (Fernet, Austin & Vallerand, 2012), less Turnover intentions (Wegge et al., 2006) and higher In-role performance (Miao & Evans, 2007; Heavey et al., 2011). Specifically, Intrinsic motivation influences Performance (Joo, Jeung & Yoon, 2010). In the context of Education, it was also found that teacher's MOT positively influences Satisfaction (Davis & Wilson, 2000).

5.2. Job satisfaction

The concept of Job satisfaction (JS) has been originating some controversy (Staw, 1986), since it is characterized as a "complex emotional reaction to work" (Locke, 1968: 9) or as an attitude (Saari & Judge, 2004). According to Locke (1990: 1432), JS is "the pleasurable"

emotional state resulting from the perception of one's job as fulfilling or allowing the fulfillment of one's important job values, providing these values are compatible with one's needs". Judge and Klinger (2008) define JS as a salient and perhaps inveterate attitude, permeating cognitive, affective, and behavioural aspects of peoples' work and nonwork lives.

JS theories may be divided according to the following classification: (1) Situational theories, which support that JS is a result of the nature of work and environmental factors, (2) Dispositional theories, according to which JS results from personal and personality factors, and (3) Interactive theories, which suggest that JS derives from the interaction between personality factors and factors inherent to the situation (Judge, Parker, Colbert, Heller & Ilies Remus, 2001; Judge & Klinger, 2008). Dispositional theories are the most recent, but also the less developed ones. However, individual differences have been considered since investigation related to JS began (Judge et al., 2001). Several theories describing JS have emerged (e.g. Herzberg, 1965; Hackman & Oldham, 1975, 1976; Salancik & Pfeffer, 1978; Dawis, 1980; Hulin, Roznowski & Hachiya, 1985; Staw, 1986; Locke, 1990; Quarstein, McAfee & Glassman, 1992). In this research, we follow the Job characteristics model. The theory is based on the premise that the nature of the task or of the job is an important determiner of how people act (Hackman, 1969). This model is used to measure three classes of variables: work objective characteristics, mediator psychological stages and individual needs for growth. In this perspective, the central characteristics of each task - like the variety of competencies, the identity and the meaning of the tasks, the autonomy, the level of information provided to the worker about his/her Performance, that is, the feedback influence the individual's psychological stage, that is, jobs that contain intrinsically motivating characteristics lead to higher levels of JS. The function characteristics and Satisfaction are also regulated by the worker's need for growth (Hackman & Oldham, 1976).

High JS leads to higher Commitment (Vanderberg & Lance, 1992; Chen, 2007; Markovits, Davis & van Dick, 2007; Hsiao & Chen, 2012). In the context of HE, a positive correlation between JS and Affective and Normative commitment was also found (Cetin, 2006). Moreover, JS leads to higher levels of Service quality (Malhotra & Mukherjee, 2004), higher exhibition of Organizational citizenship behaviours (González & Garazo, 2006) and higher In-role performance (Samad, 2005; Jones, Jones, Latreille & Sloane, 2009; Khan et al., 2011; Ziegler, Hagen, & Diehl, 2012). JS also decreases Withdrawal intentions (Freund, 2005) and Absenteeism (Scott & Taylor, 1985) and increases Customer satisfaction (Koys, 2001).

5.3. Organizational commitment

As MOT and JS, Organizational commitment (OC) is as a key factor in the employment relationship (Mohamed et al., 2006). The concept has been studied for years, particularly due

to the characteristics of today's markets and organizations (González & Guillén, 2007). Barnard's (1938) book - *The functions of the executive* - was fundamental for the development of the concept, as it was for the concept of Organizational citizenship behaviours. According to the author, the workers' will to cooperate is fundamental for the organization. Later, Whyte (1956: 7) mentions in his book *The Organization Man* that "man exists as a unit of the society and on himself, he is isolated, meaningless; only as he collaborates with others does he become worthwhile". In other words, the worker needs to cooperate with others. From then on, several insights on OC have emerged (see table 4.2).

Table 4.2 - Organizational commitment definitions

| Authors | Definition |
|----------------------------------|--|
| Becker (1960) | Commitment must comprise the following aspects: (1) prior actions of the person staking some originally extraneous interest on his following a constant line of activity, (2) an acknowledgment by him of the involvement of this interest in his present activity and (3) the resulting consistent line of activity. Individuals become committed to avoid the costs related to behaving otherwise. |
| Gouldner (1960) | There are two types of Commitment: Commitment to the total organization and Commitment to specific organizational values. |
| Kanter (1968) | The process through which individual interests become attached to the carrying out of socially organized patterns of behaviour which are seen as fulfilling those interests, as expressing the nature and needs of the person. |
| | There are three types of OC: continuance, cohesion and control. |
| Buchanan (1974) | A partisan, affective connection to the goals and values of an organization, to one's role in relation to goals, values and to the organization for its own sake, apart from its purely instrumental worth. It consists of three components: identification, involvement and loyalty. |
| Steers (1977) | Commitment is associated with increases in an employee's desire and intent to remain with an organization. |
| Mowday et al. (1979) | Attitudinal commitment is the relative strength of an individual's identification with and involvement in a particular organization, including (1) a strong belief in and acceptance of the organization's goals and values, (2) a willingness to exert considerable effort on behalf of the organization, and (3) a strong desire to remain a member of the organization. |
| Scholl (1981) | A force that maintains behavioural direction when expectancy/equity conditions are not met. |
| Wiener (1982) | The totally internalized pressures to act in a way that meets organizational interests. |
| Allen & Meyer (1990) | There are three types of OC: (1) Affective, which consists of a connection, identification and involvement with the organization; (2) Continuance, referring to the Commitment based on the cost that the individual associates with leaving the organization and (3) Normative, related to the feelings of obligation to stay in the organization. |
| Meyer & Herscovitch (2001) | It is a force that binds an individual to a course of action of relevance to a target and can be accompanied by different mind-sets that play a role in shaping behaviour. |
| Freund (2005) | High Commitment expresses the willingness to contribute to the environment as part of a belief in common values and goals. |
| Klein, Molloy & Thomas (2012) | A volitional psychological bond reflecting one's dedication to and responsibility for a target. |
| Source: Own | |

Source: Own

Similarly to what Meyer and Herscovitch (2001) stressed in their work some years ago, the OC definitions presented above have, explicitly or implicitly, two aspects in common: (1) Commitment consists of a force of connection - a psychological stage or attitude, and (2) Commitment determines a direction in what concerns the individual's behaviour.

The perspective that is adopted in this research is the one proposed by Allen and Meyer (1990), which is the most commonly used. However, it is important to stress the latter work of González and Guillén (2007), who found high statistical correlations and lack of discriminating validity between 'Affective' and 'Normative' commitment, which means that it is not clear yet how the two dimensions are conceptually separable, and also that a considerable conceptual redundancy exists. The authors explain this problem with the way in which 'Affective' and 'Normative' Commitment are defined. In the specialized literature, 'Affective commitment' includes aspects related to feelings, but also to moral judgments, confusing them. So, the authors propose that the Affective commitment dimension is related to emotions or affective tendencies (desires and impulses), while Normative commitment corresponds to rational tendencies. Both spheres are present in every human action, and they can be distinguished but not separated. The authors also propose a definition of OC: "attachment or bound that is a personal voluntary decision based on calculated rationality, affective tendency and moral judgment, which leads to a higher or lower degree of identification with, and involvement in, a particular organization, and that is observable in the free effort extended in accomplishing organizational goals" (González & Guillén, 2007: 412).

OC is negatively related to employee Turnover (Mowday et al., 1979; Meyer, Stanley, Herscovitch & Topolnytsky, 2002), particularly Affective commitment (Freund, 2005; Mohamed, Taylor & Hassan, 2006), to Absenteeism (Mowday et al., 1979) and positively related to Performance (Mowday et al., 1979; Meyer et al., 2002; Samad, 2005; Chen, Hwang, & Liu, 2009). Affective commitment has the strongest positive correlations to Attendance, Performance, Organizational citizenship behaviours, employee-relevant outcomes (Stress and Work-family conflict) (Meyer et al., 2002) and Service quality (Malhotra & Mukherjee, 2004).

5.4. Job performance

Job performance (JP) is characterized as a *dynamic* (Motowidlo, Borman, & Schmit, 1997; Sonnentag & Frese, 2002), *multidimensional* (Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001; Sonnentag & Frese, 2002; Cheng, Li, & Fox, 2007), *behavioural* (Campbell et al., 1990; Motowidlo et al., 1997; Viswesvaran, 2001), *episodic* (e.g.: Motowidlo et al., 1997) and *evaluative* (Motowidlo et al., 1997; Viswesvaran, 2001) concept.

The concept is dynamic because it is not stable over time. Variance in an individual's performance over time reflects his/her learning processes and other long-term changes, as well as temporary changes in Performance (Sonnentag & Frese, 2002). Furthermore, individual differences in personality and cognitive abilities, in combination with learning experiences, lead to variability in knowledge, skills, work habits, and traits, that mediate the effects of personality and cognitive ability on JP (Motowidlo et al., 1997). The concept is multidimensional, since one attribute, one outcome or one factor cannot be labeled as JP (Campbell et al., 1990). So, there are several manifestations of individual Performance and the explanation of the construct involves identifying the different dimensions it is composed of (Viswesvaran, 2001). JP is behavioural, since it consists of manifestations of Performance (Viswesvaran, 2001), that is, behaviours (Campbell et al., 1990; Viswesvaran, 2001) or activities that are judged as important to accomplish the goals of the organization (Campbell et al., 1990; Borman & Motowidlo, 1997; Bergeron, 2007). JP is also episodic since, during a work day, people do several things that neither assist nor hinder the organization accomplish its goals, so these behaviours have no effect on Performance. Therefore, work-related behaviours are related to those occasions when people do something that makes a difference in what concerns organizational goals (Motowidlo et al., 1997). The concept is also evaluative, because Performance behaviours may be more or less desirable and it is possible to scale the degree to which they are desirable, with enough precision to distinguish between them (Motowidlo et al., 1997).

Table 4.3 - Job performance definitions

| Authors | Definition |
|--------------------------------|---|
| Campbell et al. (1990) | The total population of behaviours and activities that are judged to be important for accomplishing the goals of the organization. Each of the activities performed at work may require somewhat different knowledge and skills, which may, in turn, be functions of different abilities. |
| Viswesvaran (2001) | Evaluable behaviours. There are several manifestations of individual Job performance with the actual operational measures varying across contexts. In this sense, the explanation of the construct involves identifying the dimensions it is composed of. |
| Borman and Motowidlo (1997) | There are two types of Job performance: task and contextual activities. |
| Motowidlo et al. (1997) | The aggregated value to the organization of the discrete behavioural episodes that an individual performs over a standard interval of time. There are two types of Job performance: task and contextual activities. Behaviour is what people do while at work. Performance is behaviour with an evaluative component, behaviour that can be evaluated as positive or negative for the individual or the organization. |
| Bergeron (2007) | Behaviours needed to help the organization reach its goals. |

Source: Own

We follow the perspective that distinguishes between Task-related performance and Contextual performance. Task performance is defined as (1) activities that transform raw

materials into the goods and services that are the organization's products, such as teaching or performing surgery, or (2) activities that service and maintain the technical core by replenishing its supply of raw materials, distributing its finished products or providing important planning, coordination, supervising or staff functions that enable it to function effectively and efficiently. While Task performance bears a direct relation to the organization's technical core (Motowidlo et al., 1997), contextual activities contribute to organizational effectiveness in ways that shape the organizational, social, and psychological context that serves as the catalyst for task activities and processes (i.e.: volunteering to carry out task activities that are not formally part of the job or helping and cooperating with others in the organization to get tasks accomplished (Borman and Motowidlo, 1997). Contextual performance represents a type of behaviour that is largely under the motivational control of individuals (Griffin, Neal & Neale, 2000) and it derives of three concepts previously studied: Organizational citizenship behaviours (e.g.: Barnard, 1938; Organ, 1977; Katz & Kahn, 1978; Bateman & Organ, 1983; Organ & Moorman, 1993; Williams & Anderson, 1991), Prosocial organizational behaviours (e.g.: Brief & Motowidlo, 1986) and Effectiveness behaviours (e.g.: Borman, Motowildo & Rose, 1987).

Based on the literature review, we define Job performance (both Task and Contextual) as evaluative and episodic behaviours that an individual adopts towards his/her work and job, as a result of the dynamic between cognitive abilities, personality and learning experiences, that aggregate value to the organization.

6. RESEARCH HYPOTHESES AND MODEL

IMO, MO and ISQ of HEI are measured according to the academics' perspective. Therefore, we are referring to the perception of the worker concerning these variables.

Although it was found in some studies (e.g. Lings & Greenley, 2009) that IMO positively influences MO, we propose that an organization that is external market oriented and, therefore, is seeking to satisfy the external customer's needs, will identify the need to focus on the internal customer in order to deliver higher quality to the external customer, since IMO also contributes to enhance Customer perceived service quality (Tortosa, Moliner, & Sánchez, 2009; Gounaris et al., 2010) and Customer satisfaction (Lings & Greenley, 2005; Lings & Greenley, 2009; Tortosa et al., 2009). Therefore, although the two concepts complement each other, IMO may be, somehow, a consequence of MO. Thus, we propose hypothesis 1: *The perception of MO has a positive impact on the perception of IMO*.

Considering that IMO positively influences employee Perceived value (Gounaris, Vassilikopoulou, & Chatzipanagiotou, 2010), it is likely that it also positively influences ISQ.

Moreover, as Kang, James and Alexandris (2002) point out, a critical component of IM is the provision of ISQ, and the measurement of IMO involves assessing the extent to which the IM task has been successfully achieved. Therefore, we propose the following hypothesis: (H_2) The perception of IMO has a positive impact on the perception of ISQ.

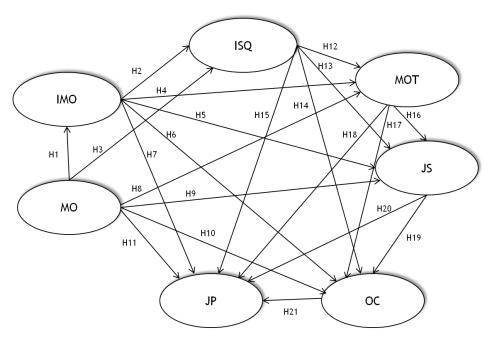
Based on the hypothesis which states that MO influences IMO, and taking into account that ISQ is a critical component of IM - and, therefore, of IMO, which is a core component of MO -, it is likely that MO also has a positive influence on ISQ, so we propose the following hypothesis: (H_3) The perception of MO has a positive impact on the perception of ISQ.

Considering that IMO positively influences job-related attitudes (Lings & Greenley, 2005; Gounaris, 2008; Lings & Greenley, 2009; Tortosa, Moliner, & Sánchez, 2009; Tortosa-Edo, Sánchez-García, & Moliner-Tena, 2010; Abzari, Ghorbani, & Madani, 2011) and that there are studies which suggest its influence on behaviour, specifically JP (Carter & Gray, 2007), we pose the following hypotheses: *The perception of IMO has a positive impact on* (H_4) *Motivation* (H_5) *Job satisfaction* (H_6) *Commitment* (H_7) *Job performance*.

Previous studies indicate that MO influences JS (Zhou et al., 2008) and OC (Jaworski & Kohli, 1993; Abzari, Ghorbani, & Madani, 2011). Although we did not find studies indicating the influence of MO on MOT and on the worker's Performance, we believe that these relationships may also exist. Therefore, we pose the following hypotheses: *The perception of MO has a positive impact on* (H_8) MOT (H_9) JS (H_{10}) OC (H_{11}) JP.

According to previous studies, ISQ enhances JS (Jun & Cai, 2010), OC (Boshoff & Mels, 1995; Bai & Brewer, 2006) and JP (Bellou & Andronikidis, 2008). Although we have not found any study relating ISQ to MOT, we believe that it is likely that ISQ enhances MOT, since it influences other job-related attitudes. Thus, we pose the following hypotheses: *The perception of ISQ has a positive impact on* (H_{12}) MOT (H_{13}) JS (H_{14}) OC (H_{15}) JP.

With the aim of evaluating the relationships between the worker's attitudes and behaviour, and based on previous studies already mentioned (e.g.: Meyer et al., 2002; Markovits et al., 2007; Wegge et al., 2006; Heavey et al., 2011; Fernet et al., 2012; Ziegler et al., 2012), the following hypotheses are proposed: MOT has a positive impact on (H_{16}) JS (H_{17}) OC (H_{18}) JP. JS has a positive impact on (H_{19}) OC (H_{20}) JP. OC has a positive impact on (H_{21}) JP.



Source: Own

Figure 4.1 - Research model

7. METHOD

7.1. Sample and data collection

The research is based on a model that postulates the existence of positive relationships between the following variables: Internal market orientation (IMO), Market orientation (MO), Internal service quality (ISQ), Motivation (MOT), Job satisfaction (JS), Organizational commitment (OC) and Individual performance (JP). The evaluation of the variables was done according to the Lecturing staff's perception. Other HE workers were excluded because the Lecturing staff is more likely to have a global vision of how the HEI acts towards the workers and the students.

The contacts of European HEI were gathered online, based on a list created by Bonaccorsi et al. (2010). First, the general e-mails (information, communication, international relations or rectory contacts) were gathered. In the case of countries with more than 150 HEI, 90 HEI were chosen randomly. In the case of European countries that do not belong to the European Union, 20 HEI were chosen randomly, since searching for the contacts of all the HEI would create some time constraints. Then, in a second phase, the program Atomic E-mail Hunter,

version 3.5¹, was used to gather the e-mails contained in the Web sites of the HEI. In what concerns the non-European countries, the contact gathering was based on Scimago Institutions Rankings - SIR world report 2012: Global Ranking, so we used the program to extract e-mails from the HEI listed in the ranking. In many cases, the extraction was not possible, and, whenever the program extracted e-mails from a Web site, some e-mails that clearly did not belong to Lecturing staff were deleted. Initially, we intended to extract emails from more North and South American countries. However, due to time constraints, we only gathered contacts of HEI in Brazil and in the USA. The questionnaire (see Appendix E), divided into eight parts, was made available online. In addition to the questions regarding the variables under study, the respondents had to provide personal data. Anonymity and confidentiality were assured and the participation was voluntary. 1 357 European HEI, 104 USA HEI and 62 Brazilian HEI were requested, via e-mail (see Appendix F), to invite the Lecturing staff to participate in the study. Then, a total of 175 646 individual e-mails (see Appendix G) inviting Lecturing staff to collaborate in the research were sent. Of the 1 523 emails sent to HEI, a total of 66 were returned and 33 HEI refused to divulge the request to the Lecturing staff, based on motives such as the institution policy, the vacation period or not wanting to overload their workers. Of the 175 646 individual requests sent, 17 046 were returned and 341 people refused to collaborate. Their motives included the fact that the questionnaire was too long, the lack of time, the disagreement with/lack of interest in the area of research, the difficulty to answer due to the technical language used or the inability to understand English and the fact that they do not have a global vision of the HEI, which was a requirement to answer one of the 7 instruments applied. Also, some people were not part of the Lecturing staff (researchers, PhD. Students, Emeritus Professors or other staff). A total of 1 135 responses was gathered. However, 25 responses were deleted because we suspected that they do not belong to the Lecturing staff, and 3 responses were deleted because the individuals did not specify their country, so the sample is composed of 1 107 individuals, 847 from 41 European countries and 260 from America (USA and Brazil).

7.2. Instruments

After the literature review, six instruments were gathered and the scale to measure Performance was created (see Chapter 2). All of the variables were measured using a 7-point Likert scale, which allows a wide appreciation of the concepts under study.

To measure IMO we used a scale developed by Gounaris (2006), containing 43 items divided by 3 IMO dimensions (Internal market intelligence generation - 17 items, Internal intelligence dissemination - 10 items, Response to intelligence - 16 items). In order to make the

¹ Atomic E-mail Hunter 3.5 (2006). Alexandria: AtomPark Software. Retrieved from http://www.massmailsoftware.com/extractweb/download/

instrument more suitable for the context of HE, we changed some terms: 'company' to 'institution', 'industry' to 'Higher Education field', 'senior level management' to 'higher level management' and 'employee' to 'worker'. 6 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. MO was measured using an instrument developed specifically for the HE context (Hemsley-Brown & Oplatka, 2010), that contains 32 items divided by 3 MO dimensions (Student (customer) orientation - 18 items, Competition orientation - 6 items, Intra-functional orientation - 8 items). In this instrument, we changed the term 'University' to 'Higher Education Institution'. ISQ was measured using Internal Service Quality Battery (Kang, James & Alexandris, 2002). The instrument contains 22 items divided by 5 dimensions (Reliability - 5 items, Assurance - 4 items, Tangibles - 4 items, Empathy - 5 items, Responsiveness - 4 items). The Work Extrinsic and Intrinsic Motivation Scale (Tremblay, Blanchard, Taylor, Pelletier & Villeneuve, 2009) was used to measure MOT at work. The instrument contains 18 items divided by 6 dimensions: Intrinsic motivation (3 items), Integrated regulation (3 items), Identified regulation (3 items), Introjected regulation (3 items), External regulation (3 items) and Amotivation (3 items). 9 items were reverse scored for statistical purposes. Job Diagnostic Survey (JDS) was developed by Hackman and Oldham (1975) to measure three classes of variables: objective characteristics of work, critical psychological states and individual needs for growth. This measure evaluates Global satisfaction and Satisfaction with job facets. Global JS is measured through three dimensions, which include general satisfaction (5 items), internal work motivation (6 items) and satisfaction with growth (4 items). JDS also measures Satisfaction with the following job facets: job security (2 items), pay (2 items), social (3 items) and supervision (3 items). 3 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. We changed the term 'boss' to 'supervisor', since we considered it more adequate to the context of HE. OC was measured using Allen and Meyer's (1990) scale. The instrument contains 24 items divided by 3 dimensions of Commitment (Continuance - 8 items, Normative - 8 items, Affective - 8 items). We changed the term 'organization' to 'institution'. 9 of the items are written in the negative form, so their score was reversed for statistical analysis purposes. To measure JP we used the instrument we developed (see Chapter 2). The instrument contains 29 items divided by 7 dimensions of Job performance (Task performance dimension: job knowledge - 4 items, organizational skills - 5 items, efficiency - 3 items; Contextual performance dimension: persistent effort - 5 items, cooperation - 3 items, organizational conscientiousness - 5 items, interpersonal and relational skill - 4 items). 10 of the items are written in the negative form, so their score was reversed for statistical analysis purposes.

Apart from the questions regarding the mentioned variables, the Lecturing staff had to provide personal data. The name of the HEI was not asked because that could create some concern about the disclosing of internal information.

7.3. Data analysis methods

To analyse the data we used the statistical package *SPSS*² and *AMOS*, versions 19.0. To analyse the model we used the Structural equation modelling (SEM) method, which allows the consideration of simultaneous equations with many endogenous variables (Bollen & Long, 1993). This method was used to perform Confirmatory factor analysis (CFA). CFA is used to test the adequacy of a well-defined model. Unlike standard regression models, SEM accommodates regression relationships among latent variables and between observed and latent variables (Bowen & Guo, 2011). The model is composed of 193 reflective indicators, since they are theoretically parallel, (i.e., equivalent in their measurement of the underlying construct), and no *a priori* emphasis is given to a particular indicator included in the dataset (Chin, Marcolin & Newsted, 2003).

8. RESULTS

MCAR Little's test was used to analyse the missing data. Since p = .513, we conclude that the data was missing completely at random. Next, the missing values were replaced using the EM method.

8.1. Sample profile

The sample profile is described on table 4.4.

IBM SPSS Statistics Rel. 19.0.0. (2010). Chicago: IBM. Retrieved from http://www-01.ibm.com/software/analytics/spss/

Table 4.4 - Sample characterization

| TYPE OF H | El | MAIN TEACHING AR | EA |
|---------------------------|-----------------|---------------------------|-------|
| Public | 81.9% | Physical Sciences | 8.4% |
| Private | 17.2% | Life Sciences | 4.3% |
| Combined | 0.5% | Social and Human Sciences | 56.9% |
| Foundation owned | 0.1% | Applied Sciences | 16.8% |
| Did not specify | 0.4% | Formal Sciences | 6.4% |
| TYPE OF EDUCA | ATION | Interdisciplinary areas | 2.4% |
| Universities | 85.5% | Did not specify | 4.7% |
| Colleges | 6% | AGE | |
| Polytechnics | 5.8% | 25 - 28 years old | 2.3% |
| Specialized Schools | 1.4% | 29 - 32 years old | 6.4% |
| University Colleges | 0,2% | 33 - 36 years old | 8.4% |
| Higher Vocational Schools | 0.9% | 37 - 40 years old | 10.9% |
| Did not specify | 0.3% | 41 - 44 years old | 9.1% |
| CONTINEN | Т | 45 - 48 years old | 12% |
| North America (USA) | 16% (N = 177) | 49 - 52 years old | 10.4% |
| South America (Brazil) | 7.5% (N = 83) | 53 - 56 years old | 12.1% |
| Europe | 76.5% (N = 847) | 57 - 60 years old | 9.8% |
| LENGTH OF ACADEM | | > 60 years old | 13.4% |
| 3 - 6 years | 13% | Did not specify | 5.2% |
| 7 - 10 years | 13.9% | QUALIFICATIONS | 5 |
| 11 - 14 years | 14% | Foundation Degree | 0.1% |
| 15 - 18 years | 12.2% | Bachelor Degree | 1.3% |
| 19 - 22 years | 11.2% | Graduation | 0.5% |
| 23 - 26 years | 8.7% | Master's Degree | 21.6% |
| 27 - 30 years | 7.2% | Ph.D. | 73.4% |
| 31 - 34 years | 5.9 % | Post-Doc | 0.1% |
| 35 - 38 years | 3.5% | Doctor of Science | 0.2% |
| > 39 years | 5.5% | MD (Doctor of Medicine) | 0.7% |
| Did not specify | 0.3% | Aggregation | 0.1% |
| • | | Did not specify | 2% |

Source: Own

8.2. Consistency of the measures

High reliability is a required condition for high validity, and an important condition for applications of scale scores that are often used for purposes of behavioural assessment (Raykov & Grayson, 2003). CFA was performed for all the measures. Items 2, 12 and 18 in the scale that measures IMO were deleted. Item 24 in the scale that measures JS was deleted. Criteria of Goodness of fit showed appropriate fit for every measure (Root mean square error of approximation [RMSEA] < .07, Goodness-of-fit index [GFI] > .90, and Parsimony GFI [PGFI] > .69). Composite reliability is over .88 for all the measures, that is, all of them show moderate to high reliability (Raykov, 2000). Cronbach's alpha was also used to estimate the internal consistency of the measure. Results indicate a satisfying to high level of internal consistency (Cronbach, 1951) (see table 4.5).

Table 4.5 - Consistency of the measures

| | IMO | МО | ISQ | MOT | JS | OC | JP |
|-----------------------|------|------|------|------|------|------|------|
| Chi test | 2.92 | 3.61 | 5.81 | 5.96 | 4.65 | 3.20 | 3.54 |
| p-value | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| GFI | .904 | .909 | .903 | .923 | .917 | .923 | .918 |
| PGFI | .803 | .771 | .728 | .696 | .724 | .724 | .781 |
| RMSEA | .042 | .049 | .066 | .067 | .057 | .051 | .048 |
| Cronbach alpha | .945 | .957 | .954 | .797 | .895 | .794 | .749 |
| Composite reliability | .980 | .982 | .984 | .884 | .947 | .936 | .878 |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

8.3. Mean values for the constructs

The mean values for the constructs under study are summarized in table 4.6.

Table 4.6 - Means values for the constructs

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---------|------|---------|---------|------|----------------|
| IMO | 1107 | 1.13 | 6.50 | 3.65 | 1.045 |
| MO | 1107 | 1 | 7 | 4.89 | 1.006 |
| ISQ | 1107 | 1 | 7 | 4.91 | 1.029 |
| MOT | 1107 | 1.78 | 6.94 | 4.71 | .726 |
| JS | 1107 | 1.92 | 7.00 | 5.09 | .826 |
| OC | 1107 | 1.04 | 6.38 | 4.13 | .745 |
| JP | 1107 | 2.83 | 6.45 | 5.04 | .516 |
| Valid N | 1107 | | | | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

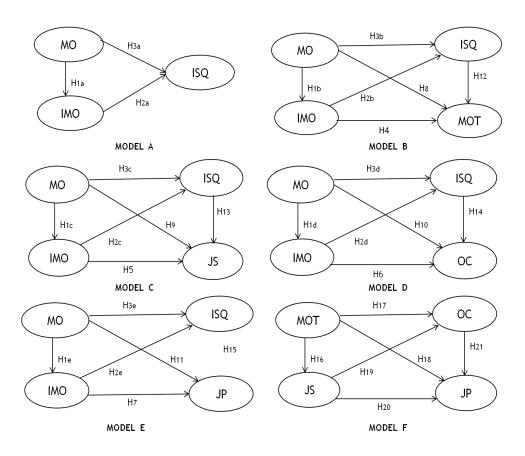
Source: Own

As we can see on table 4.6, the perception of IMO is low (3.65). When compared to IMO, the perception of MO is higher (4.89), although we cannot say it is high. The perception of ISQ (4.91) is also somewhat high. The means for OC (4.13) and MOT (4.71) are medium, while the means for JS (5.0861) and JP are somewhat high (5.04). We stress that the mean values for each construct relate to the mean of all the items included in the measures, except for the ones that were removed from the measure when performing the CFA.

8.4. Analysis of the Model

Initially, we intended to examine all the proposed relationships at the same time. However, that was not possible due to fit unsolvable issues, so we decided to divide the initial model into six different models (see Figure 4.2), named A, B, C, D, E and F. In what concerns the relationships between MO, IMO and ISQ, they were tested in five of the six models, so, for

each model, the hypotheses concerning this relationship were renamed according to the name of the model (for example, when testing H_1 , H_2 and H_3 for model C, the hypotheses are H_{1c} , H_{2c} and H_{3c}).



Source: Own

Figure 4.2 - Research model divided into six models

For every model, we first performed the collinearity diagnosis and removed the items that were causing multicollinearity problems. Then, we performed the analysis, using the Generalized Least Squares (GLS) method, which can be used to estimate the parameters of a factor model (Kaplan, 2000). When we had problems concerning negative variances (Model E and F), we fixed the variance at 0, as suggested by previous studies (e.g. Gerbind & Anderson, 1987).

8.4.1. Model A

Table 4.7 - Path significance and effects for Model A

| Path | Path significance | Total effects | Direct effects | Indirect effects |
|---------|-------------------|---------------|----------------|------------------|
| MO-IMO | <.001 | .714 | .714 | |
| MO-ISQ | <.001 | .401 | .261 | .139 |
| IMO-ISQ | <.001 | .195 | .195 | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality

Source: Own

Using the Chi squared criteria, the value of 2.02 (p = .000 < .05) for this model indicates a tolerable fit. Other criteria of Goodness of fit were used, such as the Root mean square error of approximation [RMSEA] = .03, which indicates a very good fit, the Goodness-of-fit index [GFI] = .903, which indicates a good fit, and the Parsimony GFI [PGFI] = .826, which indicates a very good fit.

According to the results, MO explains 71.4% of IMO, that is, when MO raises 1 unit, IMO raises 0.714, which is in accordance to H_{1a} . MO also positively influences ISQ, directly (.261) and indirectly (.139) through IMO adoption, so H_{3a} is supported. IMO also influences ISQ. Specifically, IMO explains .195 of ISQ, so H_{2a} is also supported.

8.4.2. Model B

Table 4.8 - Path significance and effects for Model B

| Path | Path significance | Total effects | Direct effects | Indirect effects |
|----------|-------------------|---------------|----------------|------------------|
| MO-IMO | <.001 | .465 | .465 | |
| MO-ISQ | <.001 | .128 | .103 | .025 |
| IMO-ISQ | .05 | .053 | .053 | |
| IMO-MOT | .162 | | REMOVED | |
| MO-MOT | .008 | .084 | .084 | |
| ISQ- MOT | .28 | | REMOVED | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation

Source: Own

Using the Chi squared criteria, the value of 1.90 (p = .000) for this model indicates a good fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .029, which indicates a very good fit, [GFI] = .905, which indicates a good fit, and [PGFI] = .830, which indicates a very good fit.

According to Model B, MO positively influences IMO (.465), and ISQ, directly (.103) and indirectly through IMO (.025), although this influence is very low (H_{1b} and H_{3b} are supported). MO also explains 8.4% of MOT, so H_8 is supported. IMO influences directly ISQ (.053), but not MOT (H_{2b} is supported and H_4 is rejected). ISQ does not influence MOT, so we reject H_{12} .

8.4.3. Model C

Table 4.9 - Path significance and effects for Model C

| Path | Path significance | Total effects | Direct effects Inc | lirect effects |
|------------|---------------------------|-------------------------|----------------------------|------------------|
| MO-IMO | <.001 | .430 | .430 | |
| MO-ISQ | .315 | | REMOVED | |
| MO-JS | .210 | | REMOVED | |
| IMO-ISQ | .004 | .089 | .089 | |
| IMO-JS | .541 | .022 | REMOVED | .022 |
| ISQ- JS | <.001 | .245 | .245 | |
| IMO Intern | al market erientation: MO | Market erientation: ISO | Internal consider qualitys | IC lob caticfact |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; JS - Job satisfaction

Source: Own

Using the Chi squared criteria, the value of 1.79 (p = .000) for this model indicates a good fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .027, which indicates a very good fit, [GFI] = .90, which indicates a good fit, and [PGFI] = .831, which indicates a very good fit.

In Model C, MO also positively influences IMO (.430), so H_{1c} is supported, but it does not influence ISQ nor JS, so we reject H_{3c} and H_{9} . IMO has a positive direct impact of .089 on ISQ, as predicted (H_{2c}), and an indirect positive effect of .022, mediated by ISQ, on JS, so H_{5} is partially supported. At last, ISQ positively influences JS directly (.245), so H_{13} is supported.

8.4.4. Model D

Table 4.10 - Path significance and effects for Model D

| Path | Path significance | Total effects | Direct effects | Indirect effects |
|---------|-------------------|---------------|----------------|------------------|
| MO-IMO | <.001 | .677 | .677 | |
| MO-ISQ | .002 | .246 | .246 | |
| IMO-ISQ | .153 | | REMOVED | |
| IMO-OC | .946 | | REMOVED | |
| MO-OC | .873 | | REMOVED | |
| ISQ-OC | .913 | | REMOVED | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; OC - Organizational commitment

Source: Own

Using the Chi squared criteria, the value of 2.04 (p = .000) for this model indicates a tolerable fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .031, which indicates a very good fit, [GFI] = .913, which indicates a good fit, and [PGFI] = .828, which indicates a very good fit.

According to Model D, MO explains 67.7% of IMO (H_{1d} is supported) and 24.6% of ISQ (H_{3d} is supported). However, in this model, IMO does not influence ISQ, so we reject H_{2d} . Moreover, contrary to what we predicted, IMO, MO and ISQ do not influence OC, so we reject, respectively, H_6 , H_{10} ad H_{14} .

8.4.5. Model E

Table 4.11 - Path significance and effects for Model E

| Path | Path significance | Total effects | Direct effects | Indirect effects |
|---------|-------------------|---------------|----------------|------------------|
| MO-IMO | <.001 | 1.273 | 1.273 | |
| MO-ISQ | .005 | .518 | .215 | .303 |
| IMO-ISQ | <.001 | .238 | .238 | |
| IMO-JP | .997 | | REMOVED | |
| MO-JP | .997 | | REMOVED | |
| ISQ-JP | .997 | | REMOVED | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; JP - Job performance

Source: Own

Using the Chi squared criteria, the value of 1.72 (p = .000) for this model indicates a good fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .025, which indicates a very good fit, [GFI] = .90, which indicates a good fit, and [PGFI] = .837, which indicates a very good fit.

According to Model E, MO has a positive impact of 1.273 on IMO and of .518 on ISQ. Therefore, H_{1a} and H_{3e} are supported. Moreover, when IMO increases 1 unit, ISQ increases .238 (directly of .215 and indirectly of .303) (H_{2e} is supported). However, contrary to what we predicted, IMO, MO and ISQ do not influence JP, so we reject, respectively, H_7 , H_{11} and H_{15} .

The differences found in the relationships among MO, IMO and ISQ are related to the different adjustments made to the models. However, we underline the fact that, in all the five models, the results always indicate a positive influence of MO on IMO.

8.4.6. Model F

Table 4.12 - Path significance and effects for Model F

| Path | Path significance | Total effects | Direct effects | Indirect effects |
|----------|-------------------|---------------|----------------|------------------|
| MOT - JS | <.001 | .764 | .764 | |
| MOT - OC | .049 | .146 | 178 | .324 |
| MOT - JP | .165 | REMOVED | | |
| JS - OC | <.001 | .423 | .423 | |
| JS - JP | <.001 | .436 | .436 | |
| OC-JP | .979 | REMOVED | | |

MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

Using the Chi squared criteria, the value of 2.22 (p = .000) for this model indicates a tolerable fit. Other criteria of Goodness of fit were used, such as [RMSEA] = .033, which indicates a very good fit, [GFI] = .901, which indicates a good fit, and [PGFI] = .825, which indicates a very good fit.

According to Model F, MOT positively influences JS (.764) and OC (.146), but not JP, so H₁₆ and H₁₇ are supported, and we reject H₁₈. The total effect of MOT on OC is, however, complex. MOT positively influences OC indirectly (.324), through JS, but it has a negative direct effect on OC (-.178). This means that motivated employees are less committed. However, if they are motivated and also satisfied with their job, OC will increase. JS has a positive and direct effect on OC (.423) and on JP (.436), which is in agreement with H₁₉ and H₂₀. Contrary to what we predicted, OC does not influence JP, so we reject H₂₁.

We conclude that MO positively influences IMO (Model A, B, C, D, E), ISQ (Model A, B, D, E) and MOT (Model B). Contrary to what we predicted based on previous studies, IMO only influences directly ISQ (Model A, B, C, E) and JS, indirectly (Model C), although this influence is very low. ISQ positively influences JS (Model C). MOT has a positive influence on JS and a negative influence on OC. JS has a positive influence on OC and on JP (Model F). We also found a positive indirect effect between MO and ISQ (Model A, B and E), mediated by IMO, between IMO and JS, mediated by ISQ (Model C) and between MOT and OC, mediated by JS (Model F). The mentioned relationships are summarized in table 4.13.

Table 4.13 - Summary of the models

| MODEL | PATH | TOTAL EFFECTS | DIRECT EFFECTS | INDIRECT EFFECTS |
|-------|-----------|---------------|----------------|------------------|
| Α | MO - IMO | .714 | .714 | |
| | MO - ISQ | .401 | .261 | .139 |
| | IMO - ISQ | .195 | .195 | |
| В | MO - IMO | .465 | .465 | |
| | MO - ISQ | .128 | .103 | .025 |
| | IMO - ISQ | .053 | .053 | |
| | MO - MOT | .084 | .084 | |
| С | MO - IMO | .430 | .430 | |
| | IMO - ISQ | .089 | .089 | |
| | IMO - JS | .022 | | .022 |
| | ISQ - JS | .245 | .245 | |
| D | MO - IMO | .677 | .677 | |
| | MO - ISQ | .246 | .246 | |
| E | MO-IMO | 1.273 | 1.273 | |
| | MO-ISQ | .518 | .215 | .303 |
| | IMO-ISQ | .238 | .238 | |
| F | MOT - JS | .764 | .764 | |
| | MOT - OC | .146 | 178 | .324 |
| | JS - OC | .423 | .423 | |
| | JS - JP | .436 | .436 | |

IMO- Internal market orientation; MO - Market orientation; ISQ - Internal service quality; MOT - Motivation; JS - Job satisfaction; OC - Organizational commitment; JP - Job performance

Source: Own

Although MO and IMO do not influence directly all types of attitudes or behaviour in HEI, the adoption of a MO leads to a direct increase on MOT. MOT, in turn, has a positive direct influence on JS and a positive indirect influence on OC. Moreover, the adoption of an IMO leads to an indirect increase in JS, through ISQ, a critical component of IM, which also positively influences JS. In turn, JS positively influences OC and JP directly.

Although the positive influence of MO on MOT (.084) and of IMO, indirectly, on JS (.022) are low, both MO and IMO enhance ISQ, - a critical component of IM and, consequently, of IMO - which also enhances JS. Moreover, IMO influences JS through ISQ. Interestingly, the influence of IMO on ISQ, found in four of the five models, is lower than the influence of MO on ISQ, found in four of the five models. On the other hand, MOT enhances JS directly, and OC indirectly and JS increases OC and JP directly (Model F).

9. CONCLUSIONS

Although some of the relationships found were not as strong as we expected, this research is still a contribution to the Higher Education (HE) Marketing literature, due to several reasons. First, it recognizes the lack of Internal market orientation (IMO) in HE, at least considering the perception of the Lecturing staff and the studied population, and, although Market orientation (MO) and Internal service Quality (ISQ) are somewhat high, we think it is still insufficient considering the increasing pressure on HE to use resources more effectively in order to attract and satisfy the external customer. Moreover, as mentioned, an organizational

orientation which accommodates both an internal and an external focus on an equal level is more effective in formulating strategic responses and contributes to obtain competitive advantage (e.g.: Mazzarol & Soutar, 1999). Therefore, an external focus is limited. In this sense, we recommend the modification of Marketing practices in HE, in order to improve the quality delivered to the external customer and, thus, to obtain competitive advantage, which is fundamental to HEI, considering the increasing pressure to enhance efficiency in this context.

Second, the research identifies a positive strong relationship between MO and IMO in the context of HE. Contrary to previous studies (e.g.: Lings & Greenley, 2009) that indicate the influence of IMO on MO, we found that MO positively influences IMO, which makes sense, since an organization that is external market oriented and, therefore, is seeking to satisfy the external customer's needs, will identify the need to also focus on the internal customer in order to deliver higher quality to the external customer. However, we must stress that we are not devaluing previous studies that indicate the influence of IMO on MO. Since IMO complements MO (e.g.: Gounaris, 2006), and, therefore, they are inter-related concepts, representing a broadened view of Marketing philosophy (e.g.: Gounaris, 2006; Gounaris et al., 2010), it is expected that they influence each other.

Contrary to what we predicted, considering that ISQ is a critical component of Internal marketing (IM) and, therefore, of IMO, the influence of IMO on ISQ is low. Interestingly, the influence of MO on ISQ is higher. Therefore, it may be said that market oriented HEI promote higher ISQ. We stress that no studies were found relating both concepts, either in the context of Education or in other contexts.

Also, although the research identifies low relationships between MO, IMO and the worker's attitudes - specifically Motivation (MOT) and Job satisfaction (JS) -, both Marketing concepts also have effects on ISQ - a critical component of IM and, thus, of IMO -, which enhances JS. Therefore, HEI should adopt an External and an Internal market orientation, not only because both Marketing concepts are associated to a higher quality delivered to the external customer (e.g.: Gounaris et al., 2010), but also because they are, directly or indirectly, associated to the worker's attitudes, which may increase the quality delivered to the external customers (e.g.: Franco et al., 2002; Malhotra & Mukherjee, 2004) and also their Satisfaction (e.g.: Koys, 2011). Regarding MOT, we underline the influence of MO on the concept, although it is low. This finding suggests that market oriented HEI promote the academics' MOT at work, that is, HEI which engage in activities geared towards developing an understanding of student's current and future needs, as well as the factors affecting them, that share this understanding across departments, and that develop activities designed to meet the students' needs consequently enhance the academics' work-related MOT. Plus, we stress the fact that,

in the context of HE, IMO and MO do not influence the worker's Job performance (JP), which suggests that the concepts are not related to the academics' behaviour, only to their work-related attitudes. This finding is in agreement with the literature, since no studies were found relating MO, IMO and the workers' behaviour, although we found a study suggesting the influence of IMO on JP (e.g.: Carter & Gray, 2007). ISQ, contrary to what we predicted, does not influence JP. However, the study we found to support our hipothesis was carried out in the banking sector, so our findings are probably related to the HE context only.

In what concerns the worker's attitudes and behaviour, we found that motivated workers are more satisfied and that satisfied workers are more committed and show a higher Performance. This finding is in agreement with several previous studies, mostly carried out outside the HE context. We stress that the relationship found between JS and Organizational commitment (OC) was previously supported in HE (e.g.: Cetin, 2006). Furthermore, we highlight that MOT and JS are strongly related. This relationship has also been previously found in the Education context (e.g.: Davis & Wilson, 2000). However, contrary to the studies found, the positive influence of MOT on OC is mediated by JS and the direct relationship between MOT and OC is negative. This finding suggests that motivated academics feel less connected, identified and involved with the organization, associate less costs with leaving the organization and show decreased feelings of obligation to stay in the organization. However, if satisfied with their job, their Commitment increases. We stress that the indirect influence of MOT on OC, mediated by JS, is stronger than the direct relationship, but the total effects of the relationship are positive, so we reaffirm the importance of this relationship for HRM, both for HE and for organizations in general.

We also found that MOT does not influence JP in the context of HE. However, MOT enhances JS, which increases OC and Performance. In this sense, HR practices in HE should be focused on enhancing MOT and JS, in order to increase the worker's OC and JP and, therefore, deliver higher quality to the external customer. We highlight that JS increases external Customer satisfaction (e.g.: Koys, 2001) and that one of the dimensions used to measure the students' Satisfaction in HE are the Lecturers, particularly their efficiency in teaching (Alves & Raposo, 2009). Therefore, the Lecturing staff's JP assumes great relevance in satisfying the external customer in HE.

Thus, we think it is essential for HE to adopt an Internal and an External market orientation and to develop HR practices that enhance the development of more positive attitudes and behaviour in the work context. Furthermore, integrating both Management areas would be a benefit to HE. As several authors point out, organizations have to invest in integrating the Marketing and the HR functions, the same way in which they attempt to integrate Marketing with other organizational functions that also influence customers' experiences (e.g.: Dunne &

Barnes, 2000; Gounaris et al., 2010; Lings, 2004), and the HE context, as a service provider, is not an exception.

Considering the global economic context, organizations, in general, should invest in differentiation and in delivering superior quality to the external customer, whether in the sales or service context, so they could achieve superior competitive advantage and, thereby, survive the financial crisis, or even prosper.

10. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

The greatest limitation of our research was the impossibility of evaluating all the variables in one model, due to fit problems. Therefore, the relationships among MO, IMO and ISQ varied in the five models proposed. However, we underline that the results indicate a positive influence of MO on IMO in all models.

We highlight that some of the instruments used include dimensions that measure the same concept. For example, the scale that measures MOT includes a dimension named intrinsic MOT, as the scale that measures JS. Therefore, we had to solve several multicollinearity problems. In this sense, it would be important to replicate the research using different instruments in an attempt to test if the fit problems persist and if the results are convergent with the ones obtained in this research.

Testing the proposed model in Public and Private HEI, separately, would be relevant, since Private HEI usually have to raise their own financial resources and, therefore, they are expected to be more (internal and external) market oriented. We did not compare Private and Public HEI because the sample from Private HE was too small. Further, we suggest the replication of the research in a later moment, in order to verify if both the direction and the strength of the proposed relationships remain. Specifically regarding work-related behaviour, although the instrument we used to measure JP includes the measurement of behaviours related to Organizational citizenship or Counterproductive behaviours, for example, it would be important to measure different types of behaviour individually, in order to better understand the influence of MO, IMO and ISQ on the worker's job-related behaviours.

Also, we propose the replication of the research in other cultural contexts, and in other service and sales organizations, in order to make comparisons and to verify the adequacy of the proposed model in different contexts. Moreover, it would be important to include other job-related attitudes in the model, such as Withdrawal intentions, Trust, Absenteeism or work-related Stress, for example.

CHAPTER 5

WEB SITE QUALITY EVALUATION IN HIGHER EDUCATION INSTITUTIONS

ABSTRACT

Although the benefits of Market orientation and of Internal market orientation are recognized, some service organizations, such as Universities, usually do not implement these concepts. Considering that delivering quality service has become an important goal for most Higher Education Institutions (HEI) and taking into account the competitive environment in which they are inserted nowadays, they should, as other organizations do, use their Web sites effectively as a Marketing tool, in order to deliver higher quality both to the external and the internal customer, since workers also use the institution's Web site. To measure Web site quality of HEI we used Aladwani and Palvia's (2002) instrument, which evaluates quality according to the user's perspective. The main conclusion of our study is that HEI are not committed to using the Web site as an effective Marketing tool and, therefore, we can infer that they are not (internal and external) market oriented, at least regarding Web 2.0 tools. Thus, it is fundamental that researchers contribute to enlarge the knowledge in this area and to alert HEI to the role that Web site quality may play in today's extremely turbulent and competitive environment. HEI should invest more in enhancing the quality of their Web sites, so they could develop long lasting and loyal relationships with the students, and attract more students to their institutions, as well as the interest from other HEI, academics and organizations. Also, in an Internal marketing perspective, the quality of the Web site may also play an important role in maintaining or increasing the interest and satisfaction of current workers.

KEYWORDS: Market orientation, Internal market orientation, Web site, Web site quality, Higher Education, Web Marketing, E-learning, Distance education

1. INTRODUCTION

Since the birth of the Internet, two-way communication via Web-based exchanges has become more and more popular in electronic transaction, publication, broadcasting, and other service applications (Li, Tan & Xie, 2002), so the Web is an increasingly important resource in numerous aspects of life: Education, Employment, Government, Commerce, Health care, Recreation, and more (AbuAli & Abu-Addose, 2011). Considering that organizations have been realizing the possible implications of the Internet in their work (Aladwani & Palvia, 2002), the Internet became a key strategic weapon, which is particularly important considering today's competitive business environment (Davidavičienė & Tolvaišas, 2011). As a consequence, there are increasing concerns about the ways in which Web applications are developed and the degree of quality delivered (AbuAli & Abu-Addose, 2011).

However, the Internet is hosting hundreds of millions of Web sites varying widely in terms of quality, which means that Web site quality evaluation may provide a rapid and early feedback to organizations. The past Web site quality research focuses mostly on the perspectives of Web developers and designers, and not on the Web users'. In this era of strong competition and customer responsiveness, the users are major stakeholders and should not be disregarded. On the other hand, only limited academic research exists, but it is fragmented and, mainly, only discusses the meaning of some aspects of Web site quality (Aladwani & Palvia, 2002).

Many believe that when it comes to Marketing, the Internet is the 'great equalizer', permitting service-based organizations, no matter how successful or well known, the ability to promote their products and services in a more or less equal way. Since Web-based Marketing is low-priced and widely available, all organizations enjoy similar abilities to use the Internet to their Marketing advantage. However, interactive technology has not 'levelled the playing field' when it comes to the Marketing of Universities and Colleges (Klassen, 2002).

Considering that delivering quality service has become an important goal for most HEI (Athiyaman, 1997; Mustafa & Chiang, 2006; Sahney, Banwet & Karunes, 2008) and that there is increasing competition in the context of HE, HEI now recognize that they need to market themselves (Hemsley-Brown & Oplatka, 2006), and that there is the need to establish long-term relationships with their clients through the provision of high-value services (Alves, 2011). In this sense, Web-based Marketing allows service organizations to evenly compete with each other, despite the differences that may exist (Klassen, 2002).

A holistic Marketing approach allows the development of responses to the internal environment, as well as to the external market (Lings, 1999), and contributes to obtaining competitive advantage (Mazzarol & Soutar, 1999). However, although the benefits of Market orientation (MO), that is the implementation of the Marketing concept (Kohli & Jaworski, 1990), are widely recognized, some service organizations, such as Universities, usually do not implement the concept (Hampton, Wolf, Albinsson & McQuitty, 2009; Pavičić, Alfirević & Mihanović, 2009). Moreover, in Higher Education (HE), the emphasis has been put, essentially, on the external customer's perspective. The internal customer's side has been ignored (Sahney et al., 2008), which means that HEI generally do not practice Internal marketing (IM). Considering that IM can be operationalized through a set of behaviours oriented to the internal market (Lings & Greenley, 2009), we may say that HEI are not internal market oriented, that is, they are not committed to creating value for their employees through successfully managing the relations between employees, supervisors and management. Internal market orientation (IMO) consists, then, of demonstrating commitment towards the internal market, regarding the understanding of what the workers value, and becoming responsive to their individual needs, while assuring that they have all the resources necessary to deliver the type and level of service that the organization's (external) Marketing objectives and strategy dictate (Gounaris, 2008).

In this sense, the main goal of our work is to evaluate Web site quality through the user's perspective, specifically the quality of Web sites belonging to Higher Education Institutions (HEI), through the students' perspective. HEI are characterized as autonomous, self-sufficient, establishments that provide services to the community (e.g. economic transfer of scientific and technological knowledge), and should comply with the codes of good Management practices. On the other hand, they know a great deal about facilitating environments in which people collaborate to create, share and advance knowledge. HEI should, in this sense, be very well prepared to reap value from the new online tools (Barnatt, 2008). Specifically, we intend to evaluate Web site quality on HE, considering that the Web can be used as an Internal and External marketing tool by HEI, and to verify if there are any differences regarding the type of institution, the type of education, and the utilization or non-utilization of E-learning and Distance education tools.

First, we briefly describe the concept 'Web site quality'. Then, we define Web site quality, as well as its dimensions and its impact on other variables that are relevant to organizations. We also report on quality and on Web site quality, specifically in the context of HEI. Then, we identify the methodology used. To determine the quality of the Web sites, we used a 25-item instrument that measures four dimensions of Web site quality: content specificity, content quality, appearance and technical adequacy. The instrument is useful for organizations and Web designers, as it provides an aggregate measure of Web site quality (Aladwani & Palvia, 2002). Finally, we discuss the results, draw the conclusions and limitations of the study and propose some perspectives for future research.

2. WEB SITE QUALITY

Web 2.0 technologies represent a revolutionary way of managing and repurposing online information and knowledge repositories - including research information -, in comparison with the traditional Web 1.0 model (Boulos & Wheeler, 2007). With the propagation of the Internet and World Wide Web applications, users are increasingly interfacing and interacting with Web-based applications. This wide interest in the subject is attributed to the fact that organizations are becoming conscious of the possible implications of the Internet in their work. Potentialities of Web applications are remarkable, leading many organizations to spend great amounts of money on these technologies. Using Web technologies, an organization can reach out to customers and offer them not only general information about its products or services but also the opportunity of performing interactive business transactions. Organizations investing in Web technologies and applications are looking forward to realizing the benefits of these investments (Aladwani & Palvia, 2002).

Using the Internet as a Marketing tool is considerably less expensive than using other media, such as television or print. Web-based Marketing allows service-based organizations to equally compete with each other. This 'equality for all' postulation finds some support in the world of business, where the recent success of 'dot com' companies suggests that, with the help of the Internet, it is possible for small, relatively unknown businesses to successfully compete with large, established organizations (Klassen, 2002).

Therefore, the Web site of a company is becoming an important tool in a competitive environment, but there is no guaranty that a company will get competitive advantage in the market by creating a Web site. Increasing turnover of E-commerce in the world points out the significance of research of the E-commerce Web sites evaluation, design solutions, quality assurance, consumers' behaviour on the Web, and the factors influencing the consumers' behaviour (Davidavičienė & Tolvaišas, 2011).

Today, Web sites that are useful, timely, accurate and rich in detail have become an integral part of our lives. Those attributes, in turn, determine whether and how frequent surfers will return to the Web sites (Lowry, Vance, Moody, Beckman & Read, 2008). In order to provide better services for users, companies need to invest in Web site service quality, design and evaluation and, at the same time, they have to control the perceived risk associated with its use. Managers need to understand E-convenience from the consumers' perspective (Chang, Wang, & Yang, 2009).

Web site quality, by its nature, is complex (Aladwani & Palvia, 2002), extremely fluid and dynamic, which places the onus on the sellers to continually improve the quality of their Web sites. Perceived shortcomings in comparison to a competitor's Web site could result in lost sales, even if the Web site is perceived to be of adequate quality (Wells, Valacich & Hess, 2011). On the other hand, the measurement of Web site quality is expected to be multi-dimensional in nature (Aladwani & Palvia, 2002). Evaluation with user participation provides direct qualitative observations information and quantitative data from actual Web site users. Several methods are adopted for testing quality. The most common test methods are questionnaires and focus groups. Evaluation without user participation is applied to identify quality problems by checking a set of broad quality guidelines. As a consequence, there are rising concerns about the ways in which Web applications are developed and the degree of quality delivered (AbuAli & Abu-Addose, 2011).

Perceived quality may be defined as the gap between satisfaction and importance (Van Iwaarden, Van der Wiele, Ball & Millen, 2004). According to Cristobal, Flavián and Guinalíu (2007), Perceived quality is a multidimensional construct, including Web design, customer service, assurance and order management.

Van Iwaarden et al. (2003) state that the quality dimensions found applicable in the service sector are also applicable to Web sites. According to the authors, the dimensions that are most important regarding the quality of Web sites are: tangibles (the appearance of the Web site, navigation, search options and structure), reliability (the ability to judge the trustworthiness of the offered service and the organization performing the service), responsiveness (the willingness to help customers and provide prompt service), assurance (the ability of the Web site to convey trust and confidence in the organization behind it with respect to security and privacy) and empathy (the provision of caring, individualized attention to customers, including user recognition and customization).

According to Davidavičienė and Tolvaišas (2011), the first indicator of Web site quality is official page ranking. If this ranking is low, the owners should pay more attention and make more efforts to analyse quality (using a systematic approach), and, after evaluation, modify the weak elements of the Web site. Based on a literature review and on relevant trade press articles, Aladwani and Palvia (2002) identified four dimensions of Web site quality: technical adequacy, content specificity, content quality and Web appearance.

Lowry et al. (2008) define six dimensions of Web site quality: responsiveness, competence, quality of information, empathy, Web assistance and callback systems. Van Iwaarden et al. (2004) mention that the quality aspects that are the most important on a Web site, considering the students' perspective, are: fast access, easy navigation on the Web site, presentation of a complete overview of the order before final purchase decision, and a simple registration process. According to Wells, Valacich and Hess (2011), some dimensions of Web site quality may be worth an additional investment. Depending upon the nature of the product, online sellers may want to focus on specific Web site quality dimensions.

In sum, there is a need to develop user-friendly Web sites, which ease consumer purchasing and searching, thus creating a suitable framework for the generation of higher Satisfaction and Loyalty levels. On the other hand, Web site managers should enhance service loyalty, customer sensitivity, personalized service and a quick response to complaints. Also, the Web site should uphold sufficient security levels in communications and meet data protection requirements regarding privacy (Cristobal et al., 2007).

3. WEB SITE QUALITY AND OTHER VARIABLES

There is a positive association between E-service quality and Customer satisfaction (Chang et al., 2009). On the other hand, Customer satisfaction acts as an antecedent of Customer loyalty (Cristobal et al., 2007; Horppu, Kuivalainen, Tarkiainen & Ellonen, 2008; Chang et al., 2009), as well as Trust (Horppu et al., 2008; Lowry et al., 2008). Web site quality also influences the consumers' perceptions of Product quality, which subsequently affect Online

purchase intentions (Wells et al., 2011). Customer perceived value has a moderating effect on the relationship between Customer satisfaction and Customer loyalty (Chang et al., 2009).

In agreement with Young and Hyunjoo (2012), Web site design quality has positive direct effects on pleasure, arousal and perceived information quality, and indirect effects on Satisfaction. Wang, Tang and Tang (2001) state that the Customer satisfaction with information in Web sites that market digital products and services is measured through customer support, security, ease of use, digital products/services, transaction and payment, information content and innovation. According to Lowry et al. (2008), content-oriented dimensions (e.g. Quality of information and Web assistance) are more related to Satisfaction and Dissatisfaction with Service quality. In order to improve E-service quality, however, Web site owners need to spend much on maintenance and renewal, which may cost too much in order to earn a profit (Chang et al., 2009).

4. WEB SITE QUALITY AND HIGHER EDUCATION INSTITUTIONS

Researchers in the field of HE Marketing are gradually recognizing the potential benefits of applying Marketing theories and concepts that have been effective in the business world. However, the literature on this area is incoherent, even inchoate, and lacks theoretical models that reflect upon the particular context of HE and the nature of the services provided. The elements of globalization in HE are widespread and multifaceted and the HE market is now well established as a global phenomenon. In the context of increasing competition for home-based and overseas students HEI now recognize that they need to market themselves (Hemsley-Brown & Oplatka, 2006).

Many factors influence the perception of quality in HE. When the object of the quality focus is, in itself, evolving, as it is the case with the use of Web 2.0 tools and processes, it can be predicted that inconsistencies in quality perceptions, even from those representing a single actor group, will result in barriers to a successful implementation. The rapid uptake of Web 2.0 tools and dynamics in society is not a predictor of a similar uptake in formal learning practices in HE. Given the many mismatches in quality perspectives, as well as the difficulties in carrying out new pedagogies in HE, it can, unfortunately, be predicted that the empowerment offered by the Web 2.0 tools and processes will not be able to overcome the inertia in HEI, when it comes to the mainstream uptake of new views of learning facilitated by new technologies (Collis & Moonen, 2008).

A question pertinent to the effective use of the Internet as a Marketing tool for HEI relates to the willingness and ability of schools not to just build, but effectively maintain and successfully operate Web sites. Any organization can create a Web site, but not all are committed to making it an essential and effective Marketing tool (Klassen, 2002).

Van Iwaarden et al. (2004) found that there are no major significant differences in the quality perceptions of Web sites between students belonging to different cultural contexts (USA and Netherlands). There were, however, minor differences: (1) USA students made more frequent use of the Internet, and spent more time on it, both per visit and per Web site; (2) USA students were more satisfied with their equipment and Internet connection; (3) USA students were more satisfied with aspects of Web site quality; (4) Students from the Netherlands more frequently visited University, company information, and stock exchange information sites and USA students more frequently visited Web shops (books, music and movie stores).

According to Xenos, Dermitzioti and Pierrakeas (2004), Web-based educational material must be developed in such a way that compensates as much as possible for the physical absence of the tutor. The 'expansion' of the educational Web sites has determined the need for quality assessment, since the quality of Web sites providing educational material is very important and influences, to a great extent, the overall quality of the educational material and, consequently, the quality of the Education offered. However, Muilenburg and Berge (2001) mention that there are some barriers to distance learning, such as administrative structure, organizational change, technical expertise, support and infrastructure, social interaction and program quality, faculty compensation and time, threat of technology, legal issues, evaluation/effectiveness, access and student-support services.

5. RESEARCH HYPOTHESES

Taking Klassen's (2002) research as a starting point - according to which not all organizations are committed to using their Web site as an effective Marketing tool -, we intend to verify whether Web site quality in HE is high or not. Specifically, we expect to verify that HEI do not invest much on the quality of their Web sites. Therefore, we propose the first hypothesis.

 H_1 : Web site quality in HE is not high.

Considering that the Portuguese HE system is composed of three types of Education - Universitary, Polytechnic and Concordat - we intend to verify if there are differences between the three types, in what concerns Web site quality. Thus, we formulate the following research hypothesis:

 H_2 : There are significant differences between the Web site quality of Universitary, Polytechnic and Concordat HEI.

Taking into account that the HE system is composed of two types of HEI - Public and Private - we intend to verify if there are differences between the two types, in what concerns Web site quality. Specifically, we expect the Web site quality of Private HEI to be higher, considering

that Private HEI have more financial resources. It is commonly known that many institutions are able to achieve top ranking precisely because they are equipped with substantial financial resources (Klassen, 2002). Therefore, we formulate H_3 .

 H_3 : Web site quality of Private HEI is significantly higher than Web site quality of Public HEI.

We also intend to verify if there are significant differences between HEI that use E-learning and Distance learning methods and HEI that do not use these methods. Supposedly, HEI that use both E-learning and Distance learning should show higher concerns respecting to the quality of their Web sites, since the Web site is the main tool to captivate potential students that intend to frequent E-learning or Distance education. Thus, we formulate hypothesis 4.

 H_4 : HEI that use E-learning and Distance learning methods have Web sites with higher quality in comparison to HEI that do not use these methods.

6. METHOD

6.1 Sample and data collection

The HE system in Portugal includes (1) the Public HE system, constituted by institutions belonging to the State, and (2) the Private HE system, composed of institutions belonging to Private and Cooperative entities. The HEI integrate (1) the University institutions, which incorporate the Universities, the University institutes and other University institutions, (2) the Polytechnic institutes, incorporating the Polytechnic institutes and other Polytechnic institutes (Diário da República, 1st series, N. 174, 10th September, 2007, Law 62/20074). The Education system also includes a Concordat HEI¹.

The sample used in this study is composed of 118 Web sites, 41 belonging to Polytechnic HEI, 76 to Universitary HEI and 1 to Concordat Education. 70 of the Web sites belong to Public HEI and 48 to Private HEI. Of the 118 HEI, two of them use E-learning and Distance education methods.

We asked a group of students to evaluate the quality of the 118 Web sites using an instrument developed by Aladwani and Palvia (2002), in order to assess Web site quality in HE according to the user's perception. The students' ages range from 20 to 23 years old and they all study Marketing in the same HEI and belong to the same class.

1

¹ General Directorate of HE, Portugal. Retrieved from http://www.dges.mctes.pt/DGES/pt/Estudantes/Rede/Ensino%20Superior

6.2. Instrument

While improvements are possible, the instrument used exhibits excellent psychometric properties. It measures four dimensions of Web site quality: technical adequacy (9 items), content quality (6 items), content specificity (5 items) and Web appearance (5 items). The 25 items are measured using a 7-point scale ranging from (1) 'strongly disagree' to (7) 'strongly agree'. The instrument is precise and easy to use. It can be utilized to evaluate Web site quality at an aggregate level. The model/instrument can also serve as a starting point for a detailed evaluation of Web sites (Aladwani & Palvia, 2002).

6.3. Data analysis methods

Data entry and statistical analysis were conducted using the *IBM SPSS* software for Windows, version 18.0. Cronbach's alpha was used to analyse the internal consistency of the measure and to provide the needed credibility for the instrument. In addition, several bivariate analyses were performed using t-student test and ANOVA.

In this study, among other goals, we intend to verify whether the means, for Web site quality and its dimensions, are statistically different depending on the type of institution and the utilization/non-utilization of E-learning and Distance education methods. In this case, the method used was the t-student test for independent samples, which makes it possible to test whether the means of two populations are significantly different. The ANOVA method was used with the purpose of making inferences on the true proportions occurring in k classes on the basis of information given by a sample (McClave, Benson, & Sincich, 2008), that is, to understand if there are variations among different groups in the sample, specifically among the types of HEI - Universitary, Polytechnic and Concordat.

7. RESULTS

Cronbach's alpha was used to analyse the internal consistency of the measure. The alpha value of Cronbach for the scale that measures Web site quality is high (.936) (Cronbach, 1951).

Table 5.1 - Mean values related to Web site quality on HEI

| | | Technical Adequacy | Content quality | Content specificity | Appearance | Web site quality |
|------|-------|-----------------------|-----------------|---------------------|------------|---------------------|
| N | Valid | 118 | 118 | 118 | 118 | 118 |
| Mean | | 5.07 | 5.47 | 5.10 | 4.74 | 5.10 |

Source: Own

According to the mean values related to Web site quality in HEI, Web sites show a lower mean when it comes to the dimension 'appearance' of the Web site (4.74). On the other hand, the mean for the dimension 'content quality' is the highest (5.47). However, when considering the total mean for Web site quality, we verify that it is not high (5.10), according to the user's perception, since the scale used ranges from 1 to 7.

When using ANOVA to test the differences among the types of Education (Universitary, Polytechnic and Concordat), it is possible to verify that neither the mean values for the dimensions of Web site quality nor the total mean are significantly different when considering the type of Education - Universitary, Polytechnic or Concordat (p > .05).

When using the t-student test to determine the differences according to the types of HEI (Public/Private), we verify that there is no significant statistical difference between Private and Public HEI, in what concerns Web site quality (p > .05).

When applying the t-student test to determine the differences between users and non-users of E-learning and Distance education methods, we verify that there are not significant differences in Web site quality between HEI that use E-learning or Distance education and those that do not, when considering the total mean. However, there are significant differences in what concerns the dimension 'technical adequacy'. It is possible to check, considering a significance level of 10%, that p = .058 < .1, so we reject H_0 , which means that there are significant statistical differences between the HEI that use E-learning or Distance education and those that do not use these methods. This means that the Web sites belonging to HEI that use these teaching methods have a higher quality, when compared to the Web sites belonging to those that do not, specifically in what concerns technical adequacy.

Taking into account that the results found concerning the type of HEI and Education were not satisfying, we thought it could be interesting to evaluate the differences considering each item of the instrument. We found that only the item related to interactivity showed significant differences between Universitary, Polytechnic and Concordat HE, considering a significance level of 10% (p = .07 < .1). When considering the type of HEI (Public/Private), only the item related to the availability of information concerning client policies showed significant differences between groups (a significance level of 10%). Web sites of Private HEI show a higher quality in what concerns this aspect, when compared to Public HEI.

8. DISCUSSION

Cronbach's alpha value for the scale that measures Web site quality is high (.936), which allows us to conclude that the instrument is adequate to evaluate the quality of Web sites of HEI. The Web sites show a lower mean when it comes to the dimension 'appearance'. On the

other hand, the mean for the dimension 'content quality' is the highest. This could mean that HEI show more concerns regarding the quality of the information given in the Web sites, than their appearance.

When considering the total mean for Web site quality, we verify that it is not high, according to the user's perception, which could mean that HEI are not committed to use the Web site as an effective Marketing tool and, therefore, in this area, both Internal and External market orientation are still insufficient, as shown in Chapter 3 and 4. Although HEI have Web sites, they may not be effectively maintaining and successfully operating them, which is in agreement with Klassen's (2002) perspective. Therefore, H_1 is supported.

We found that neither the mean values for the dimensions of Web site quality nor the total mean of Web site quality are significantly different when considering the type of Education - Universitary, Polytechnic or Concordat. However, when considering each item of the instrument, we found that the item related to interactivity showed significant differences between Universitary, Polytechnic and Concordat HEI. Nevertheless, we reject H₂.

It was possible to check, regarding the dimensions of Web site quality, that there is no significant statistical difference between Private and Public HEI in what concerns Web site quality. When considering the 25 items of the instrument, only the item related to the availability of information concerning client policies showed significant differences between groups, which means that the Web sites of Private HEI show higher quality regarding this aspect, when compared to Public HEI. The higher concern of Private HEI with the disclosure of client policies makes sense, considering that Private HEI charge a monthly fee to students that is much higher than the fee paid by the students of Public HEI. Nevertheless, these results lead to the rejection of H₃.

There are no significant differences in Web site quality between HEI that use E-learning and Distance education methods and those that do not, when considering the total mean. However, there are significant differences in what concerns the dimension 'technical adequacy', which means that Web sites belonging to HEI that use these teaching methods have higher quality, when compared to the Web sites belonging to those that do not, specifically in what concerns technical adequacy, so we partially reject H₄. This result makes sense. However, it would be expected that HEI that apply the referred methods had more concerns with the other dimensions of Web site quality, since the Web site may be the most important Marketing tool they have to captivate students that do not have the possibility to know the institution personally and that only interact with it online. As mentioned before, in the context of increasing competition for home-based and overseas students, HEI need to market themselves (e.g.: Hemsley-Brown & Oplatka, 2006).

9. CONCLUSIONS

One of the main contributions of this study is the use of Aladwani and Palvia's instrument on HEI. Considering the reliability of the instrument on this specific context, we think that it might be useful for academics that intend to follow this area of research.

Since we verified that the means of Web site quality are not high, considering all the HEI in the sample, we conclude that HEI are not committed to using their Web sites as an effective Marketing tool, which is in agreement with the conclusions described in Chapter 3 and 4 that reflect insufficient levels of Internal and External market orientation in HE.

Considering the competitive environment in which they are inserted, especially due to the homogenization of Education shaped by the Bologna Process, European HEI should invest more in enhancing the quality of their Web sites, so they could develop long lasting and loyal relationships with the students, through the satisfaction of their needs, and attract more students to their institutions, as well as the interest from other HEI, academics and organizations. This last aspect is extremely important, since partnerships may allow the enhancing of quality in Education which, in turn, could lead to the development of a greater amount of academic publications, of superior quality, and, consequently, to the attainment of increased financing of investigation projects. Also, in an Internal marketing (IM) perspective, the quality of the Web site may play an important role in maintaining or increasing the interest and Satisfaction of current workers, since they also use the organizations' Web site, whether to access the organizations' Intranet or to keep up with news or events, for example. This idea is reinforced by Gounaris' definition (2008) of Internal market orientation (IMO), according to which organizations should understand what the workers value and become more reactive to their individual needs, while assuring that they have the resources needed to deliver the service that the External marketing strategy delineates.

We found no significant differences on Web site quality when comparing Universitary, Polytechnic and Concordat institutions or Private and Public institutions. This may be merely a reflection of reality or it could be explained by the use of an instrument that evaluates Web site quality through the user's perception. Although Van Iwaarden et al. (2004) found that there are only minor differences in the quality perceptions of Web sites between students belonging to different cultural contexts, perhaps we should also have evaluated the Web sites in a different cultural context, in order to be able to compare these contexts and, maybe, find more relevant results. However, and bearing in mind that technical adequacy is higher on Web sites belonging to HEI that use E-learning and Distance education compared to those that do not, this study identifies the opportunity to explore the relation between E-learning and Distance education and Web site quality. Moreover, the results are not completely in

agreement with our findings regarding Chapter 3, since we found differences between Public and Private HEI concerning MO and IMO. Specifically, the perception of both concepts is higher in Private HE, so it would be expected that the investment in Web site quality would also be higher in Private institutions. Nevertheless, the results presented in this Chapter relate to Portuguese HE only, which could explain this discrepancy.

In what concerns companies, they need to invest time and money on Web site service quality, design and evaluation, since nowadays Web sites may be one of the most important tools in a competitive environment. As mentioned before, Web site quality positively influences consumers' perceptions of Product quality, which subsequently affects Online purchase intentions, and Customer satisfaction, which, in turn, affects Customer loyalty and trust.

10. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

One great limitation of the research is the small amount of studies we found in the context of HE. Moreover, according to AbuAli and Abu-Addose (2011), there are some weaknesses in the questionnaire method since it gives just a general indication of the overall quality of the Web site without specifying the number or location of problems which require an extensive analysis. Considering this aspect, it would be important to complete the evaluation with qualitative analysis. As Aladwani and Palvia (2002) mention, if a firm finds itself lacking in any of the dimensions, it should carry out a more detailed analysis and take the necessary corrective actions. Nevertheless, as mentioned by Wells, Valacich and Hess (2011), depending upon the nature of the product, online sellers may want to focus on specific Web site quality dimensions. In this sense, it would be interesting to evaluate which of the dimensions of Web site quality are the most valued in HEI.

Although the studies we mentioned reported value concerning the user's perspective, it might have been a limitation, since the students that evaluated the Web sites belong to the same cultural context and, even, to the same HEI and class, so they might have a similar perspective on the characteristics of the Web sites evaluated. According to Van Iwaarden, Van der Wiele, Ball and Millen (2003), possibly, language, culture, religion and a host of other factors may be important to a user's impression of the quality of a Web site. In this sense, the evaluation of the Web sites according to an expert's perspective would be important in order to confirm our findings and elevate their importance.

According to the information we collected, there are only two HEI that use E-learning and Distance education in Portugal, so it would be important to repeat the research in a different context, where these methods are more commonly used. Considering the results, it would also be important to evaluate the quality of E-learning and Distance learning platforms on

HEI, although it may be difficult, considering that these platforms usually function as Intranets, so the access is limited to workers and students.

In the future, it would also be interesting to evaluate Web site quality considering differences related to ranking, number of students, number of vacancies, region and quality certification.

Moreover, evaluating Web site quality in other European countries would be much relevant, since, as mentioned, the results refer to Portuguese HE only.

CHAPTER 6

THE INFLUENCE OF (ONLINE) SOCIAL NETWORKS ON THE WORKER'S ATTITUDES AND BEHAVIOURS IN HIGHER EDUCATION INSTITUTIONS

Based on "Carlos, V. S., & Rodrigues, R. G. (2014). The influence of (online) Social networks on the workers' Attitudes and Behaviours in Higher Education Institutions. In M. Cruz-Cunha, F. Moreira, & J. Varajão (Eds.), Handbook of Research on Enterprise 2.0: Technological, Social, and Organizational Dimensions (pp. 259-279). Hershey, PA: Business Science Reference."

ABSTRACT

Considering we are now a Web 2.0 society, HEI should use Web 2.0 tools as part of their Marketing strategy, as it has been done by other types of organizations. These tools contribute to the development of long lasting relationships, enhancing the interest and Satisfaction of users, through the incredibly fast dissemination of knowledge and information and through a much greater interactivity. Therefore, Online social networks (OSN) - when used to maintain contact with co-workers - may be used as a Marketing tool, specifically an Internal marketing tool, supporting, thus, the achievement of the External marketing strategy and objectives. Moreover, social relationships have a positive influence on work-related attitudes and behaviours, which positively influence the quality delivered to the external customer. Taking into account that OSN have become an international phenomenon and have a considerable impact on the way people communicate and interact with each other, our purpose is to evaluate the effect that the use of OSN has on the worker's attitudes and behaviours. Specifically, we study Higher Education Institutions. After analysing and discussing the results we conclude that the use of OSN influences the worker's Satisfaction with job facets, the Will to participate in the life of the organization and Job performance. The relationships we propose regarding the worker's attitudes and behaviours are all empirically supported. Therefore, HEI should encourage the use of OSN to maintain contact with co-workers, in order to enhance positive work-related attitudes and behaviours, and focus on Human Resource practices that increase the worker's Satisfaction and Commitment, in order to increase In-role and Extra-role performance and, consequently, positively influence the quality delivered to the external customer.

KEYWORDS: Internal marketing, Online social networks, Attitudes, Behaviours, Job satisfaction, Organizational commitment, Organizational citizenship behaviours, Job performance, Higher Education

1. INTRODUCTION

Considering we are now a Web 2.0 society, Higher Education Institutions (HEI) should use Web 2.0 tools as part of their Marketing strategy, as it has been done by other organizations. These tools contribute to the development of long lasting relationships with the external customer, enhancing the interest and Satisfaction of users, through the extremely fast diffusion of knowledge and information and through a much higher interactivity. However, a holistic Marketing approach allows the development of responses to the internal environment, as well as to the external market (Lings, 1999), and contributes to obtaining competitive

advantage (Mazzarol & Soutar, 1999). Although the benefits of Market orientation, that is the implementation of the Marketing concept (Kohli & Jaworski, 1990), are widely recognized, some service organizations, such as Universities, usually do not implement the concept (Hampton, Wolf, Albinsson & McQuitty, 2009; Pavičić, Alfirević & Mihanović, 2009). Moreover, in Higher Education (HE), the emphasis has been put, essentially, on the external customer's perspective. The internal customer's side has been ignored (Sahney et al., 2008), which means that HEI generally do not practice Internal marketing (IM). Considering that IM can be operationalized through a set of behaviours oriented to the internal market (Lings & Greenley (2009), we may say that HEI are not internal market oriented, that is, they are not committed to create value for their employees through successfully managing the relationships between employees, supervisors and management. Internal market orientation (IMO) consists, then, of demonstrating commitment towards the Internal market, regarding the understanding of what workers value, and becoming responsive to their individual needs, while assuring that they have all the resources necessary to deliver the type and level of service that the organization's External marketing objectives and strategy dictate (Gounaris, 2008). Considering the mentioned definition of IMO, the utilization of Web 2.0. tools, specifically of Online social networks (OSN) to maintain contact with co-workers, may be used as a Marketing tool by organizations, particularly an IM tool.

Nowadays, electronic social networks, the so called Web 2.0, have taken on a high role and importance in the relationships between people and organizations. As Castilla (2005) mentions, social relationships are an important tool for the understanding of the workers' outcomes in the organizations and it is necessary to understand the dynamics of these interactions. In this perspective, the main purpose of this study consists of evaluating the influence of OSN on the workers' attitudes and behaviours. Specifically, it is intended to evaluate to what extent the use of OSN to maintain contact with co-workers influences Job satisfaction, Organizational commitment, Organizational citizenship behaviours and Job performance. On the other hand, we also intend to verify whether there are positive relationships between the workers' attitudes and behaviours, which, we must stress, positively influence the quality delivered to the external customer (Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004).

More than organizations in most sectors, HEI know a great deal about facilitating environments in which people collaborate to create, share and advance knowledge. HEI should, in this sense, be very well prepared to reap value from the new online tools (Barnatt, 2008). In this scenario, it seems adequate to resort to the HE context to investigate the proposed relationships. HEI are characterized as community service providers, which are autonomous and should define good management practice codes. Specifically, their aim is to transfer scientific and technological knowledge (Diário da República, 1st series, N. 174, 10th September, 2007, Law 62/20074). The fact that the HE Lecturing staff has the duty to

transfer knowledge to the community justifies the choice of this context and the fact that we used a questionnaire to gather data, which was applied to the Lecturing staff.

Firstly, the concepts under study are briefly defined. Then, two research models, based on 10 hypotheses, are proposed. After explaining and stating the hypotheses, the methodology is described and the results are presented and discussed. Finally, we describe the findings, the limitations of the study are explained and some guiding lines for future research are suggested.

2. THE WEB 2.0

Web 2.0 refers to the appearance of the Internet as an interpersonal resource and a service delivery platform (Barnatt, 2008). The term Web 2.0 is used to describe applications that distinguish themselves from preceding generations of software by a number of principles. Existing work shows that Web 2.0 applications can be successfully exploited for technology learning enhancement (Ullrich et al., 2008).

The second incarnation of the Web (Web 2.0) has been called the 'social Web', because, in contrast to Web 1.0, its content can be more easily generated and published by users, and because the collective intelligence of users encourages its more democratic use. Originally, the World Wide Web (WWW) was intended to be used to share ideas and encourage discussion within a scientific community. Web 2.0 heralds a return to these original uses, and prompts important changes in the ways the World Wide Web is being used in Education. Nevertheless, in this context, there is a need to raise awareness of Web 2.0 tools and the possibilities they offer, and an imperative need to carry out quality research to inform about the better use of Web 2.0 applications (Boulos & Wheeler, 2007).

Web 2.0 sociable technologies and social software work as enablers for organizations. They include social networking services, collaborative filtering, social bookmarking, social search engines, file sharing and tagging, instant messaging and online multi-player games. The more popular Web 2.0 applications in Education, namely wikis, blogs and podcasts, are but the tip of the social software iceberg. Web 2.0 technologies represent a revolutionary way of managing and repurposing online information and knowledge repositories - including research information -, in comparison with the traditional Web 1.0 model (Boulos & Wheeler, 2007).

2.1. ONLINE SOCIAL NETWORKS

According to Hoang and Antoncic (2003), there are three components that characterize a network: the content of relationships, its regulation and the structure or pattern that results from it. As to what the content is concerned, the relationships are seen as a means through

which one of the parts has access to a variety of resources that the other part has. Regarding the regulation of relationships, the authors refer that there are several mechanisms that coordinate the exchanges in a relationship. The Trust among the parts involved in the relationship, for example, constitutes a critical element, which improves the quality of the flow of resources in the relationship of exchange. The regulation of the networks can also be defined as the Trust in implicit open contracts, which are based on social mechanisms, and not legally imposed. The structure of the network is defined as a pattern of relationships that are formed from the direct and indirect bonds among the organizational actors.

Bunt, Wittek and Klepper (2005) state that there are two types of motives in the evolution of a network: expressive and instrumental. Many intra-organizational networks models postulate that relational dynamics are directed, primarily, by expressive motives. In this case, the reduction of cognitive dissonance in affective triads and the tendency that the individual has to bind with the ones he considers similar act as the main mechanisms for the formation of relationships. So, individual cognitions and attributes are the main factors that contribute to the evolution of networks. Other models have suggested that the work environment creates specific restrictions to the formation of social ties, which may limit or impede the mechanisms underlying the evolution of networks in 'natural' groups. There are two instrumental perspectives. One of them emphasizes the impact of the formal structures of the organizations, particularly the functional interdependences and the formal control strategies associated to the individuals' hierarchic position. At this rate, the interpersonal Trust is modelled as a function of formally defined interdependence and power patterns. Individuals adapt to their formal work environment and manage critical dependences, incorporating them into social exchanges. Therefore, the dynamics of the informal networks is contingent to the formal organizational structure. The second instrumental perspective suggests that interpersonal trust is a result of the individual's effort to optimize the benefits that his/her personal networks may generate, independently of his/her position in the formal structure. Based on these models, and after an empirical test, the authors conclude that both types of motives influence the evolution of networks, specifically organizational networks.

The use of Online social networks (OSN) has become an international phenomenon (Sledgianowski & Kulviwat, 2009; Benson, Filippaios & Morgan, 2010), so they have a great impact on the way people communicate and interact with each other (Grabner-Kraeuter & Waiguny, 2011), providing an efficient and user-friendly way to maintain social relationships and share information. They have been shown to facilitate business relationships (Benson et al., 2010) and to build social capital (Benson et al., 2010; Young, 2011).

Modern technology has progressively transformed social interactions among people. With the emergence of Web 2.0 technologies, media such as blogs, instant messaging and social networking Web sites are becoming ubiquitous, and they all provide a 'map' of

communication paths among their users. Social networking sites such as MySpace and Facebook are particularly interesting examples, because they represent rich and popular communication interfaces for hundreds of millions of users. On these sites, users exhibit their demographics as well as their preferences by carefully editing their profiles. More importantly, they explicitly link them to their friends and, in doing so, they reveal their likely communication patterns (Sledgianowski & Kulviwat, 2009).

According to Young (2011), OSN like Facebook strengthen existing friendships by supplementing traditional forms of communication (like face to face or telephone). Also, participation in the Facebook community enables efficient and convenient contact to be maintained with a larger and more varied group of acquaintances, thus, as mentioned before, extending potential social capital, that is a sociological concept related to the connections between social networks. An online social life does not detract from offline relationships. On the contrary, OSN like Facebook provide an additional form of contact which is convenient when face-to-face or telephone is not possible or not desirable because the person is only a casual acquaintance.

OSN also function as tools to help individuals in the workforce organize their workload and life. When appropriately used and integrated into an organization's business plan and model they enable the organization and its workers to: a) Increase Customer satisfaction/timely responses to customer inquiries; b) Facilitate communication between customers and experts to share knowledge in areas of interest; c) Find experts within the organization, as well as those outside with similar interests; d) Provide the whole product to fully meet a customer's needs, since customers can easily reveal their needs; and e) Understand and visualize real communication paths within an organization (Asunda, 2010).

Foster, Francescucci and West (2010) state that some participants of OSN have privacy concerns and may not have developed the confidence to contribute to new communities. Therefore, it is important that technology designers consider how to add information about privacy settings into their Web site, as well as define better options to ensure that participants feel comfortable and that their privacy is protected. Having appropriate protection of privacy and personal information will develop and enhance Trust within the community so that participants increase their confidence level to contribute in relevant and meaningful ways to the conversation. As it was mentioned before, Trust is a critical element for the quality of the exchanges in a relationship.

3. WORK-RELATED ATTITUDES AND BEHAVIOURS

As organizations continue to adjust to a business world characterized by increasing competition, they need to leverage all their resources in an attempt to differentiate product

offerings, offer outstanding quality and value, and deliver their promises of Customer satisfaction (Hartline & Bejou, 2004). In this sense, they are finding the human element to be critical in achieving financial success (Mohamed, Taylor & Hassan, 2006). Thus, the HR function's strategic role should focus more deeply on the workforce element of the organization, in order to obtain differentiation in relation to competitors and more differentiation within their own organization (Becker & Huselid, 2006). In this sense, we briefly describe Job satisfaction, Organizational commitment, Organizational citizenship behaviours and Job performance, work-related attitudes and behaviours that contribute to the delivery of higher quality to the external customer (Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004).

3.1. Job satisfaction

The concept of Job satisfaction (JS) has been originating some controversy (Staw, 1986), since it is characterized as a "complex emotional reaction to work" (Locke, 1968: 9) or as an attitude (Saari & Judge, 2004). According to Locke (1990: 1432), JS may be viewed as "the pleasurable emotional state resulting from the perception of one's job as fulfilling or allowing the fulfillment of one's important job values, providing these values are compatible with one's needs". JS theories may be divided according to the following classification: (1) Situational theories, which support that JS is a result of the nature of work and environmental factors, (2) Dispositional theories, according to which JS results from personal and personality factors, and (3) Interactive theories, which suggest that JS derives from the interaction between personality factors and factors inherent to the situation (Judge, Parker, Colbert, Heller, & Ilies Remus, 2001; Judge & Klinger, 2008).

The Job characteristics model - the theory we follow in this research - was suggested by Hackman and Oldham (1975, 1976) to measure three classes of variables: work objective characteristics, mediator psychological stages and individual needs of growth. According to this model, the central characteristics of each task - like the variety of competencies, the identity and the meaning of the tasks, the autonomy, the level of information provided to the worker about his/her Performance, that is, the feedback - influence the individual's psychological stage. The function characteristics and Satisfaction are also regulated by the worker's need for growth.

3.2. Organizational commitment

Meyer and Herscovitch (2001) argue that the Organizational commitment (OC) definitions, presented in the literature, have two common aspects: (1) Commitment consists of a force of connection - a psychological or attitude stage, and (2) Commitment determines a direction in what the individual's behaviour is concerned. From the previous definitions of OC, Allen and

Meyer (1990) created a Commitment model, according to which the concept is composed of three dimensions: (1) *Affective*, which consists of a connection, identification and involvement with the organization; (2) *Continuance*, referring to the Commitment based on the cost that the individual associates with leaving the organization and (3) *Normative*, related to the feelings of obligation to stay in the organization.

The perspective adopted in this research is the one proposed by Cook and Wall (1980), who sustain that OC refers to the affective reactions to the characteristics of the employer organization. It is related to the worker's feelings of connection with the goals and values of the organization; to the role that he/she adopts in relation to them and to the connection with the organization with the aim of benefitting it, and not just for its instrumental value. Since this is a positive result of the experience of quality work, the concept can be considered as a contributing factor to the well-being at work.

3.3. Organizational citizenship behaviours

The Organizational citizenship behaviours (OCB) concept has different origins: (1) in Barnard's (1938) proposal, according to which the workers' will to cooperate is indispensable for the organization, (2) in Katz and Kahn's (1978) distinctions of behavioural typologies, and (3) in Organ's (1977) essay, which states that people can adopt a cooperative behaviour in order to respond reciprocally to the work experiences that provide Satisfaction, as opposed to the behaviours inherent to the role, which depend on certain restrictions. Based on Organ's work (1977), Bateman and Organ (1983) measured this new kind of Performance. From then on, several definitions and dimensions were proposed for the concept (Graham, 1991; Williams & Anderson, 1991; Organ & Moorman, 1993; Van Dyne, Graham, & Dienesch, 1994; Konovsky & Organ, 1996; Podsakoff, MacKenzie, Paine & Bachrach, 2000).

According to González and Garazo (2006), there are five dimensions of OCB that are more frequently used, which is in agreement with the studies found:

- (1) Altruism (MacKenzie et al., 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego et al., 2010) that is defined as 'helping behaviour' (Lo & Ramayah, 2009);
- (2) Civic Virtue (MacKenzie et al., 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego et al., 2010) the worker's responsibility to participate in the life of the organization (Podsakoff et al., 2000);
- (3) Sportsmanship (MacKenzie et al., 1993; Organ & Lingl, 1995; Konovsky & Organ, 1996; Podsakoff & MacKenzie, 1997; Rego et al., 2010) behaviour of warmly tolerating unavoidable irritations (Podsakoff & MacKenzie, 1997);

- (4) Conscientiousness (MacKenzie et al., 1993; Rego et al., 2010) based on how organized, hardworking and responsible the worker is (Lo & Ramayah, 2009);
- (5) Courtesy (Organ & Lingl, 1995; Konovsky & Organ, 1996; Rego et al., 2010) related to the prevention of problems at the workplace (Lo & Ramayah, 2009).

Lo and Ramayah (2009) adopted Organ's conceptualization, according to which OCB are 'extra-role' behaviours that arise as a way of acting beyond what is defined by the work requirements, which means that the workers do non-mandatory tasks without expecting any rewards or recognition. The authors developed an instrument that contains the five dimensions more frequently found in literature, which were already mentioned. The perspective of OCB adopted by these authors will be the one used in this study.

3.4. Job performance

Viswesvaran (2001) defines Job performance (JP) as behaviours that can be evaluated, but he points out that the difference between behaviours and results is not clear, since JP is composed of several behavioural manifestations, that are identifiable only through operational measures and that differ depending on the context in which they are shown.

In agreement with the theory of social capital, according to which the organizational theories focused on costs and on human capital are not adequate to respond to rapid changes on the nature of work, on the organizational structures and on the inter-organizational competitiveness (Dess & Shaw, 2001), a worker that is fundamental for the organization may be recognized for his/her capacity to have a high Performance, as well as for his/her capacity to create value for the organization. In this way, the fundamental workers are those who have an influence on the other workers, who have knowledge and whose Performance is characterized by the following aspects: (1) Skills to deal with organizational networks; (2) Skills to transmit organizational memory; (3) Flexible confidence; (4) Skills to energetically act in a team; (5) Influence in the Performance network; (6) Difficulty in being replaced; (7) Innovation traits (Xiaowei, 2006).

4. RESEARCH HYPOTHESES AND MODELS

The literature points out the existence of positive relationships among the social relationships established at work and:

- (1) Job satisfaction (JS) (Hurlbert, 2001; Castilla, 2005);
- (2) Organizational commitment (OC) (Donaldson, Ensher, & Grant-Vallone, 2000);
- (3) Organizational citizenship behaviours (OCB) (Donaldson, Ensher & Grant-Vallone, 2000);
- (4) Job performance (JP) (Castilla, 2005).

Thus, we formulate the following research hypotheses:

 (H_1) The use of OSN to maintain contact with co-workers positively influences JS (H_2) OC (H_3) OCB (H_4) JP. The mentioned hypotheses are summarily represented by the research model in Figure 6.1.

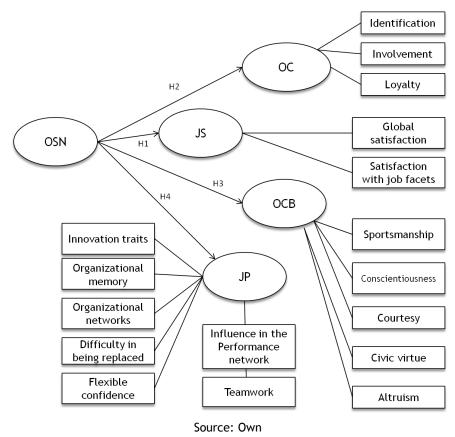


Figure 6.1 - Model 1

According to some authors (Chang & Chang, 2007; Eker, Eker & Pala, 2008; Malik, Nawab & Naeem, 2010) Satisfaction has a positive influence on Commitment. In an attempt to assert these studies we propose hypothesis 5: *JS positively influences OC*.

Literature also points out that Satisfaction is positively related to OCB (Donavan, Brown & Mowen, 2004; González & Garazo, 2006; Jones, 2006). Thus, we formulate the following hypothesis: (H_6) JS positively influences OCB.

Samad (2005) and Jones (2006) refer that Performance is positively influenced by Satisfaction. These studies allow the formulation of the following hypothesis: (H_7) JS positively influences JP.

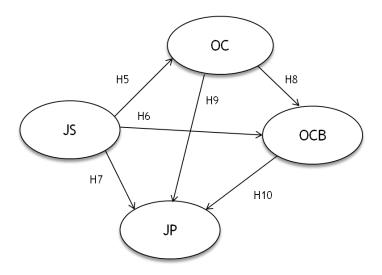
According to Donavan, Brown and Mowen (2004), Commitment has a positive impact on OCB, specifically on the 'altruism' dimension. Lavelle et al. (2008) also investigated the relationship between OC and OCB and concluded that Affective commitment has a positive

impact on OCB, characterized by the authors as the participation in meetings or events related to the organization. These studies allow the formulation of the following hypothesis: (H_8) OC positively influences OCB.

Samad (2005) found a positive relationship between Commitment and Performance. The author adopts the perspective of Mowday, Steers and Porter (1979), according to which OC is defined as (1) the belief in the organization and the acceptance of its values and goals, (2) the will to make an effort to the well being of the organization and (3) the will/wish to stay in the organization. Locke, Latham and Erez (1988) argue that the strength of this relationship will depend on the amount of variance in the worker's Commitment. According to Meyer, Stanley, Herscovitch and Topolnytsky (2002) Commitment influences Performance, being this influence positive concerning the Affective and Normative dimensions of Commitment, and negative for the Continuance dimension. In an attempt to assert these studies we propose H₉: OC positively influences JP.

Following Podsakoff and MacKenzie (1997), there is a positive relationship between OCB, in the perspective of helping behaviours, and the effectiveness of the organizations. Consequently, a relationship between OCB and JP is expected to exist, so the following hypothesis is formulated: (H_{10}) OCB positively influences JP.

The six hypotheses are summarily represented by the research model in Figure 6.2.



Source: Own

Figure 6.2 - Model 2

5. METHOD

5.1. Sample and data collection

This research, descriptive in nature and quantitative, is based on a model that intends to relate the following variables: the use of OSN to maintain contact with co-workers (OSN), Job satisfaction (JS), Organizational commitment (OC), Organizational citizenship behaviours (OCB) and Job performance (JP).

The HE system in Portugal includes (1) the Public HE system, constituted by institutions belonging to the State, and (2) the Private HE system, composed of institutions belonging to Private and Cooperative entities. The HEI integrate (1) the University institutions, which incorporate the Universities, the University institutes and other University institutions, (2) the Polytechnic institutes, incorporating the Polytechnic institutes and other Polytechnic institutes (Diário da República, 1st series, N. 174, 10th September, 2007, Law 62/20074). The Education system also includes a Concordat HEI¹.

Following the information of the National Institute of Statistics², updated on the 31st May, 2007, the number of Portuguese Higher Education Lecturing staff is 37 281, both in the Public sector (26 098) and in the Private sector (11 183). The sample in this study is composed by 157 academics, of which 137 work in Public HEI and 20 in privately-held ones; 101 teach in Universities and 56 in Polytechnic institutions. We built a questionnaire in order to assess the use of OSN. To evaluate work-related attitudes and behaviours, four instruments were gathered using 7 points Likert type scale, where 1 means 'completely disagree' and 7 means 'completely agree'. This scale allows a wide appreciation of the worker's perception about the variables under study. It was necessary to validate the instruments for the Portuguese population by translating them into Portuguese and converting them back into English. The second translations were compared to the original instruments and some mistakes were corrected. Because we were dealing with HEI, it was necessary to substitute the expressions 'firm' and 'organization' for the expression 'teaching institution', or just 'institution'. A pretest was given to 6 individuals, which led to the need to make some changes. After these changes were made, the questionnaires were revised. Then, the final questionnaire, divided in five parts, was made available online and all the Portuguese HEI, Public and Private, were requested, via e-mail, to invite the Lecturing staff to participate in this study.

¹ General Directorate of HE, Portugal. Retrieved from http://www.dges.mctes.pt/DGES/pt/Estudantes/Rede/Ensino%20Superior

² Indicators of the Lecturing staff of HE in Portugal. Accessed on the 24th May, 2011, on http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0000887&contexto=pi &selTab=tab0

5.2. Development of measures and scales

5.2.1. Online social networks (OSN)

To evaluate the use of OSN, we built a questionnaire that contains the following questions: (1) Do you use OSN? (Yes/No), (2) If you answered 'yes', indicate which ones you use, (3) If you answered 'yes', indicate how often you use OSN, (4) If you answered 'yes', indicate whom you maintain contact with on OSN (friends/family/co-workers/unknown people/other), (5) If you answered 'no', indicate why you do not use OSN (lack of time/lack of interest/high personal exposure/other). OSN is assessed through a 0-1 variable. Since our purpose is to evaluate the influence of OSN on work-related attitudes, we consider the use of OSN to contact with the co-workers as the independent variable for model 1.

5.2.2. Job satisfaction (JS)

Job Diagnostic Survey (JDS) was developed to measure three classes of variables: objective characteristics of work, critical psychological states and individual needs for growth. This measurement evaluates Global satisfaction and Satisfaction with job facets. Global satisfaction is measured through three dimensions, which include general satisfaction (5 items), internal work motivation (6 items) and satisfaction with growth (4 items). JDS also measures Satisfaction with the following job facets: job security (2 items), pay (2 items), social (3 items) and supervision (3 items). The scores of items 3, 5 and 9 have to be reversed for statistical analysis (Hackman & Oldham, 1975) (see Appendix H).

5.2.3. Organizational commitment (OC)

The OC measure developed by Cook and Wall (1980) describes, in general, the worker's Commitment towards the organization he/she works for. The instrument includes 9 items, 3 of them measuring the Identification with the organization, other 3 measuring the Involvement with the organization and the remaining measure Loyalty. 3 of the items are written in the negative form and their score was reversed for statistical analysis purposes (see Appendix H).

5.2.4. Organizational citizenship behaviours (OCB)

The scale used to evaluate OCB was developed by Lo and Ramayah (2009). The instrument is composed of 20 items, which describe 5 dimensions of OCB: (1) Civic virtue, (2) Conscientiousness, (3) Altruism, (4) Courtesy and (5) Sportsmanship. 4 of the items were withdrawn from the scale by the authors, since they did not apply to the cultural context in which they used the instrument. However, those items were used in this study. 1 item is

written in the negative form, so the score was reversed for statistical analysis purposes (see Appendix H).

5.2.5. Job performance (JP)

In this study, JP is measured using the Performance traits that characterize the fundamental worker. Xiaowei (2006) developed a self-assessment measure of Performance traits, based on the revision of other authors' work. 7 dimensions were considered: Relationship with organizational networks (3 items), Transmission of organizational memory (2 items), Flexible confidence (4 items), Teamwork (2 items), Influence in the performance network (2 items), Difficulty in being replaced (2 items) and Innovation traits (3 items). On the whole, the measure is made up of 18 items. 7 of the items are written in the negative form, so their score was reversed for statistical analysis purposes (see Appendix H).

Apart from the use of four scales to assess the mentioned variables, the respondents were requested to provide further information, such as age, gender and nature of the HEI where they work.

5.3. Data analysis methods

To analyse the results we used the statistical package SPSS, version 18.0.

In this study, among other objectives, we intend to verify whether the means, for each variable, are statistically different depending on the use of OSN to maintain contact with coworkers. In this case, the method used was the t-student test, for independent samples, which makes it possible to test whether the means of two populations are significantly different.

To test model 2, we used the PLS method. This method has been increasingly used because of its ability to shape latent constructs under conditions of non-normality and small to medium samples. As a technique to create models based on components of structural equations, it is similar to the regression, but it models simultaneously the structural paths, i.e., the theoretical relationships among the latent variables, and it measures the paths, i.e., the relationships among a latent variable and its indicators (Chin, Marcolin, & Newsted, 2003). This method was used to evaluate the relationships when the independent variable was not a 0-1 variable.

6. FINDINGS AND DISCUSSION

6.1. Sample characterization

The sample is composed mostly by female individuals (62.4%). In what concerns age, the majority of the individuals is 30 to 49 years old (73.8%). A larger number of individuals belong to Polytechnic institutions (64.3%) and to Public HEI (87.3%).

6.2. Utilization of OSN

The majority of the sample uses OSN (72.6%), but out of 157 individuals only 29.9% uses OSN on a daily basis and only 10.8% uses three or more OSN. Most of the individuals (57.2%) use OSN to maintain contact with co-workers, although some of them also use it to contact friends, family or unknown people.

The reason more often identified by faculty members not to use OSN is 'high personal exposure', followed by 'lack of interest' (19 responses), 'lack of time' (15 responses) and, finally, 'unawareness' (1 responses). The concerns shown by faculty members that do not use OSN suggest that there may be a lack of trust on OSN, especially. According to Foster, Francescucci and West (2010), even some individuals that use OSN have privacy concerns and do not have the confidence to contribute to the new communities.

6.3. Group comparisons (Model 1)

In order to evaluate the influence of the use of OSN to contact co-workers on work-related attitudes and behaviours, we used, as mentioned before, the t-student test for independent samples. The mean values for each construct relate to the mean of all the items included in the measures.

It is possible to check, regarding the variable 'OCB', that p = .177 > .05, so we do not reject H_0 , which means that there is no significant statistical difference between the means for the individuals that use OSN to maintain contact with co-workers and the ones that do not, in what concerns OCB. For JS and OC, p > .05, so we also conclude that there is no significant difference between the means for individuals that use OSN to maintain contact with co-workers and the ones that do not. It is possible to check, regarding the variable 'JP', that p = .032 < .05, so we reject H_0 , which means that there is a significant statistical difference between the means for the individuals that use OSN to maintain contact with co-workers and the ones that do not.

The results described above lead to and the rejection of H_1 , H_2 and H_3 . H_4 is supported. The use of OSN to maintain contact with co-workers influences JP, but not JS, OC or OCB. In what

concerns Commitment, the results found may be due to the fact that the definition of OC is directed towards the employer organization and not towards co-workers.

Considering that the results were not significant for JS, OC and OCB, we also evaluated the influence of OSN on the different dimensions that constitute these concepts. The variable OSN has a significant positive influence on Satisfaction with job facets (p = .048 < .05). This means that the individuals that use OSN are more satisfied in what concerns job facets, such as job security, pay, social and supervision, in comparison to those who do not use OSN. The variable OSN also has a significant positive influence on Civic virtue (p = .006 < .05), one of the dimensions of OCB, which means that the individuals that use OSN demonstrate more OCB related to the dimension 'Civic virtue', that is, behaviours that reveal the responsibility to participate in the life of the organization, in comparison to those who do not use OSN.

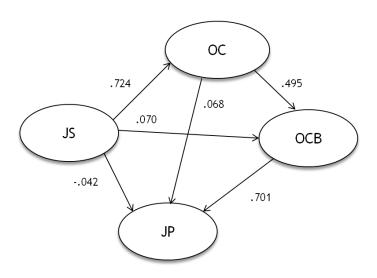
These results partially support H_1 and H_3 . H_2 is rejected.

6.4. PLS method (Model 2)

We used the PLS method to test the relationships among the worker's attitudes and behaviours.

The results show that there are positive relationships among all the variables, although the direct effects among JS and OCB and OC and JP are low (see Figure 6.3). The effects among the other variables are moderate to somewhat high.

To test the significance of the relationships, we utilized the bootstrapping method, which is used to create a high number of samples (in this case, 1000) from the original sample, through systematic eliminations of observations. When $p > \alpha = .05$ in what concerns a certain relationship between variables, that is, when the relationship is not supported by the data, we eliminate it from the model. In this study, there was no need to eliminate any of the relationships, since they are all significant. In what concerns the Cross loadings, there were some problems regarding the correlations among certain indicators, but we did not consider they were important enough to alter the model, also because that could imply the loss of validity of the scale contents.



Source: Own

Figure 6.3 - Final model (2) and direct effects

In what concerns the direct effects of the model, JS has a direct positive impact of .724 on OC (H_5), an impact of .070 on OCB (H_6) and it has a negative impact of -.042 on JP. OC explains 49.5% of OCB (H_8), but only 6.8% of JP (H_9). Finally, OCB explains 71.7% of JP (H_{10}).

Table 6.1 - Indirect effects for model 2

| | JS | OC | OCB | JP |
|-------------------|------------------------|-------------------------|----------------------------|------------------|
| JS | | | .358 | .251 |
| OC | | | | .347 |
| OCB | | | | |
| JP | | | | |
| IS - Joh satisfac | tion: OC Organizations | L commitment: OCB - Org | anizational citizonchin bo | haviours: ID Joh |

Source: Own

There are also indirect positive effects between JS and OCB - mediated by OC - (.358), between JS and JP - mediated by OC and OCB - (.251), and between OC and JP - mediated by OCB (.347).

Table 6.2 - Total effects for model 2

| | JS | OC | ОСВ | JP |
|-----------|----|------|--------------|----------------------|
| JS | | .724 | .429 .495 | .309 |
| OC | | | .495 | .416 |
| OC OCB | | | | .309 .416 .701 |
| JP | | | | |

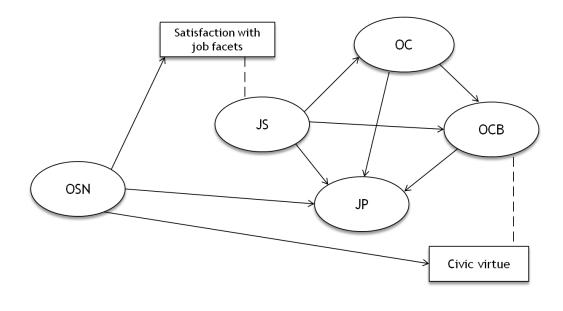
JS - Job satisfaction; OC - Organizational commitment; OCB - Organizational citizenship behaviours; JP - Job performance

Source: Own

In what concerns the total effects (table 6.2), JS has a positive impact of .724 on OC (H_5), a positive impact of .429 on OCB (H_6) and it explains 30.9% of JP (H_7). OC explains 49.5% of OCB (H_8) and 41.6% of JP (H_9). Finally, OCB explains 70.1% of JP (H_{10}). Using another explanation, when, for example, OCB raises 1 unit, JP raises .701. These results are in agreement with the studies we identified in the literature review, so all the hypotheses included in model 2 are supported.

In order to complete the analysis of the model, it is necessary to verify its explanatory capacity. The R² is used to measure the Goodness of fit for the estimated regression equation (Anderson, Sweeney & Williams, 2012). The variable 'OC' explains 52.5% of the model, OCB explains 30.1% and JP explains 52.1% of the variation in the model. The variable 'JS' does not explain any variation in the model because it appears as the predictive variable.

A high composite reliability is a necessary condition to obtain a high validity and it is an important pre-requisite in the application of measures used to evaluate behaviours (Raykov & Grayson, 2003). The value for JP is moderate, while the values for the other variables are high. The alpha values of Cronbach for the scales that measure JS (.88), OC (.85) and OCB (.88) are relatively high, suggesting that these theoretical constructs exhibit appropriate psychometric properties (Cronbach, 1951). However, the value for the JP scale is somewhat low (.61), which means that further improvement of the scale is necessary.



Source: Own

Figure 6.4 - Combination of Model 1 and Model 2

As we can see in figure 6.4, the use of OSN to maintain contact with co-workers only has an effect on JP, if we consider the concepts as a whole. When considering the dimensions of JS, OC and OCB, we find that OSN influences the dimension 'Satisfaction with facets' (JS) and the dimension 'Civic virtue' (OCB). The results show that the use of OSN to maintain contact with co-workers does not influence, at all, OC.

In what concerns the Satisfaction with job facets (job security, pay, social and supervision) the results make sense, since the variable 'OSN' is related to the use of OSN to maintain contact with co-workers, and so this may have a positive effect on the Satisfaction with social relationships at work, particularly with supervisors.

We explain the influence of 'OSN' on 'Civic virtue' by the fact that OCB are related to Extrarole performance, and specifically this dimension of OCB could easily be confused with In-role behaviours. On the other hand, the contact that the worker maintains on OSN with the coworkers could enhance the worker's will to participate actively in the organization's life due to a possible exchange of information regarding the organization on OSN.

Regarding the relationships among work-related attitudes and behaviours, we verify that JP is influenced by JS, OC and OCB. OC is positively influenced by JS and OCB is positively influenced by JS and OC. This means that, in HEI, JS and OC lead to a higher In-role and Extra-role performance, and that JS leads to a higher OC.

7. CONCLUSIONS

The results show us that the individuals who maintain contact with co-workers on Online social networks (OSN) show more Performance traits that lead to a higher Performance, when compared to those that do not use OSN to contact co-workers. Curiously, some of the dimensions that compose the Job performance (JP) measure are directly connected to concepts related to networks, such as 'relationship with organizational networks', 'transmission of organizational memory/knowledge' or 'influence in the Performance network'.

Although we found that the use of OSN does not influence Commitment, in what concerns Job satisfaction (JS) we found that the individuals that maintain contact with co-workers on OSN show a higher Satisfaction with job facets - job security, pay, social and supervision -, which may be explained by the fact that the variable OSN is related to the use of OSN to maintain contact with co-workers, and so this may have a positive effect on the worker's social relationships at work, including with supervisors.

The fact that no significant relationship between the use of OSN to contact co-workers and Organizational commitment (OC) was found may be due to the fact that, in this research, OC is related to the affective reactions to the characteristics of the employer organization, and not to the interpersonal relationships established in the work environment. We also found that the use of OSN to maintain contact with co-workers has a positive influence on the Participation in the life of the organization, a dimension of Organizational citizenship behaviours (OCB), which may seem contradictory. Although OCB refer to Extra-role performance, 'civic virtue' behaviours could easily be confused with In-role performance. Also, there might be an exchange of information regarding the organization on OSN that may raise the worker's will to actively participate in the organization's life.

It seems important to mention that the motive 'high personal exposure' identified more often by the workers as the reason why they do not use OSN, reveals a lack of trust on OSN, a fact that is in agreement with one study we found, according to which even the individuals who use OSN do not contribute as much as they could to online communities due to privacy concerns.

Besides OSN, one other concept that is central in this study is Performance. The concepts of Satisfaction and OCB, as a whole, and the concept of Commitment, were not found to be significantly influenced by the use of OSN to maintain contact with co-workers. However, Performance was. On the other hand, we found that Performance is also positively influenced by Satisfaction, Commitment and OCB.

We conclude that the use of OSN to maintain contact with co-workers positively influences some work-related attitudes and behaviours, which, in turn, have a positive effect on the quality delivered to the external customer (e.g.: Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004). Our conclusion is in agreement with the study carried out by Boulos and Wheeler (2007). The authors mention the need to raise awareness of Web 2.0 tools and the possibilities they offer in the educational context. Moreover, HEI know a great deal about facilitating environments in which people join forces to create, share and advance knowledge, so they should be prepared to reap value from the new online tools (Barnatt, 2008).

Regarding the worker's attitudes and behaviours, we have empirically supported all the proposed relations, which had already been found in previous studies, and also in Chapter 4, particularly between Satisfaction and Commitment and Satisfaction and Performance, so we elevate the importance of these relationships in the HE context. Specifically, enhancing the academics' Satisfaction will also enhance their Commitment towards the HEI and improve their Performance. In a HRM perspective, HEI should assure that academics are satisfied, thus enhancing Commitment and, consequently, In and Extra-role performance, which may

contribute to deliver higher quality service and, possibly, increase the students' satisfaction, and may also have implications on scientific production, for example. We highlight that one of the dimensions used to measure the students' satisfaction in HE are the lecturers, particularly their efficiency in teaching (Alves & Raposo, 2009). Therefore, the Lecturing staff's Performance assumes great relevance in satisfying the external customer in HE. Also, we reaffirm the importance of these relationships for organizations in general. By enhancing the worker's Satisfaction and Commitment, organizations will improve the worker's In and Extra-role performance, which improve the quality delivered by the organization, which is particularly relevant nowadays, especially if we consider the current global economic context.

Considering the scope of this research, we must stress that for high Customer satisfaction to occur, the needs of external customers must be tightly coupled with the organization's internal efforts, and Marketing personnel must extend their external boundary spanning responsibilities to include a greater understanding of internal customers and processes (Lassk, Norman, & Goolsby, 2004). In order to strike the right balance between the organization's internal and external orientation and to ensure that Internal market orientation (IMO) is successfully adopted, organizations have to invest in integrating the Marketing and the Human Resource (HR) functions (Dunne & Barnes, 2000; Lings, 2004; Gounaris et al., 2010). Therefore, in this perspective, HEI should use OSN as an Internal marketing (IM) tool, that is, they should encourage the use of such networks in order to enhance positive work-related attitudes and behaviour. Specifically considering the results of this research, they should encourage the use of OSN in order to enhance the Satisfaction with job facets, the Participation in the life of the organization and JP, improving, consequently, the quality delivered to the external customer. This idea is reinforced by Gounaris (2008), whose conception of IMO refers to the organization's orientation regarding the internal market, and the management's commitment towards the workers, regarding the understanding of what they value, and becoming responsive to their individual needs, while assuring that they have all the resources necessary to deliver the type and level of service that the organization's (external) Marketing objectives and strategy dictate. Moreover, the author states that internal market oriented organizations are the ones who are committed to create value for their employees through effectively managing the relationships among employees, supervisors and management. Therefore, in a Web 2.0 based society it is fundamental that organizations understand the benefits of integrating the use of such networks in the management of workrelated relationships.

As mentioned in Chapter 3 and 4, the IMO concept is regarded as one of the core components of Market orientation (MO) (e.g.: Naudé, Desai and Murphy, 2003), so its adoption complements the organization's MO (e.g.: Gounaris, 2006). Also, IMO contributes to higher Perceived service value (e.g.: Gounaris et al., 2010), Perceived service quality (e.g.: Tortosa,

Moliner & Sánchez, 2009; Gounaris et al., 2010) and to higher Customer satisfaction (e.g.: Lings & Greenley, 2005; Lings & Greenley, 2009; Tortosa et al., 2009). Specifically in the context of HEI, Perceived value was found to strongly influence the students' Satisfaction, and, consequently, their Loyalty (Alves, 2011). Therefore, it is possible that HEI enhance Customer satisfaction and loyalty by seeking a higher commitment towards the workers, by understanding what they value and by becoming more reactive to their individual needs, while assuring that they have the resources needed to deliver the service that the External marketing strategy delineates.

8. LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

The use of OSN to maintain contact with co-workers could have been more deeply evaluated regarding the type of exchanges carried out in this context. For example, it would be important to know whether the workers use OSN to contact with co-workers for personal or professional reasons and, specifically, what kind of activities they carry out (sending private messages, sharing posts, commenting posts or photographs, searching for personal information about the co-worker, etc.). Therefore, we slate the replication of the study considering the types of exchanges made with co-workers on OSN.

The relationship between the use of OSN to maintain contact with co-workers and OCB should be studied more deeply, using a different instrument and/or resorting to a different context. We also suggest asking respondents what type of information they exchange with co-workers, in order to allow to draw more accurate conclusions in what concerns the influence of 'OSN' on the dimension 'Civic virtue'. Moreover, we propose the use of other measure to evaluate Performance, in order to verify whether the results found remain the same.

Following the Market orientation perspective, it would be relevant to evaluate the use of OSN to maintain contact with students and the influence of this type of contact in the academics' attitudes and behaviours. Moreover, evaluating the effect of the use of OSN by students - to maintain contact with the Lecturers - on the perception of quality delivered by the HEI could also be very interesting.

In the future, the research should be enlarged, to include other organizational variables, such as Trust or Work-related stress, so the understanding of the concepts used in this study can be enhanced. Moreover, it would be important to evaluate the quality of interpersonal relationships at work, so it would be possible to understand the effect that the use of OSN to maintain contact with co-workers has on the relationships that workers maintain in the work environment.

Finally, we propose a replication of the study in other countries and in other contexts, such as service or sales companies, with the aim of making comparisons and extending the empirical evidence of the proposed relationships.

CHAPTER 7

CONCLUSIONS, LIMITATIONS AND PERSPECTIVES FOR FUTURE RESEARCH

1. Conclusions

One of our goals was to develop an instrument to measure JP, amenable of application in different cultural and job-related contexts, that is used - in the subsequent two chapters - to evaluate the concept.

We define Job performance (JP) as evaluative and episodic behaviours that an individual adopts towards his/her work and job, as a result of the dynamic between cognitive abilities, personality and learning experiences, that aggregate value to the organization. According to our perspective, JP may be measured using two broad dimensions: Task performance (job knowledge, organizational skills, efficiency) and Contextual performance (persistent effort, cooperation, organizational consciousness and interpersonal and relational skills).

Even though the psychometric properties of the instrument are not excellent, they are adequate, so the scale may be used for research on the JP concept. Also, we highlight that, usually, self-reported Performance measures are adapted or built in order to be applied to specific contexts, and this particular one was developed in order to be useful in any job-related context. On the other hand, there is a high probability that its application worldwide is possible, considering that some studies we based the instrument on were developed in different cultural contexts.

Particularly concerning the HE context, the instrument is validated for the European HE, and results suggest that it is adequate to the American context as well. Therefore, we believe the instrument is adequate to evaluate Performance in Western HE and, possibly, in other areas and contexts, since it was created based on studies developed in different cultural contexts and professional areas.

Bearing in mind that individual Performance is highly important for an organization as a whole, as well as for the individuals working in it (Sonnentag & Frese, 2002), the research regarding the development of the scale is a contribution for organizations in general. Considering it is a self-reported measure, HRM can use it as a complementary means to objective measures or to evaluate the worker's Performance anonymously, in order to understand the workers' behaviour as a whole, as well as its relationships to other variables relevant to HRM practices, thus supporting decision-making in organizations.

We also intended to verify whether HEI are internal and external market oriented or not, and to determine the levels of Internal service quality (ISQ) in HE, as well as the levels of Motivation, Satisfaction, Commitment and Performance of academics, specifically in Europe.

We conclude that there is a perception of low Internal market orientation (IMO) in European HE, so we can infer that European HEI in general are not internal market oriented, at least in the studied population. The perception of Market Orientation (MO) in Europe, although we cannot say is high, is higher when compared to IMO, which means that European HEI are more oriented to the external rather than to the internal market. These results are in agreement to previous studies we found, which mention the fact that, in HE, the internal customer's side has generally been ignored. As MO, the perception of ISQ in European HE is somewhat high. In what concerns work-related attitudes and behaviour in European HE, Job satisfaction (JS) and JP are somewhat high, Motivation (MOT) and Organizational commitment (OC) are medium.

Another goal was to compare the levels of IMO, MO, Internal service quality, of Motivation, Satisfaction, Commitment and Performance according to different variables, such as region, qualifications, length of career and age.

Regarding the differences within Europe, we found significant differences concerning MO, MOT, JS and OC. The perception of IMO does not vary according to the region, which reinforces the fact that, in general, European HEI are not internal market oriented. Regarding JP, there are no significant differences amongst regions. In what concerns MO, we found that it is higher in Northern countries when compared to the other European regions, as we predicted. MOT is also higher in Northern Europe when compared to Western Europe and JS is higher in Northern Europe when compared to Southern and Eastern Europe.

Contrary to what we predicted, OC is higher in Southern Europe when compared to Northern Europe. We found significant differences in the dimension 'Normative' of OC, which is related to the feelings of obligation to stay in the organization, and no differences concerning the other two dimensions of OC. This result allows us to conclude that workers in Southern European HE are more loval to the HEI they work for than workers in Northern Europe. We also found that MOT (when compared to Western Europe) and OC (when compared to Northern and Southern Europe) are significantly higher in Eastern Europe. This could be explained by the cultural values of the different regions. According to Taras, Kirkman and Steel (2010), the predictive power of cultural values is significantly lower than that of personality traits and demographics for certain outcomes (for example, Performance) but is significantly higher for others (for example, Commitment). Cultural values are most strongly related to emotions, followed by attitudes, then behaviours. We stress that the Eastern countries, which, in some cases, occupy the Asian territory, may be influenced by the Asian cultural background. According to Hofstede (1984), in more collectivist cultures, the relationship between the employee and employer has a moral component, that is, Loyalty towards the employer, which is not common in highly individualistic countries. However, the author stresses that in individualistic countries, certain employment relationships still have a moral component.

In what concerns the comparisons between European and American countries, we conclude that there are significant differences in MO, in ISQ and in work-related attitudes and behaviour depending on the Continent. There are no significant differences concerning the perception of IMO, so we can deduce that IMO is devalued in the HE context, at least in the studied population. As in Europe, in American countries the perception of MO is higher when compared to IMO, which means that HEI in general are more oriented to the external rather than the internal market. Moreover, the perception of MO is higher in Europe, when compared to Brazil and there are no differences in ISQ between the European and American Continent. However, ISQ is higher in North America when compared to South America. In regard to work-related attitudes and behaviour, when compared to American countries, MOT, JS and JP are lower in Europe, and OC, which is not high in European HE, is significantly higher when compared to the USA. This may be due to the fact that the USA is a predominately individualistic country (Hofsede, 1984; Sayles, 1995). Moreover, the differences between Europe and America may be explained by several reasons: differences in what concerns HR practices, cultural differences, different work conditions, etc. It would be important to study these variables, in order to better understand the results obtained.

Although the perception of IMO does not vary according to the region, we found that it varies according to the type of HEI. Particularly, in Private HEI, the perception of IMO and MO is higher than in Public HEI. This result makes sense, since Private HEI usually have to raise their own financial resources. Therefore, it is essential for them to be aware of the internal and the external customers' needs in order to deliver higher quality and, therefore, attract and retain students. It is possible that European Private HEI are beginning to value both the internal and the external focus. However, although IMO and MO are higher when compared to Public Education, they are not high and, therefore, they are still insufficient given the increasing competition in this context. We also found that workers in Private Education are more committed, which suggests that that IMO and MO may positively influence the worker's Commitment in the context of Private HE, as previously noted in other contexts (e.g.: Jaworski & Kohli, 1993; Abzari, Ghorbani, & Madani, 2011). However, in Chapter 4, when considering HEI in general, we verified that IMO and MO do not influence OC.

We found some significant differences concerning the characteristics of the European sample. Qualifications influence the worker's MOT. The Lecturing staff that has a Ph.D. is more motivated than the Lecturing staff that has a Master's Degree. However, this result may stand to the fact that individuals who engage in a Ph.D. are already more motivated. JP varies according to age, which makes sense since demographics is a good predictor for JP (Taras et al., 2010) and the perception of IMO, of ISQ and JS vary according to the length of career. Although the results regarding age and length of career are inconclusive and seem, at first, hardly relevant, they suggest that, possibly, older and more experienced workers have a more

positive attitude or a more positive perception about their job and/or about the organization they work for.

Another objective of our research was to evaluate the relationships between IMO, MO and ISQ, and the academics' attitudes and behaviour.

We identified a positive strong relationship between MO and IMO in the context of HE, considering European and American countries. Contrary to previous studies (e.g.: Lings & Greenley, 2009) that indicate the influence of IMO on MO, we demonstrate that MO positively influences IMO, which makes sense, since an organization that is external market oriented and, therefore, is seeking to satisfy the external customer's needs, will identify the need to focus on the internal customer in order to deliver higher quality to the external customer. However, we are not devaluing previous studies that indicate the influence of IMO on MO. Since IMO complements MO (e.g.: Gounaris, 2006), and, therefore, they are inter-related concepts, representing a broadened view of Marketing philosophy (e.g.: Gounaris, 2006; Gounaris et al., 2010), it is expected that they influence each other. We also verified that both Marketing concepts positively influence ISQ, but, contrary to what we expected, the influence of IMO on ISQ is low. Interestingly, the influence of MO on ISQ is higher. Therefore, market oriented HEI promote higher ISQ. We stress that no studies were found relating both concepts, either in the context of Education, or in other contexts.

We also evaluated whether IMO, MO and ISQ have a positive influence on Motivation, Satisfaction, Commitment and on the worker's Performance. We identified a positive direct relationship between MO and MOT and a positive indirect relationship between IMO and JS, mediated by ISQ, although these relationships are not strong, particularly in what concerns IMO and JS. However, we stress that IMO and MO have effects on ISQ, which also enhances JS directly. Therefore, HEI should adopt an external and an internal MO not only because both Marketing concepts are associated to a higher quality delivered to the external customer (e.g.: Gounaris et al., 2010), but also because they are associated to the worker's MOT and JS, which also increase the quality delivered to the external customer (e.g.: Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004) and, in what concerns JS, the customer's Satisfaction (Koys, 2011). We also found that IMO, MO and ISQ do not influence JP, defined as a work-related behaviour. This finding is partially in agreement with the literature, since no studies were found relating MO, IMO and the workers' behaviour, although we found a study suggesting the influence of IMO on JP (e.g.: Carter & Gray, 2007). ISQ, contrary to what we predicted, does not influence JP. However, the study we found to support our hipothesis was carried out in the banking sector, so our finding should not be generalized.

Moreover, we evaluated the relationships among the worker's attitudes and behaviour, considering European and American countries. We found that motivated workers are more satisfied and that satisfied workers are more committed and show a higher Performance. Moreover, motivated workers are more committed, but only if they are satisfied. In this sense, HR practices in HE should be focused on enhancing MOT and JS, in order to increase the worker's Performance and, consequently, deliver higher quality to the external customer, since the variables influence Service quality.

We also wanted to evaluate if HEI use their Web sites effectively as a Marketing tool, that is, if HEI invest in the quality of their Web sites. Specifically, we studied Web sites belonging to Portuguese HEI.

Since we verified that the means of Web site quality are not high, considering all the HEI in the sample, we conclude that HEI are not committed to using their Web sites as an effective (internal and external) Marketing tool. Considering the competitive environment in which they are inserted, especially due to the homogenization of Education shaped by the Bologna Process, European HEI should invest more in enhancing the quality of their Web sites, so they could develop long lasting and loyal relationships with the students, through the satisfaction of their needs, and attract more students to their institutions, as well as the interest from other HEI, academics and firms. Also, in an Internal marketing (IM) perspective, the quality of the Web site may play an important role on maintaining or increasing the interest and Satisfaction of current workers, since workers also use the organizations' Web site, whether to access the organizations' Intranet or to keep up with news or events, for example. Therefore, our main conclusion is in agreement with the conclusions described in Chapter 3 and 4, which reflect insufficient levels of Internal and External market orientation in HEI. We found no differences in Web site quality between Private and Public HE. These results are not in agreement with our findings regarding Chapter 3, considering we found differences between Public and Private HEI concerning MO and IMO. Specifically, the perception of both concepts is higher in Private HE, so it would be expected that the investment in Web site quality would also be higher in Private institutions, mainly because they are For profit organizations. Nevertheless, the findings in this Chapter relate to Portuguese HE only, which could explain this discrepancy.

Finally, the use of Online social networks (OSN) to maintain contact with co-workers and its impact on the worker's attitudes and behaviours was evaluated, specifically in the Portuguese HE context.

The results allow us to conclude that the individuals who maintain contact with co-workers on OSN show a higher Performance, when compared to those that do not use OSN. Although we found that the use of OSN does not influence OC, in what concerns JS we found that the

individuals that contact with co-workers on OSN show a higher Satisfaction with job facets, specifically job security, pay, social and supervision. Therefore, the use of OSN to maintain contact with co-workers may have a positive effect on the worker's social relationships at work, including with supervisors. The use of OSN to maintain contact with co-workers has also a positive influence on the Participation in the life of the organization (OCB). This result could be explained by the fact that on OSN there might be an exchange of information regarding the organization, which may raise the worker's will to actively participate on the organization's life. HEI should, then, use OSN as an IM tool, that is, they should encourage the use of such networks in order to enhance positive work-related attitudes and behaviour, improving, consequently, the quality delivered to the external customer.

Therefore, in a HRM perspective, HEI should assure that their workers are satisfied, thus enhancing Commitment and, consequently, OCB and Performance. We highlight that one of the dimensions used to measure the students' Satisfaction in HE are the lecturers, particularly their efficiency in teaching (Alves & Raposo, 2009). Therefore, the Lecturing staff's Performance assumes great relevance in satisfying the external customer in HE. Also, we reaffirm the importance of the relationships found in the organizational context. By enhancing the worker's Satisfaction and Commitment, organizations will improve the worker's In and Extra-role performance, which enhance the quality delivered by the organization, which is particularly relevant nowadays, especially if we consider the current global economic context.

Nevertheless, we underline that, when evaluating job-related attitudes and behaviour in several European and American countries, we found that OC does not influence JP, so the positive relationship between the concepts applies only to the Portuguese HE context. Therefore, to keep workers that show a high Performance in HEI, the use of OSN to maintain contact with co-workers should be encouraged, at least in Portuguese HE. However, we highlight the fact that we used different instruments to evaluate the concepts. While the instrument used to evaluate JP in Europe and America measures Task and Contextual performance, the one used in Portugal is more related to the worker's skills, so it measures Task-related performance only.

SUMMARY AND CONTRIBUTIONS

On a general level, our main goal is to understand MO and IMO in the HE context. Specifically, we intend to verify whether HEI are internal and external market oriented or not, that is, if they apply the broadened Marketing philosophy.

We conclude that IMO is devalued in the HE context, at least in the studied population. Therefore, this research indicates that HEI do not focus on the needs of the internal market as part of their Marketing strategy.

Although MO is somewhat high, we consider it is still insufficient. We stress that both IMO and MO perception are slightly higher in Private HE than in Public HE, specifically in Europe. Moreover, in Europe, MO is significantly higher in Northern countries when compared to the other European regions. In what concerns comparisons among Continents, the perception of MO is higher in Europe, when compared to Brazil. Nevertheless, we stress that the Brazilian sample is very small. Although higher than IMO, MO is not high and, in this sense, HEI must improve their efforts towards the external market. We underline that the lack of focus on Web site quality also shows that IMO and MO are devalued in HE, that is, HEI do not focus on effectively satisfying the needs of both the external and the internal market regarding the Web tools, and this lack of Internal and External market orientation acts as an obstacle to delivering high quality service. HEI must understand, as mentioned throughout the research, that for high Customer satisfaction to occur, the needs of the external market must be tied with the organization's internal efforts, and Marketing personnel must take in a greater understanding of internal customers and processes. Moreover, the research alerts to the fact that, in order to accomplish this and to guarantee that IMO is successfully adopted, HEI have to invest in integrating the Marketing and the HR functions.

We also found that the perception of ISQ is somewhat high, considering only European countries and also considering European and American countries, and that there are significant differences in ISQ regarding USA and Brazil. ISQ is higher in the USA. However, and considering that ISQ is a critical component of IM, we must highlight the need for continuous improvement of quality in HE. Therefore, HEI should focus on changing or improving their Marketing strategy, in order to enhance the quality delivered to the external customer and, thus, obtain competitive advantage, which is fundamental to HEI, considering the increasing pressure to enhance efficiency in this context.

Regarding the worker's behaviour, we highlight that the JP scale we developed is already validated for the European HE, and results suggest that it is also adequate to evaluate JP in American countries, at least in the USA and in Brazil. In what concerns the workers' attitudes and behaviour in European HE, we found that JS and JP are somewhat high, MOT and OC are medium. The differences we found according to the region may be related to several aspects, such as economic development, cultural differences, HR practices or working conditions. We also found some significant differences concerning the characteristics of the European sample. Qualifications influence the worker's MOT. JP varies according to age and the perception of IMO, of ISQ and JS vary according to the length of career. In this perspective, the research allows the understanding of some work-related attitudes and behaviour of

academics, which contribute to deliver higher quality to the external customer. Therefore, HEI must focus their efforts on improving work-related attitudes and behaviour in order to deliver higher quality to the external market. The research is, therefore, useful for HEI, considering they should be aware of the need to improve quality, and this could be achieved by adopting HR practices that enhance work-related attitudes and behaviour.

Regarding the relationships between IMO, MO, ISQ and work-related attitudes and behaviour, we identified a positive strong relationship between MO and IMO, considering European and American countries. We also verified that both Marketing concepts positively influence ISQ and that the influence of MO on ISQ is stronger than the influence of IMO, which may seem somewhat contradictory at first, considering that ISQ is a component of the IM strategy. However, it makes sense that the generation, dissemination and responsiveness to market intelligence consequently improve the quality of service among the workers. Furthermore, we identified a positive direct relationship between MO and MOT, a positive indirect relationship between IMO and JS and a positive direct relationship between ISQ and JS. Hence, we conclude that Marketing practices, even if not very strongly or directly, influence the worker's attitudes, although not their behaviour.

The positive relationships we found between IMO, MO, ISQ and the workers' attitudes alert, once more, HEI for the need of integrating Marketing and HR functions since both functions are related to each other, and also to the quality delivered to the external customer. Hence, in a Marketing and HRM perspective, HEI need to adopt a holistic Marketing approach and assure that their workers are motivated, thus enhancing Satisfaction and Commitment and, consequently, Performance.

The research is also useful for organizations in general, since enhancing the worker's Motivation and Satisfaction will improve the worker's Commitment, as well as In and Extrarole performance, and displaying higher levels of such attitudes and behaviours improves the quality delivered by the organization, which is a particularly relevant considering the current global economic context.

In Chapter 4, we also found that motivated workers are more satisfied and that satisfied workers are more committed and show a higher Performance. This finding is in agreement with several previous studies, mostly carried out outside the HE context. although the relationship found between JS and OC was previously supported in HE (e.g.: Cetin, 2006). Furthermore, we highlight that MOT and JS are strongly related. In Portuguese HE (Chapter 6) we found that JS positively influences OC, OCB and JP, OC positively influences OCB and JP and OCB positively influences JP. In both Chapters we found that Satisfaction enhances Commitment and Performance, so we elevate the importance of these relationships in the HE context. In this sense, we highlight once more that HR practices in HE should be focused on

enhancing MOT and JS, in order to increase the worker's OC and Performance and, consequently, deliver higher quality to the external customer, increase the students' Satisfaction and enhance on scientific production, for example. We stress that one of the dimensions used to measure the students' Satisfaction in HE are the Lecturers, particularly their efficiency in teaching (Alves & Raposo, 2009). Therefore, the Lecturing staff's Performance is fundamental for the Satisfaction of the external customer in HE.

Regarding the use of Web 2.0, we conclude that HEI are not committed to using their Web site as an effective (internal and external) Marketing tool, at least in Portuguese HE, which means that they do not take into account the (internal and external) market's needs or invest in their Satisfaction, particularly regarding their Web sites. Considering the competitive environment in which they are inserted, especially due to the homogenization of Education shaped by the Bologna Process, HEI should invest more in enhancing the quality of their Web sites, so they could develop long lasting and loyal relationships with the students, through the satisfaction of their needs, and attract more students, as well as the interest from other HEI, academics and firms. This last aspect is extremely important, since partnerships may allow the enhancing of quality in Education which, in turn, could lead to the development of a greater amount of academic publications, of superior quality, and, consequently, to the attainment of increased financing of investigation projects. Also, in an IM perspective, the quality of the Web site may play an important role on maintaining or increasing the interest and Satisfaction of current workers, since they also use the organizations' Web site, whether to access the organizations' Intranet or to keep up with news or events, for example. This idea is reinforced by Gounaris's definition of IMO (2008), according to which organizations should understand what the workers value and become more reactive to their individual needs, while assuring that they have the resources needed to deliver the service that the External marketing strategy delineates. In what concerns companies, they need to invest time and money in Web site service quality, design and evaluation, since nowadays Web sites may be one of the most important tools in a competitive environment, considering Web site quality positively influences the consumers' perceptions of Product quality, which subsequently affects Online purchase intentions, and Customer satisfaction which, in turn, affects Loyalty and Trust.

Still regarding the Web 2.0 tools, we found that the use of OSN to maintain contact with coworkers positively influences the workers' attitudes and behaviours, particularly the Satisfaction with job facets - job security, pay, social and supervision -, the Participation in the life of the organization and JP. Therefore, OSN can be used as an IM tool, and the use of such networks should be encouraged by HEI. Once again, we underline the need of integrating Marketing and HR practices. HEI should, then, use OSN as an IM tool, that is, they should encourage the use of such networks in order to enhance positive work-related attitudes and behaviour, improving, consequently, the quality delivered to the external customer. In this

sense, we stress, once again, Gounaris' perspective (2008), according to which IMO refers to the organization's orientation regarding the internal market, and the management's commitment towards the workers, regarding the understanding of what they value, and becoming responsive to their individual needs, while assuring that they have all the resources necessary to deliver the type and level of service that the organization's (external) Marketing objectives and strategy dictate. Moreover, according to the author's perspective, internal market oriented organizations are the ones who are committed to create value for their employees through effectively managing the relationships between employees, supervisors and management. Therefore, in a Web 2.0 based society it is fundamental that organizations understand the benefits of integrating the use of such networks in the management of work-related relationships.

Considering the influence of MO, IMO and ISQ on the worker's attitudes, it seems essential for HE to adopt an internal and external MO and to develop HR practices that enhance the development of more positive attitudes and behaviour in the work context. As Alves and Raposo (2009) mention, to establish long-term relationships with their students, HEI need, above all, to satisfy them. Along with IMO and MO (e.g.: Gounaris et al., 2010), the worker's attitudes and behaviour are also associated to a higher quality delivered to external customers (e.g.: Franco et al., 2002; Malhotra & Mukherjee, 2004; Tsaur & Lin, 2004), and, therefore, they can also contribute to retain and attract students, as well as the interest from other HEI, from academics and firms, and, also, obtain increased financing of investigation projects, for example.

On a general level, the several articles evolved in this Thesis point out the need to 1) modify Marketing practices in HE, including in what concerns the investment in and the use of Web 2.0 tools, 2) develop HR practices that enhance the worker's attitudes and behaviours, as well as 3) integrate the Marketing and the HR functions, in order to, ultimately, deliver high quality service, i.e. Education, satisfy the external customer and, thus, obtain competitive advantage, which is fundamental nowadays. We highlight that the latter aspect mentioned was already reinforced by several authors (e.g.: Dunne & Barnes, 2000; Lings, 2004; Gounaris et al., 2010), who state, as previously mentioned, that organizations have to invest in integrating the Marketing and the HR functions, the same way in which they seek to integrate Marketing with other organizational functions that influence the customers' experiences, and the HE context, as a service provider, is not an exception.

We must accentuate the importance of IMO, since it is a recent concept when compared to MO or IM, and also because we found that HEI in general are not internal market oriented. The concept is regarded as one of the core components of MO and its measurement allows the evaluation of the extent to which the IM task has been successfully accomplished, contributing to higher Perceived service value, Perceived service quality and to higher

Customer satisfaction. Specifically in the context of HEI, Perceived value was found to strongly influence the students' Satisfaction, and, consequently, their Loyalty (e.g.: Alves, 2011). Therefore, it is highly probable that HEI enhance Customer satisfaction and loyalty by seeking a higher commitment towards the workers, by understanding what they value and by becoming more reactive to their individual needs, while assuring that they have the resources needed to deliver the service that the External marketing strategy delineates. HEI should, then, adopt an IMO, since an external focus is insufficient.

Considering the worldwide crisis we are living, HEI in particular and organizations in general - whether from the sales or service context - should invest in differentiation and in delivering superior quality, so they could achieve superior competitive advantage and, thereby, survive the financial crisis, or even prosper. Therefore, the perspective we propose is useful to any organization wishing to obtain competitive advantage.

2. Limitations and Perspectives for future research

The fact that the JP scale was not applied worldwide arises as a limitation of the research, since we cannot assert that it is amenable of application in all kinds of cultural contexts, which was one of our goals. Also, it would be important to replicate the research using a larger sample. In what concerns America, only two countries were studied, Brazil and the USA, and the number of responses obtained from these countries is significantly lower than the number obtained from Europe. So, there is the need to validate the scale, not only in other Western countries, but also in other cultural contexts, and to apply the instrument in Brazil and in the USA, using a larger sample.

One other limitation is the fact that every individual included in the sample - Chapter 2-lectures in HE. However, although the JP instrument is validated only for this context, which is a contribution to the HE context, we believe that the scale will be useful in other professional areas. Nevertheless, there is a lack of scientific validation outside the HE field, so it would be important to apply it to other sectors, other than Education. Also, although the psychometric properties of the instrument are adequate, they are not excellent.

Regarding Chapters 3 and 4, we also highlight the size of the sample, since we gathered only 260 responses from USA and Brazil. Moreover, European countries are diverse in what concerns their characteristics, and the American Continent is represented only by two countries. Thus, it would be important to replicate the investigation using a larger sample, including other American countries, in order to obtain more reliable results when comparing Europe to America. Furthermore, making more comparisons according to the region (for example, studying more deeply the Northern European countries), and studying other

contexts that were not included in the sample would be relevant, in order to verify if the perception of MO and IMO in HE is the same, or if it varies across countries and Continents.

One other limitation regarding the sample is the low number of answers obtained from some European countries, and particularly, from countries outside the European Union. Therefore, it would be important to compare European regions using data from all European countries and using a larger sample from non EU members. Moreover, we must take into account that different countries have different particularities in what concerns the HE system. Thus, it would also be important to study these aspects in the European context.

Studying other work-related attitudes in the context of HE would also be highly relevant. Moreover, it would be important to continue studying the influence of personal and academic characteristics on the perception of IMO, MO and ISQ, as well as on the worker's job-related attitudes and behaviour, specifically in the HE context, since it is still understudied regarding these variables.

The greatest limitation regarding the evaluation of the relationships among IMO, MO, ISQ and the worker's attitudes and behaviour was the impossibility of evaluating all the variables in one model, due to fit problems. Therefore, the relationships among MO, IMO and ISQ varied in the five models proposed. However, we underline that, in all models, the results always indicate a positive influence of MO on IMO. Nevertheless, it would be important to test the model using different instruments in an attempt to verify if the fit problems persist and if the results are convergent with the ones obtained in this research.

Testing the proposed model in Public and Private HEI, separately, would also be relevant, since Private HEI usually have to raise their own financial resources and, therefore, they are expected to be more internal and external market oriented. We could not compare Private and Public HEI because the sample from Private HE was too small.

Further, we suggest the test of the proposed model in the HE context, at a later moment, in order to verify if both the direction and the strength of the proposed relationships remain. We also suggest the replication of the research in other cultural contexts, and in other service and sales organizations, in order to make comparisons and to verify the adequacy of the proposed model in other contexts. Moreover, it would be important to include different jobrelated attitudes in the model, such as Withdrawal intentions, Trust, Absenteeism or work-related Stress, for example. Also, it would be relevant to complete the quantitative analysis with qualitative evaluation. We think that case studies would complement and enrich the research on this topic.

In what concerns Web site quality evaluation - Chapter 5 -, the fact that Web sites were evaluated according to the user's perspective might have been a limitation, since the students that evaluated the Web sites belong to the same cultural context and, even, to the same HEI and class, so they might have a similar perspective on the characteristics of the evaluated Web sites.

We note that the use of OSN to maintain contact with co-workers - Chapter 6 - could have been more deeply evaluated. We slate the replication of the study considering the types of exchanges made with co-workers on OSN.

Regarding the two mentioned chapters, we must highlight the fact that the results concern the Portuguese context only. Therefore, it would be important to evaluate the Web site quality and the use of OSN to maintain contact with co-workers and their impact on the worker's attitudes and behaviours in other countries, so the results, if identical, can be generalized.

We emphasize the small amount of studies we found regarding ISQ, which alerts to the need of further research in this area. On the other hand, a few studies were found in the HE context, concerning this and the other variables included in the research, which suggests, as mentioned, that HE is still an understudied context.

It seems worth to refer that, during the data gathering - Chapter 2, 3 and 4 -, we found some resistance from the Lecturing staff that was invited to fill out the questionnaire we applied, who oppose to the implementation of typical business models to the area of HE, as Hemsley-Brown and Oplatka (2006) had previously noted. On the other hand, the Lecturing staff from some countries mentioned some difficulties in answering questions regarding IMO and JS. We realized that in some HEI, mainly in Greece, the Lecturing staff considers their work to be completely autonomous. However, the mentioned scales include questions related to supervision. Therefore, it would be important to use different instruments to evaluate these variables in HE. If no adequate scales are found, the scales should be adapted for the HE context, or new ones should be created.

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APPENDICES

APPENDIX A

SYNTHESIS OF THE REVIEWED STUDIES ON JP

| Author | Type of study | Sample | Performance dimensions proposed |
|----------------------------------|----------------------|---|--|
| (Borman & Motowidlo, 1997) | Literature review | | Contextual Performance (1) Persisting with enthusiasm and extra effort as necessary to complete own task activities successfully (2) Volunteering to carry out task activities that are not formally part of own job (3) Helping and cooperating with others (4) Following organisational rules and procedures (5) Endorsing, supporting, and defending organisational objectives |
| (Anderson, 1984) | Field study | Retail store employees (N - non specified) (USA) | (1) Knowledge and performance of duties (2) The use of judgment in carrying out the work (3) Promotion potential (4) Reliability and responsibility (5) Effectiveness in working with others |
| (Blau, 1993) | Field study | 174 bank tellers (USA) | (1) Productivity(2) Dollar shortages(3) Self-development |
| (Borman & Brush, 1993) | Literature review | | (1) Technical activities and the mechanisms of management (planning and organizing, technical proficiency, administration and paperwork, decision making, problem solving, staffing, monitoring and controlling resources, delegating, collecting and interpreting data) (2) Leadership and supervision (guiding, directing, motivating others and providing feedback, maintaining good work relationships, coordinating subordinates and other resources to get the job done) (3) Interpersonal dealing and communication (communicating effectively - oral and written -, representing the organisation to the public and clients, maintaining good working relationships, influencing others) |

| | | | (4) Useful personal behaviour and skills (persisting to reach goals, handling crisis and stress, organisational commitment) |
|---|-------------------------------|---|---|
| (Campbell, McHenry, & Lauress, 1990) | Field study | Army job incumbents (N - non specified) (USA) | (1) Core technical proficiency (2) General soldiering proficiency (3) Effort and leadership (4) Personal discipline (5) Physical fitness and military bearing |
| (Borman et al., 2001) | Literature review | | (1) Personal support (helping, cooperating, courtesy, motivating) (2) Organisational support (representing, loyalty, compliance) (3) Conscientious initiative (persistence, initiative, self-development) |
| (Chan & Schmitt, 2009) | Field study | 160 entry-level employees in administrative positions (Singapore) | (1) Core technical proficiency (2) Motivational performance (job dedication - motivations to perform, learn, and work hard) (3) Interpersonal performance (interpersonal facilitation - interpersonal conflict resolution, negotiation and teamwork and cooperation) |
| (Cheng et al., 2007) | Field study | 128 construction professionals (Hong Kong or Australia*) | (1) Task skills (knowledge that's relevant to work, quality of work, skills, judgment, experience, accuracy, accountability, efficiency and initiative) (2) Behaviour (honesty, personal care, punctuality, cooperation, attitude and fairness) (3) Self (gender, age, interests, creativity and reliability) (4) Management skills (guest relations, leadership, communication skills, interpersonal relations and planning) |
| (Conte & Gintoft, 2005) (Ng & Feldman, 2009) | Field study Literature review | 174 sales associates (USA) | (1) Sales performance (2) Costumer service (1) Core task performance (the basic required duties of a particular job: core task performance and performance in training programs) (2) Citizenship behaviour and creativity (3) Counterproductive performance (general counterproductive work behaviours, workplace aggression, substance use, tardiness and absenteeism) |
| (Fein, 2009) | Literature review | | (1) Job-specific task proficiency (the degree to which individuals can perform tasks central to their job) (2) Helping others (3) Displaying organisational |

conscientiousness

| | | | conscientiousness (4) Demonstration of effort (the degree that people commit themselves to all job tasks, work at high levels of intensity, and continue to work under adverse conditions) (5) Personal discipline (the extent that individuals refrain from negative performance behaviours such as excessive absenteeism and infractions of work rules) |
|---------------------------------------|----------------------|---|--|
| (Tett, Steele, & Beauregard, 2003) | Field study | 335 market research field representatives (USA) | (1) Organisational Skills (2) Technical Skills (3) Self-Motivation (4) Persuasiveness (5) Flexibility (6) Interpersonal Skills (7) Stress Tolerance |
| (van Woerkom & de Reuver, 2009) | Field study | 138 managers with different cultural backgrounds (Europe, Asia, North Africa and North America) | (1) Achievement(2) Competences mastered(3) Knowledge(4) Experience acquired(5) Personal development |
| (Williams & Hummert, 1990) | Field study | 9 clerical employees and 9 supervisors (N=18) (USA) | (1) Job knowledge (ability to adapt to new conditions, level of capability (skills), understanding of required duties, grasp of total job purpose) (3) Job performance (quantity of job performed, quality of job performed, consistency of job performed, safety) (3) Work relations (communication skills - written, oral; cooperation (works well with others)) (5) Personal characteristics (attendance; grooming) |
| (Coleman & Borman, 1999) | Literature review | | (1) Personal support (helping, cooperating) (2) Organisational support (endorsing, supporting and defending organisational objectives, following rules and procedures) (3) Job/task conscientiousness (persisting with enthusiasm and extra effort to complete activities successfully) |
| (Day & Silverman, 1989) | Field study | 43 employees of a medium-sized accounting firm (USA*) | (1) Potential for success (e.g., likelihood of becoming a manager in the firm); (2) Technical ability (e.g., understands technical aspects of the job); (3) Timeliness of work (e.g., completes work within time budgets); |

| | | | 4) Client relations (e.g., gains the confidence, respect and cooperation of clients); (5) Cooperation (e.g., demonstrates a positive and professional manner in working with personnel at all levels); (6) Work ethic (e.g., willing to work long hours and complete assigned tasks). |
|--|-------------|--------------------------------------|---|
| (Greenslade & Jimmieson, 2007) | Field study | 112 nurses (Australia) | (1) Technical care (2) Non job specific behaviours (duties that were commonly conducted by nurses but were felt to be outside the scope of nursing practice) (3) Providing informational support provision of emotional support to patients and their families (4) The provision of emotional support to patients and their families coordination of care among unit members (5) Behaviours that support the organisation (ex.: volunteering to assist on committees) (6) Behaviours that assist team members (interpersonal support) (7) Behaviours that assisted patients and their families (job-task support) (8) Coordination of care among unit members |
| (Hoffman & Woehr, 2009) | Field study | 404 managers (USA) | (1) Technical skills (decision making, judgment, analysis, planning and organizing) (2) Leadership skills (performance management, coaching, idealized influence, inspirational motivation, intellectual stimulation, influencing others, persuasiveness) (3) Interpersonal skills (confrontation effectiveness, sensitivity, team building, communication skills) |
| (Molefe, 2010) | Field study | 178 academics (South Africa) | (1) Knowledge (2) Organisational skills (3) Assessment procedures (4) Subject relevance (5) Utility of assignments (6) Student-lecturer relations (7) Communication skills |
| (Salgado, Moscoso, & Lado, 2003) | Field study | 118 middle-level managers (Spain) | (1) Job knowledge (2) Efficiency (3) Problem-solving (4) Ability (5) Leadership (6) Job-adaptability (7) Interpersonal relationships |

| | | | (8) Level of aspiration(9) Initiative(10) Attitude |
|--|---|--|---|
| (Viswesvaran, Schmidt, & Ones, 2005) | Literature review | | (1) Administrative competence (2) Quality (4) Productivity (5) Job knowledge (6) Interpersonal competence (7) Effort (8) Leadership (9) Compliance/acceptance of authority (10) Communication competence |
| (Wang, Law, & Chen, 2008) | Field study | 168 supervisor- subordinate dyads (Republic of China) | (1) Provides first-class services to the customers (2) Satisfies all customers' needs (3) Fulfills the requirements of the (4) Position (5) Interpersonal facilitation (6) Job dedication (7) Provides realistic suggestions for work improvements (8) Possesses the capability to adapt to different types of work (9) Tries to use different ways to solve problems during work (10) Does his/her best to avoid errors |
| (Hogan, Rybicki, Motowildo, & Borman, 1998) | Field study | 214 entry level workers (USA) | (1) Work dedication (being accountable, following rules and procedures, listening to supervision) (2) Interpersonal facilitation (communication with and assisting coworkers) |
| (Gibbons, Rupp, Snyder, Holub, & Woo, 2006) | Field study | 139 managers (USA) | (1) Planning and organisation (2) Oral communication (3) Written communication (4) Leadership (5) Problem solving (6) Conscientiousness |
| (Gibbons, Rupp, Kim & Woo, 2006) | | 317 managers (Korea) | (7) Team work (8) Interpersonal and relational skills (9) Motivation (10) Conflict management/resolution (11) Information seeking (12) Persuasiveness (13) Listening (14) Creativity (15) Adaptability (16) Stress tolerance (17) Readiness to develop (18) Fairness (19) Emotion management (20) Cultural adaptability |
| (Mumford et al., 2005) (Dess & Shaw, 2001) | Documenta ry study Literature review | 499 scientists obituaries | (1) Creativity(2) InnovationStrong network of relationships(having access to both information |

and resources for their employing organisation, attracting other highperforming workers, and maintaining strong network ties to external stakeholders) (Sparrowe, Field study 190 employees in (1) Social network centrality 38 work groups, Liden, Wayne, & Kraimer, from several 2001) types of organisations (USA*) (van Literature (1) Decision quality when working in Knippenberg, review De Dreu, & (2) Creativity when working in Homan, 2004) groups (3) Innovation when working in groups (Wright & Field study 50 Human service (1) Support Hobfoll, 2004) counselors (2) Goal emphasis (3) Team building (USA*) (4) Work facilitation (Wisecarver, Field study 188 active duty (1) Teaching others (2) Building effective relationships enlisted Carpenter, & noncommissioned with indigenous people Kilcullen, 2007) officers assigned (3) Using and enhancing language to Special Forces skills (4) Planning and preparing for (USA) missions (5) Decision making (6) Confronting physical and environmental challenges (7) Navigating in the field (8) Being safety conscious (9) Administering first aid and responding to life-threatening situations (10) Managing administrative duties (11) Troubleshooting and solving problems (12) Handling interpersonal situations (13) Contributing to the team effort and morale (14) Displaying honesty and integrity

APPENDIX B

(15) Showing initiative and effort

TASK PERFORMANCE DIMENSIONS FOUND AFTER THE LITERATURE REVIEW

| AUTHOR | TASK PERFORMANCE DIMENSION | DEFINITION |
|--|----------------------------------|---|
| (Anderson, 1984) (Day & Silverman, 1989) (Campbell et al., 1990) | Job knowledge | Behaviours that reflect the degree to which individuals have the knowledge and abilities that are relevant to their job |

(Williams & Hummert, 1990) (Blau, 1993) (Borman & Brush, 1993) (Salgado et al., 2003) (Tett, Steele, & Beauregard, 2003) (Viswesvaran et al., 2005) (Cheng et al., 2007) (Greenslade & Jimmieson, 2007) (Wang et al., 2008) (Chan & Schmitt, 2009) (Fein, 2009) (Hoffman & Woehr, 2009) (Ng & Feldman, 2009) (van Woerkom & de Reuver, 2009) (Molefe, 2010) (Day & Silverman, 1989) (Borman & Brush, 1993) (Tett, Steele, & Beauregard, 2003) (Salgado et al., 2003) Behaviours that reflect skills which are (Viswesvaran et al., 2005) relevant to the organisation of work, such as (Gibbons, Rupp, Snyder, et al., Organisation planning and organizing, problem solving, 2006) skills monitoring and controlling resources and (Gibbons, Rupp, Kim & Woo, meeting deadlines in order to get the job 2006) done. (Cheng et al., 2007) (Greenslade & Jimmieson, 2007) (Wisecarver et al., 2007) (Hoffman & Woehr, 2009) (Molefe, 2010) (Williams & Hummert, 1990) (Blau, 1993) (Salgado et al., 2003) Behaviours that reflect the degree to which (van Knippenberg et al., 2004) individuals efficiently perform tasks that are Efficiency (Conte & Gintoft, 2005) central to their job (Viswesvaran et al., 2005) (Cheng et al., 2007) (Wang et al., 2008)

APPENDIX C

CONTEXTUAL PERFORMANCE DIMENSIONS FOUND AFTER THE LITERATURE REVIEW

| AUTHOR | CONTEXTUAL PERFORMANCE DIMENSION | DEFINITION |
|---|----------------------------------|----------------------------|
| (Campbell et al., 1990) (Borman & Brush, 1993) | | |
| (Borman & Motowidlo, 1997) (Coleman & Borman, 1999) | Persistent effort | |
| (Walter C. Borman et al., 2001) (Viswesvaran et al., 2005) | (merged with personal | Persistence to reach goals |
| (Gibbons, Rupp, Snyder, et al., 2006) | characteristics) | |
| (Gibbons, Rupp, Kim & Woo, 2006) | | |

(Wisecarver et al., 2007) (Fein, 2009) (Anderson, 1984) (Day & Silverman, 1989) (Williams & Hummert, 1990) (Walter C. Borman & Motowidlo, 1997) (Hogan et al., 1998) (Coleman & Borman, 1999) (Walter C. Borman et al., 2001) Effectiveness in working with others Extra task execution (Wright & Hobfoll, 2004) Cooperation (Gibbons, Rupp, Snyder, et al., Helping others 2006) (Gibbons, Rupp, Kim & Woo, 2006) (Cheng et al., 2007) (Wisecarver et al., 2007) (Greenslade & Jimmieson, 2007) (Chan & Schmitt, 2009) (Fein, 2009) (Anderson, 1984) (Williams & Hummert, 1990) Personal discipline (the extent to which (Borman & Brush, 1993) individuals refrain from negative performance (Borman & Motowidlo, 1997) behaviours, such as excessive absenteeism and (Hogan et al., 1998) Organisational infractions of work rules and procedures) (Coleman & Borman, 1999) conscientiousness (Walter C. Borman et al., 2001) (Viswesvaran et al., 2005) Compliance (Cheng et al., 2007) (Greenslade & Jimmieson, 2007) (Fein, 2009) (Ng & Feldman, 2009) (Campbell et al., 1990) (Borman & Brush, 1993) (Borman et al., 2001) (Tett, Steele, & Beauregard, 2003) (Salgado et al., 2003) (Campbell et al., 1990) Initiative (Viswesvaran et al., 2005) Motivation to perform, to learn (information (Gibbons, Rupp, Snyder, et al., Personal seeking) and to work hard 2006) characteristics Creativity and innovation (Gibbons, Rupp, Kim & Woo, (merged with Adaptability 2006) persistent effort) Stress tolerance (Cheng et al., 2007) (Wisecarver et al., 2007) (Wang et al., 2008) (Ng & Feldman, 2009) (Chan & Schmitt, 2009) (van Woerkom & de Reuver, 2009) (Mumford et al., 2005) (Day & Silverman, 1989) (Williams & Hummert, 1990) (Walter C. Borman & Brush, 1993) (Hogan et al., 1998) (Walter C. Borman et al., 2001) (Dess & Shaw, 2001) Communication skills - oral and written (Tett, Steele, & Beauregard, Conflict resolution Interpersonal and Negotiation 2003) relational skills (Salgado et al., 2003) Influencing others (Viswesvaran et al., 2005) Social network (Gibbons, Rupp, Snyder, et al.,

2006)

(Gibbons, Rupp, Kim & Woo, 2006) (Wisecarver et al., 2007) (Cheng et al., 2007) (Chan & Schmitt, 2009) (Hoffman & Woehr, 2009) (Molefe, 2010)

APPENDIX D FINAL JP SCALE

Instructions

"In order to complete the following questionnaire, you must be employed for, at least, 6 months, in an organisation that has, leastways, four workers. Below are some statements regarding how you normally act in your job. When answering, consider the last 6 months to 1 year of work as a reference point. If any of the questions does not apply to your actions during this time, consider how you would normally act in your current job. 'Organisation' refers to the institution you work for. When you see the expression 'other workers', consider all the workers, regardless of their position in the organisation. Keep in mind that this questionnaire is completely anonymous and confidential and that there are no right nor wrong answers. Please indicate the best answer to each of the following statements, given that '1' means 'strongly disagree', '2' means' disagree', '3 'means' somewhat disagree', '4 'means 'neither agree nor disagree', '5' means 'somewhat agree', '6 'means' agree 'and '7' means 'strongly agree'."

TASK PERFORMANCE

If I need to perform a task that I'm not familiar with, I seek for information that allows me to perform it better.

JOB KNOWLEDGE

I don't think I could execute my tasks effectively if I didn't have a certain amount of experience.

The way I perform the basic tasks required in my job is not always in agreement with what I'm capable of doing. ®

The way I perform the basic tasks required in my job corresponds completely to the performance that the organisation where I work asks from me.

When I have a deadline to perform a certain task, I always finish it on time.

It is not always easy for me to perform tasks on time. ®

ORGANISATIONAL SKILLS If I had to perform a task in conjunction with other workers, I would probably be responsible for the planning, organizing and monitorising of the work to be done.

I always leave my tasks to the last minute. ®

I am always aware when there is a lack of the resources (material or human) needed for the efficient performance of the organisation.

I consider myself a fundamental worker to the organisation I work for, due to the high quality of my performance.

EFFICIENCY

Receiving feedback (from my subordinates, my colleagues, my supervisor or from the organisation) is fundamental in order for me to continue performing my duties with dedication. ®

Sometimes, I feel disappointed with my performance at work, because I know I could have done better. ®

CONTEXTUAL PERFORMANCE

When something is not right at work, I don't complain because I am afraid that

others won't agree with me. ®

PERSISTENT EFFORT

Usually, I take the initiative to give constructive feedback in order to improve the performance of other workers (subordinates, colleagues, supervisor or

workgroups).

In the event the organisation did not provide the training that I consider necessary to perform my duties effectively, I would seek information from

other sources

I'm still able to perform my duties effectively when I'm working under pressure. As soon as I arrive at work, I set aside all my personal problems, so that my

performance is not harmed.

Usually, I dedicate less effort to work when performing a task in conjunction **COOPERATION**

with other people. ®

I am always willing to assist other workers from the organisation, even when I

don't have much time available.

Usually, I also perform tasks that are not related to my specific duties.

Frequently, I arrive late at work. ®

ORGANISATIONAL **CONSCIENCIOUSNESS** It's really difficult for me to miss work, even when I'm feeling sick.

I would never adopt actions that could harm the well-being of the other

workers.

When I think that the goals of the organisation conflict with my personal goals,

my dedication to work decreases. ®

I take my job really seriously, so I always comply with the rules and procedures imposed (by my supervisor or by the organisation), even when no one is around. My communication skills are so good that I'm always able to capture everyone's

attention.

INTERPERSONAL AND RELATIONAL **SKILLS**

Communication inside organisations, even in workgroups, is fundamental so

that people can perform their tasks effectively.

When I write a message to others (other workers or students) I feel a certain

difficulty in expressing what I'm thinking. ®

When someone has a different opinion from mine, I usually convince them that

my opinion is the best.

APPENDIX E QUESTIONNAIRE REGARDING MO, IMO, ISQ AND THE WORKER'S ATTITUDES AND BEHAVIOUR

The following questionnaire was developed with the purpose of studying internal market orientation and market orientation in the context of Higher Education, and also to evaluate the impact of these variables on the worker's attitudes and behaviours and on internal service quality.

When completing the questionnaire, you should take into account that:

- 1. Most questions were designed to be answered through an intensity scale that characterizes the perception/opinion about a certain matter.
- 2. The person answering the questionnaire must be teaching in a Higher Education Institution.
- 3. The person answering the questionnaire must have a global vision of the institution.
- 4. It is very important to answer all questions, so that the questionnaire can be valid for statistical treatment.
- 5. There are no correct or incorrect answers. The goal is to know your opinion.
- 6. The answers are completely confidential and anonymous.

Internal market orientation (1/7)

Below, there are some questions about the degree to which the Higher Education Institution you work for is committed to create value for its workers. Tick the best answer considering that 1 means 'strongly

disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. This institution emphasizes on understanding our needs.
- 2. My supervisor sees that we all meet regularly so that we have the chance to say what we expect from the institution.
- 3. At least once per year, we fill in questionnaires regarding our needs and wants from the institution.
- 4. Our management seeks to find out what competitors do to keep their workers satisfied.
- 5. Assessing our job satisfaction is an important task for our supervisor.
- 6. This institution is informed on legal development in the labor market.
- 7. This institution is aware of employment rates in the Higher Education field.
- 8. This institution is informed about new jobs created in other fields that could attract workers from this institution.
- 9. This institution is systematically analysing the working conditions of workers working in competition.
- 10. In this institution workers are identified in groups based on our individual characteristics and needs.
- 11. Before any policy change is introduced our individual characteristics have always been considered in advance.
- 12. All workers are treated exactly the same way. Individual needs are ignored.
- 13. Our individual needs are systematically assessed in this institution.
- 14. Every important decision regarding human-resource policies is always adapted according to our individual needs.
- 15. Specific human-resource policies are always considered for specific groups of workers with a common set of needs.
- 16. No action is ever taken unless its impact on specific groups of workers with common needs is evaluated.
- 17. The human-resource related policies apply to everyone. Individual needs are never considered.
- 18. Before any policy change, my supervisor informs me phase-to phase in advance.
- 19. My supervisor is sincerely listening about the problems I have doing my job.
- 20. My supervisor is sincerely concerned about personal problems I have that may affect my performance.
- 21. My supervisor is never too busy to talk with me when I need him/her.
- 22. My supervisor spends time informing me about my tasks, my objectives and to reach an agreement with me.
- 23. The supervisors in this institution meet regularly to discuss subordinates' problems and listen to what the other supervisors have to say.
- 24. If a worker in this institution is faced with a serious problem, the supervisors from other departments will become aware of it in no-time.
- 25. This institution encourages our supervisors to meet and discuss among them issues concerning their subordinates.
- 26. In many occasions, the solution to a problem I had came from a supervisor from a different department, not from my direct supervisor.
- 27. My job description allows me to satisfy my personal needs and goals through my work.
- 28. Nothing has ever been assigned to me unless my supervisor and I had agreed that I could really do it.
- 29. The tasks I am assigned with help me to advance my career with this institution.

- 30. My supervisor is expected to justify my job description and the tasks I am assigned with to higher levels of management.
- 31. When I do something extraordinary I know that I will receive some financial bonus/reward.
- 32. My income and the annual increases are dependent only on the Union's bargaining with the employers side.
- 33. My income and the annual increases are very closely tied to my qualifications and my performance.
- 34. Everyone gets an annual bonus regardless of their performance.
- 35. My income and the annual increases are much related to those of people with similar qualifications working in this or any other field.
- 36. The management of this institution is really indifferent to our problems.
- 37. Nothing is too expensive for our management if this would satisfy specific needs of specific groups of workers
- 38. The management is really considering about our individual needs and makes policies that reflect it.
- 39. The management is resolved to solving our problems and giving us all required support necessary for our job.
- 40. In this institution, training is closely related to the individual needs of each worker. Massive training seminars are avoided when possible.
- 41. A newly hired worker will have to find his own answers to the requirements of the job.
- 42. Before the implementation of a major change in service rules, we always get significant training regarding its impact on our daily activities and job description.
- 43. If one is moved from one department to another, the new supervisor will personally train him/her for a pre-specified period of time.

If you didn't answer to one or more questions, please specify your motives.

Market orientation (2/7)

Below, there are some questions regarding the extent to which the Higher Education Institution you work for meets the students' needs. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. The institution measures students' satisfaction every academic year.
- 2. The institution cares about students' well being.
- 3. The institution understands the needs of students.
- 4. Complaints by students are dealt with guickly.
- 5. The complaints procedure is easy for students to access.
- 6. The complaints procedure is easy for students to understand.
- 7. Students are given information that helps them to understand what to expect from this institution.
- 8. Staff in this institution is eager to support students and go beyond their role definition.
- 9. Students' feedback on their experiences influences the teaching and learning process.
- 10. Staff is attentive to students' concerns.
- 11. We encourage students to offer constructive positive comments.
- 12. Staff is regularly provided with information about students' views and experiences.
- 13. The institution understands what kind of teaching and learning the students value most.

- 14. We encourage students to offer constructive negative feedback.
- 15. Responding to students' needs is my major task.
- 16. A good teacher is one whose students are happy and satisfied.
- 17. The institution meets and goes beyond the promises it makes to students.
- 18. Senior staff promotes the spirit of customer orientation and focus.
- 19. This institution compares favourably with other universities in meeting students' needs.
- 20. Information about what my colleagues in other Higher Education Institutions are doing helps me in my role.
- 21. Senior managers often refer to the actions of other Higher Education Institutions. *
- 22. The majority of staff takes an interest in what's going on in other Higher Education Institutions.
- 23. This institution usually responds positively to new initiatives and developments in other Higher Education Institutions.
- 24. This institution understands the needs of students better than other Higher Education Institutions.
- 25. In meetings we discuss information about students' concerns in order to make improvements.
- 26. Academics help to attract prospective students.
- 27. Academic staff cooperates to promote the institution's image.
- 28. Administrative staff cooperates to promote the institution's image.
- 29. All faculties and departments contribute to the marketing of the institution.
- 30. The guiding light in curriculum development or new initiatives is the demands of the students.
- 31. Marketing information is discussed and shared with academic staff.
- 32. Current students are always central to decision-making in this institution.

Job Satisfaction (3/7)

Each of the statements below is something that a person might say about his/her job. You are to indicate your own personal feelings about your job by marking how much you agree with each of the statements. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. Generally speaking, I am very satisfied with this job.
- 2. I am generally satisfied with the kind of work I do in this job.
- 3. I frequently think of quitting this job.

Now please think of the other people in your organisation who hold the same job you do. If no one has exactly the same job as you, think of the job which is most similar to yours. Please think about how accurately each of the statements describes the feelings of those people about the job. It is quite alright if your answers here are different from when you described your own reactions to the job. Often different people feel quite differently about the same job.

- 4. Most people in this job are very satisfied with this job.
- 5. People on this job often think of quitting.

Now please indicate how you personally feel about your job. Each of the statements below is something that a person might say about his/her job. You are to indicate your own personal feelings about your job by marking how much you agree with each of the statements.

- 6. My opinion of myself goes up when I do this job well.
- 7. I feel a great sense of personal satisfaction when I do this job well.
- 8. I feel bad and unhappy when I discover that I have performed poorly on this job.
- 9. My own feelings generally are not affected much one way or the other by how well I do on this job.

Now please think of the other people in your organisation who hold the same job you do. If no one has exactly the same job as you, think of the job which is most similar to yours. Please think about how accurately each of the statements describes the feelings of those people about the job. It is quite alright if your answers here are different from when you described your own reactions to the job. Often different people feel quite differently about the same job.

- 10. Most people on this job feel a great sense of personal satisfaction when they do the job well.
- 11. Most people on this job feel bad or unhappy when they find that they have performed the work poorly.

Now please indicate how satisfied you are with each aspect of your job listed below. Tick the best answer given that 1 means 'extremely dissatisfied', 2 means 'dissatisfied', 3 means 'slightly dissatisfied', 4 means 'neutral', 5 means 'slightly satisfied', 6 means 'satisfied' and 7 means 'extremely satisfied'.

- 12. The amount of personal growth and development I get in doing my job.
- 13. The feeling of worthwhile accomplishment I get from doing my job.
- 14. The amount of independent thought and action I can exercise in my job.
- 15. The amount of challenge in my job.
- 16. The amount of security I have.
- 17. How secure things look for me in the future in this organisation.
- 18. The amount of pay and fringe benefits I receive.
- 19. The degree to which I am fairly paid for what I contribute to this organisation.
- 20. The people I talk to and work with on my job.
- 21. The chance I get to know other people while on the job.
- 22. The chance to help other people while at work.
- 23. The degree of respect and fair treatment I receive from my supervisor.
- 24. The amount of support and guidance I receive from my supervisor.
- 25. The overall quality of the supervision I receive in my work.

Work Motivation (4/7)

Please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'. WHY DO YOU DO YOUR WORK?

- 1. Because this is the type of work I chose to do to attain a certain lifestyle.
- 2. For the income it provides me.
- 3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.
- 4. Because I derive much pleasure from learning new things.
- 5. Because it has become a fundamental part of who I am.
- 6. Because I want to succeed at this job, if not I would be very ashamed of myself.
- 7. Because I chose this type of work to attain my career goals.
- 8. For the satisfaction I experience from taking on interesting challenges.
- 9. Because it allows me to earn money.
- 10. Because it is part of the way in which I have chosen to live my life.
- 11. Because I want to be very good at this work, otherwise I would be very disappointed.
- 12. I don't know why, we are provided with unrealistic working conditions.
- 13. Because I want to be a "winner" in life.
- 14. Because it is the type of work I have chosen to attain certain important objectives.
- 15. For the satisfaction I experience when I am successful at doing difficult tasks.
- 16. Because this type of work provides me with security.
- 17. I don't know, too much is expected of us.
- 18. Because this job is a part of my life.

Organisational Commitment (5/7)

Below, there are some questions regarding how you feel about the institution you work in. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. I would be very happy to spend the rest of my career with this institution.
- 2. I enjoy discussing my institution with people outside it.
- 3. I really feel as if this institution's problems are my own.
- 4. I think that I could easily become as attached to another institution as I am to this one.
- 5. I do not feel like 'part of the family' at my institution.
- 6. I do not feel like 'emotionally attached' to this institution.
- 7. This institution has a great deal of personal meaning to me.
- 8. I do not feel a strong sense of belonging to my institution.
- 9. I think that people these days move from company to company too often.
- 10. I do not believe that a person must always be loyal to his or her institution.
- 11. Jumping from institution to institution does not seem at all unethical to me.
- 12. One of the major reasons I continue to work in this institution is that I believe loyalty is important and therefore feel a sense of moral obligation to remain.
- 13. If I got another offer for a better job elsewhere I would not feel it was right to leave my institution.
- 14. I was taught to believe in the value of remaining loyal to one organisation.
- 15. Things were better in the days when people stayed in one institution for most of their careers.
- 16. I do not think that to be a 'company man' or 'company woman' is sensible anymore.
- 17. I am not afraid of what might happen if I quit my job without having another one lined up.

- 18. It would be very hard for me to leave my institution right now, even if I wanted to.
- 19. Too much in my life would be disrupted if I decided to leave my institution now.
- 20. It wouldn't be too costly for me to leave my institution now.
- 21. Right now, staying with my institution is a matter of necessity as much as desire.
- 22. I feel that I have very few options to consider leaving this institution.
- 23. One of the few serious consequences of leaving this institution would be the scarcity of available alternatives
- 24. One of the major reasons I continue to work for this institution is that leaving would require considerable personal sacrifice—another institution may not match the overall benefits I have here.

Job Performance (6/7)

Below are some statements regarding how you normally act in your job. When answering, consider the last 6 months to1 year of work as a reference point. If any of the questions does not apply to your actions during this time, consider how you would normally act in your current job. 'Organisation' refers to the institution you work for. When you see the expression 'other workers', consider all the workers of the organisation, regardless of their position in the organisation. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. I possess the required knowledge to perform the duties that are assigned to me.
- 2. If I need to perform a task that I'm not familiar with, I seek for information that allows me to perform it better.
- 3. The way I perform the basic tasks required in my job is in agreement with the knowledge I possess.
- 4. When I pay attention to the work done by others who have functions similar to mine, I realize that the knowledge I have about my job is significantly higher than theirs.
- 5. I don't think I could execute my tasks effectively if I didn't have a certain amount of experience.
- 6. Frequently, I am able to solve problems, in order to improve the performance of my workgroup or the performance of the organisation I work for.
- 7. When I encounter a problem, usually I can solve it.
- 8. It is not always easy for me to perform tasks on time.
- 9. When I have a deadline to perform a certain task, I always finish it on time.
- 10. I consider myself an organized worker.
- 11. If I had to perform a task in conjunction with other workers, I would probably be responsible for the planning, organizing and monitorizing of the work to be done.
- 12. I always leave my tasks to the last minute.
- 13. I am always aware when there is a lack of the resources (material or human) needed for the efficient performance of the organisation.
- 14. I possess the skills required to perform the basic tasks that are assigned to me.
- 15. The way I perform the basic tasks required in my job is in agreement with the skills I possess.
- 16. When I pay attention to the work done by others who have functions similar to mine, I realize that the skills I show, when performing my duties, are significantly higher than theirs.
- 17. The way I perform the basic tasks required in my job is not always in agreement with what I'm capable of doing.

- 18. The way I perform the basic tasks required in my job corresponds completely to the performance that the organisation where I work asks from me.
- 19. Sometimes, I feel disappointed with my performance at work, because I know I could have done better.
- 20. I consider myself a fundamental worker to the organisation I work for, due to the high quality of my performance.
- 21. I always perform my duties with great efficiency.
- 22. When I pay attention to the work done by my colleagues, I realize that my tasks are always executed with higher quality.
- 23. My work is always performed with such quality that it contributes highly to the efficiency of the organisation.
- 24. Receiving feedback (from my subordinates, my colleagues, my supervisor or from the organisation) is fundamental in order for me to continue performing my duties with dedication.
- 25. Even when I'm feeling tired, I still make an effort to finish my tasks.
- 26. Usually, I dedicate less effort to work when performing a task in conjunction with other people.
- 27. When other workers have a problem, they usually ask for my help in order to solve it, because they know they can always count on me.
- 28. I am always willing to assist other workers from the organisation, even when I don't have much time available.
- 29. Usually, I also perform tasks that are not related to my specific duties.
- 30. Frequently, I arrive late at work.
- 31. It's really difficult for me to miss work, even when I'm feeling sick.
- 32. I would never adopt actions that could harm the well-being of the other workers.
- 32. I would never adopt actions that could damage the efficacy or the image of the organisation.
- 34. When I think that the goals of the organisation conflict with my personal goals, my dedication to work decreases.
- 35. I take my job really seriously, so I always comply with the rules and procedures imposed (by my supervisor or by the organisation), even when no one is around.
- 36. When something is not right at work, I don't complain because I am afraid that others won't agree with me.
- 37. Usually, I take the initiative to give constructive feedback in order to improve the performance of other workers (subordinates, colleagues, supervisor or workgroups).
- 38. In the event the organisation did not provide the training that I consider necessary to perform my duties effectively, I would seek information from other sources.
- 39. Normally, I go to work with a sense of excitement and ready to accept new challenges. *
- 40. Even when I'm feeling low, I feel like performing my duties.
- 41. If necessary, I work extra hours in order to finish a task on time.
- 42. Often, I find innovative or creative ways to perform my duties or to solve problems.
- 43. When there are changes in the organisation or in my job, I immediately feel that I am able to meet the new requirements.
- 44. I'm still able to perform my duties effectively when I'm working under pressure.
- 45. As soon as I arrive at work, I set aside all my personal problems, so that my performance is not harmed.

- 46. My communication skills are so good that I'm always able to capture everyone's attention.
- 47. Communication inside organisations, even in workgroups, is fundamental so that people can perform their tasks effectively.
- 48. When I try to pass a message (orally) to others (other workers or students), I feel that my point of view was understood.
- 49. When I write a message to others (other workers or students) I feel a certain difficulty in expressing what I'm thinking.
- 50. Frequently, when other workers have a conflict, I try my best to help them solve it.
- 51. When someone has a different opinion from mine, I insist that we talk in order to reach a consensus.
- 52. When someone has a different opinion from mine, I usually convince them that my opinion is the best.
- 53. The other workers see me as an example to follow, in regard to how I perform my duties.
- 54. I try to establish and keep relationships with people, in and/or out of the organisation, so they can contribute to increase my own knowledge and, therefore, improve my performance at work.
- 55. The relationships I maintain at work are so good that I hardly ever have conflicts.

Internal Service Quality (7/7)

Now, please rate your overall perception of internal service quality, in what concerns the institution you work in. Tick the best answer considering that 1 means 'strongly disagree', 2 means 'disagree', 3 means 'slightly disagree', 4 means 'neither agree nor disagree', 5 means 'slightly agree', 6 means 'agree' and 7 means 'strongly agree'.

- 1. My coworkers provide the service that is promised.
- 2. My coworkers are dependable for handling my problems.
- 3. My coworkers perform services right the first time, to avoid having to make corrections later.
- 4. My coworkers provide correct and necessary information.
- 5. My coworkers are reliable.
- 6. I can trust my coworkers.
- 7. I feel safe in dealing with my coworkers.
- 8. My coworkers are polite and kind.
- 9. My coworkers are knowledgeable.
- 10. We have up-to-date equipment
- 11. The working environment is comfortable and attractive.
- 12. My coworkers have a neat, professional appearance.
- 13. The materials used in the workplace are visually appealing.
- 14. My coworkers are sincerely concerned about my problems.
- 15. We have convenient working hours.
- 16. My coworkers give me individual attention.
- 17. My coworkers seem to have each other's best interests in mind.
- 18. My coworkers are sensitive to my work-related needs.
- 19. My communication with coworkers is appropriate, accurate and clear.
- 20. My coworkers respond quickly and efficiently to my request.

21. My coworkers are willing to help me.

22. My coworkers are willing to accommodate special requests and needs.

APPENDIX F REQUEST SENT TO HEI

Dear Sir/Madam,

I would appreciate the divulgation of the following message to all the Lecturing Staff in the institution. Thank you for your consideration.

Yours faithfully,

Vera S. Carlos

Dear Professor,

I'm a Ph.D. student in Business Administration, at the University of Beira Interior, in Portugal, and I am developing my thesis entitled *Internal market orientation and market orientation in Higher Education Institutions - Implications on worker's attitudes and behaviours and on Internal service quality*.

I'm studying Internal Market Orientation and Market Orientation in the context of Higher Education, and also the impact of these variables on the worker's attitudes and behaviors - in the work environment - and on internal service quality.

I am asking Lecturing Staff to participate in my research. I stress that it is addressed to anyone who is lecturing in Higher Education, regardless of the field of training or expertise.

The data gathered is completely anonymous and confidential. To fill out the questionnaire, you have to access the link below.

https://docs.google.com/forms/d/1kTgd8bZOOoXFw00auLeR6M6LTHgSuuvAnpDD31WGQDk/viewform Your collaboration would be of the utmost importance to my investigation. Thank you for your consideration.

Yours faithfully, Vera Silva Carlos

Ph.D. Advisor: Professor Ricardo Gouveia Rodrigues

Contact: rgrodrigues@ubi.pt

Webpage: https://www.ubi.pt/SSL/Pagina_Pessoal.aspx?id=rjagr

University Webpage: https://www.ubi.pt/Index.aspx

APPENDIX G

INDIVIDUAL REQUEST SENT TO THE LECTURING STAFF

Dear Professor,

I'm a Ph.D. student in Business Administration, at the University of Beira Interior, in Portugal, and I am developing my thesis entitled *Internal market orientation and market orientation in Higher Education Institutions - Implications on worker's attitudes and behaviours and on Internal service quality.*

I'm studying Internal Market Orientation and Market Orientation in the context of Higher Education, and also the impact of these variables on the worker's attitudes and behaviors - in the work environment - and on internal service quality.

I am asking Lecturing Staff to participate in my research. I stress that it is addressed to anyone who is lecturing in Higher Education, regardless of the field of training or expertise.

The data gathered is completely anonymous and confidential. To fill out the questionnaire, you have to access the link below.

https://docs.google.com/forms/d/1kTgd8bZOOoXFw00auLeR6M6LTHgSuuvAnpDD31WGQDk/viewform Your collaboration would be of the utmost importance to my investigation. Thank you for your consideration.

Yours faithfully, Vera Silva Carlos

Ph.D. Advisor: Professor Ricardo Gouveia Rodrigues

Contact: rgrodrigues@ubi.pt

Webpage: https://www.ubi.pt/SSL/Pagina_Pessoal.aspx?id=rjagr

University Webpage: https://www.ubi.pt/Index.aspx

NOTE: If you don't lecture in Higher Education, please ignore this message. However, if possible, you could spread it to people that are in the lecturing area. Thank you for your consideration.

APPENDIX H

JS, OC, JP AND OCB SCALES - CHAPTER 6

Job satisfaction

Cada uma das afirmações seguintes é qualquer coisa que uma pessoa poderia dizer sobre o seu trabalho. Deve indicar os seus sentimentos pessoais acerca do seu trabalho assinalando o quanto concorda com cada afirmação. Quanto concorda com as seguintes afirmações?

- 1. No geral, estou muito satisfeito com este emprego.
- 2. No geral, estou satisfeito com o género de trabalho que faço neste emprego.
- 3. Penso frequentemente em despedir-me deste emprego. ®

Agora pense nas outras pessoas que estão na sua empresa e que tenham o mesmo emprego. Se ninguém tiver exactamente o mesmo emprego, pense naquele que é mais parecido com o seu. Pense, por favor,

acerca de quão precisa é cada uma das afirmações descreve os sentimentos dessa (s) pessoa (s) em relação ao (s) seu (s) emprego (s). Não há problema se as suas respostas forem diferentes às respostas que deu quando descreveu as suas próprias reacções ao seu emprego. É frequente que pessoas diferentes tenham diferentes sentimentos em relação ao mesmo emprego. Quanto é que concorda com as seguintes afirmações?

- 4. A maioria das pessoas neste emprego está muito satisfeita com o mesmo.
- 5. As pessoas neste emprego pensam frequentemente em demitir-se. ®

Agora indique, por favor, como se sente pessoalmente em relação ao seu emprego. Cada uma das afirmações abaixo descritas é algo que alguém poderia dizer acerca do seu emprego. Deve indicar os seus próprios sentimentos acerca do seu trabalho, indicando o quanto concorda com cada uma das afirmações. Quanto é que concorda com a afirmação?

- 6. A minha opinião acerca de mim próprio(a) é melhor quando faço bem o meu trabalho.
- 7. Sinto uma grande satisfação pessoal quando faço bem este trabalho.
- 8. Sinto-me mal e infeliz quando descubro que tive um desempenho pobre neste emprego.
- 9. Geralmente, os meus próprios sentimentos não são muito afectados de uma maneira ou de outra pela forma como eu faço o meu trabalho. ®

Pense, por favor, nas outras pessoas que estão na sua empresa e que tenham o mesmo emprego. Se ninguém tiver exactamente o mesmo emprego, pense naquele que é mais parecido com o seu. Pense, por favor, acerca de quão precisa é cada uma das afirmações descreve os sentimentos dessa(s) pessoa(s) em relação ao(s) seu(s) emprego(s). Não há problema se as suas respostas forem diferentes às respostas que deu quando descreveu as suas próprias reacções ao seu emprego. É frequente que pessoas diferentes tenham diferentes sentimentos em relação ao mesmo emprego. Quanto é que concorda com as seguintes afirmações?

- 10. A maioria das pessoas neste emprego sente uma grande satisfação pessoal quando faz bem o seu trabalho.
- 11. A maioria das pessoas neste emprego sente-se mal ou infeliz quando se apercebe de que teve um desempenho pobre neste trabalho.

Agora indique, por favor, quão satisfeito está com cada aspecto do seu emprego referido abaixo. Quão satisfeito está com este aspecto do seu trabalho?

- 12. A quantidade de crescimento e desenvolvimento pessoal que obtenho ao fazer o meu trabalho.
- 13. O sentimento de crescimento valioso que obtenho ao fazer o meu trabalho.
- 14. A quantidade de pensamento e acção independentes que consigo exercer no meu trabalho.
- 15. A quantidade de desafio no meu trabalho.

De seguida indique, por favor, o quão satisfeito está com cada aspecto do seu trabalho. Quão satisfeito está com cada aspecto do seu trabalho lista enumerado abaixo.

- 16. A quantidade de segurança que tenho no trabalho.
- 17. O quão seguras as coisas me parecem no futuro, nesta organização.
- 18. O montante de salário e compensações extra que recebo.
- 19. O grau em que sou pago de forma justa pelo que contribuo para esta organização.
- 20. As pessoas com quem eu falo e trabalho no meu emprego.
- 21. A oportunidade de conhecer outras pessoas no meu emprego.
- 22. A oportunidade de ajudar as outras pessoas no meu emprego.
- 23. O grau de respeito e tratamento justo que recebo do meu patrão.

- 24. A quantidade de apoio e orientação que recebo do meu supervisor.
- 25. A qualidade global da supervisão que recebo no meu trabalho.

Commitment

De seguida, deverá focar-nos no que significa para si ser um membro da organização onde trabalha. Algumas pessoas sentem-se meros empregados, que estão na empresa apenas para trabalhar muito, enquanto outras se sentem mais envolvidas pessoalmente na organização para a qual trabalham. Os seguintes itens expressam o que as pessoas podem sentir em relação a si mesmas como membros da organização onde trabalham. Indique, por favor, quanto concorda ou discorda de cada afirmação, tendo em conta que '1' significa 'discordo totalmente' e '7' significa 'concordo totalmente'.

- 1. Sinto-me completamente orgulhoso de poder dizer às pessoas para quem é que trabalho.
- 2. Às vezes sinto que devo deixar este emprego. ®
- 3. Não estou disposto a esforçar-me somente para ajudar a organização onde trabalho. ®
- 4. Mesmo que a organização não estivesse muito bem financeiramente, eu ficaria relutante em mudar para outra.
- 5. Sinto-me como parte da organização.
- 6. No meu trabalho gosto de sentir que estou a fazer algum esforço, não apenas por mim, mas também pela organização.
- A oferta de algum dinheiro a mais por parte de outra organização não me faria pensar seriamente em mudar de emprego.
- 8. Não recomendaria a um amigo próximo que se juntasse a esta organização. ®

Saber que o meu trabalho contribuiu para o bem da organização agradar-me-ia.

Organisational citizenship behaviours

(instruções não incluídas no artigo

- 1. Fico ansioso por contar a estranhos as boas novidades da minha empresa.
- 2. Estou disposto a pôr-me em causa para proteger a reputação da minha empresa.
- 3. Compareço activamente nas reuniões da minha empresa.
- 4. Não me importo de assumir trabalhos desafiantes.
- 5. Faço sugestões construtivas que podem melhorar a actividade da empresa.
- 6. Estou disposto a coordenar e a comunicar com colegas.
- 7. Levo a sério o trabalho e raramente cometo erros.
- 8. Frequentemente chego cedo e começo a trabalhar imediatamente.
- 9. Cumpro com as regras e com os procedimentos da empresa, mesmo quando ninguém está a assistir e nenhuma evidência pode ser rastreada.
- 10. Evito gastar muito tempo a queixar-me sobre assuntos triviais.
- 11. Estou disposto a ajudar os novos colegas a ajustarem-se ao novo ambiente de trabalho.
- 12. Estou disposto a ajudar os colegas a resolver assuntos relacionados com o trabalho.
- 13. Estou disposto a realizar tarefas de trabalho pelos meus colegas, quando necessário.
- 14. Apenas realizo tarefas necessárias.
- 15. Esforço-me para ser auto-didacta para aumentar a qualidade dos resultados do trabalho.
- 16. Evito acções que possam prejudicar os outros.
- 17. Evito prejudicar o direito das outras pessoas a recursos partilhados (incluindo ajuda clerical, material, etc.).

- 18. Não inicio acções antes de consultar as pessoas que podem ser afectadas.
- 19. Tento evitar criar problemas para os meus colegas.
- 20. Evito focalizar-me no que está errado com a situação dos outros.
- 18. Estou disposto a despender mais tempo, energia e a pedir mais apoio à organização, sobre as inovações valiosas (para o trabalho).

Job performance

(instruções não incluídas no artigo)

- Tenho estabelecido boas relações com muitas pessoas importantes dentro e fora da minha unidade de trabalho, e quando existem problemas persistentes sou, frequentemente, eu quem pode pedir auxílio a estas pessoas para a sua resolução.
- Normalmente, preocupo-me muito acerca dos assuntos (por exemplo, formação) relacionados com o desenvolvimento da nossa unidade de trabalho, a fim de ligar os trabalhadores que têm um potencial valioso.
- 3. Sou sensível quando existem conflitos entre os outros e adopto facilmente uma posição oposta de forma a conseguir soluções construtivas.
- 4. Frequentemente comunico as decisões importantes e o planeamento da nossa unidade de trabalho, mas se estiver ausente, as outras pessoas não conseguem pôr o plano em prática da forma como estava previsto anteriormente. ®
- 5. Quando comunicados por mim, o conhecimento, a experiência e as formas eficazes de fazer as coisas são, normalmente, aplicadas de forma inovadora pelos outros.
- 6. Se tenho ideias acerca da forma como executar determinadas tarefas, não permito que os outros as influenciem ®
- 7. Frequentemente, sou autorizado pelos líderes da organização ou colegas a completar tarefas com total autonomia e compromisso.
- 8. Espero que existam formas eficazes de monitorizar as acções dos outros quando realizam acções que não implicam uma recompensa directa. ®
- 9. Mesmo quando não tenho meios para monitorizar os meus colegas de trabalho, estou disposto(a) a entregar-lhes as tarefas chave.
- 10. Sinto-me mais inclinado para trabalhar com a minha unidade de trabalho quando posso adoptar vários papéis, e apreciar a tomada de decisão quando existe uma relação de total cooperação, e não uma intensa hierarquia organizacional.
- 11. A minha profissão é tão independente que, normalmente, não há necessidade de cooperar com os outros. ®
- 12. Mais de 60% das minhas realizações requerem a contribuição dos outros.
- 13. A recompensa pelo meu trabalho não tem relação com o que os outros fazem. ®
- 14. Se quero que alguém me substitua será difícil consegui-lo, dado que poucas pessoas podem ocupar o meu lugar na minha unidade de trabalho.
- 15. A maioria dos meus colegas consegue resolver problemas que não consigo. ®
- 16. Sinto-me inclinado a planear o trabalho e executá-lo da mesma forma que costumo fazer. ®
- 17. Sinto-me inclinado a discutir ideias de diferentes pontos de vista com o meu supervisor e colegas, mesmo aqueles que possam deixar-me em dúvida.

APPENDIX I

CORRELATION AND COVARIANCE MATRICES

CORRELATION MATRIX FOR THE MEASURE (IMO)

| ,596 ,551 ,562 ,466 ,404 ,395 ,574 ,590 | ,489 ,367 ,398 ,431 ,123 ,466 ,540 | ,333 ,336 ,496 ,401 ,434 ,040 ,312 | ,295 ,374 ,615 ,614 ,309 ,475 ,180 ,180 |
|--|--|--|--|
| ,492 ,440 ,440 ,448 ,273 ,273 ,201 ,310 ,498 ,498 ,432 3 | ,359 ,222 ,294 ,323 ,071 ,323 ,363 ,401 | ,254 ,270 ,292 ,292 ,251 ,245 ,072 ,365 ,385 | ,244 ,281 ,405 ,426 ,217 ,253 ,070 ,039 |
| ,551 ,564 ,640 ,640 ,499 ,362 ,381 ,500 ,496 ,590 | ,450 ,293 ,377 ,415 ,116 ,443 ,510 | , 10z , 444 , 348 , 400 , 323 , 339 , 099 , 474 , 332 | ,321 ,381 ,586 ,586 ,346 ,382 ,141 ,141 |
| 546 546 548 550 550 550 550 550 550 550 550 550 55 | ,550 ,423 ,519 ,538 ,090 ,415 ,471 | ,375 ,375 ,464 ,404 ,390 ,493 ,339 | ,327 ,390 ,588 ,598 ,325 ,410 ,177 |
| 340 302 330 339 339 345 358 358 358 358 310 3395 | ,330 ,228 ,292 ,348 ,006 ,255 ,334 | ,214 ,285 ,344 ,344 ,257 ,284 ,018 ,302 ,188 | ,116 ,274 ,365 ,325 ,325 ,135 ,135 ,217 ,217 ,133 ,016 ,219 |
| 310 ,290 ,302 ,375 ,532 ,532 ,532 ,584 ,302 ,362 ,201 ,404 | ,264 ,264 ,244 ,294 ,014 ,014 ,253 ,311 | ,0/4 ,192 ,284 ,312 ,312 ,228 ,319 ,046 ,289 ,187 | ,130 ,259 ,340 ,305 ,118 ,132 ,132 ,019 ,223 |
| ,391 ,422 ,419 ,578 ,578 ,532 ,459 ,398 ,499 ,273 | ,382 ,281 ,288 ,333 ,073 ,073 ,334 ,398 | ,068 ,275 ,344 ,376 ,321 ,329 ,064 ,358 | ,200 ,283 ,391 ,405 ,248 ,248 ,120 ,015 ,015 |
| 588 571 5588 5588 5578 5578 5578 550 550 640 640 9 | , 317 , 317 , 358 , 412 , 081 , 443 , 553 | , 065 , 390 , 367 , 404 , 334 , 323 , 102 , 483 , 332 | ,309 ,339 ,532 ,567 ,567 ,369 ,160 ,160 |
| ,607 ,607 ,588 ,419 ,302 ,302 ,330 ,489 ,400 ,506 | ,433 ,318 ,318 ,347 ,392 ,155 ,446 ,590 | ,341 ,346 ,359 ,359 ,359 ,359 ,359 ,359 ,340 ,460 | ,261 ,349 ,499 ,530 ,530 ,293 ,359 ,187 ,187 |
| ,627 ,607 ,571 ,422 ,290 ,302 ,302 ,546 ,546 ,430 ,430 | ,474 ,452 ,351 ,388 ,419 ,154 ,561 | ,044 ,356 ,317 ,426 ,408 ,408 ,342 ,112 ,112 ,112 ,483 ,321 | ,277 ,342 ,582 ,644 ,369 ,416 ,197 ,296 |
| ,627 ,667 ,588 ,391 ,310 ,340 ,623 ,551 ,492 ,492 ,596 | , 543 , 399 , 466 , 516 , 168 , 496 , 601 , 710 | , 345 , 345 , 470 , 450 , 397 , 397 , 397 , 393 , 325 | ,334 ,401 ,634 ,667 ,326 ,460 ,206 ,206 ,390 |
| ,710 ,659 ,597 ,553 ,410 ,276 ,276 ,301 ,560 ,575 ,401 ,575 | , 370 , 370 , 422 , 468 , 181 , 537 , 639 | ,026 ,414 ,356 ,431 ,429 ,429 ,364 ,121 ,121 ,507 ,377 | ,260 ,383 ,607 ,662 ,662 ,381 ,419 ,419 ,182 ,777 ,350 |
| ,601 ,549 ,590 ,500 ,398 ,311 ,311 ,334 ,471 ,510 ,540 | , 411 , 283 , 343 , 343 , 380 , 078 , 078 | ,345 ,347 ,347 ,393 ,397 ,347 ,340 ,089 ,089 ,440 | ,212 ,409 ,525 ,544 ,544 ,299 ,355 ,201 ,201 |
| ,496 ,561 ,446 ,443 ,334 ,253 ,255 ,415 ,443 ,323 ,323 | ,360 ,256 ,300 ,309 ,009 ,009 ,560 | ,321 ,321 ,286 ,365 ,341 ,271 ,105 ,401 ,305 | ,190 ,316 ,469 ,490 ,300 ,327 ,187 ,187 |
| ,168 ,154 ,155 ,081 ,073 ,014 ,006 ,090 ,116 ,071 ,071 | ,096 ,032 ,032 ,076 ,083 ,083 ,083 ,078 | ,074 ,074 ,052 ,047 ,074 ,035 ,035 ,035 | ,186 ,099 ,144 ,167 ,033 ,212 ,071 ,050 ,055 |
| ,516 ,419 ,392 ,412 ,412 ,333 ,294 ,348 ,538 ,538 ,415 ,415 ,323 ,323 | , 856 , 889 , 856 , 856 , 309 , 309 , 380 | ,024 ,321 ,432 ,517 ,517 ,439 ,441 ,733 ,500 ,310 | ,241 ,348 ,527 ,501 ,152 ,402 ,402 ,185 ,311 |
| ,466 ,388 ,347 ,358 ,288 ,244 ,292 ,519 ,519 ,519 ,377 ,377 ,377 ,294 ,398 | , 658 , 658 , 658 , 856 , 076 , 300 , 343 , 422 | ,034 ,299 ,374 ,404 ,404 ,404 ,001 ,001 | ,247 ,329 ,500 ,479 ,151 ,391 ,182 ,301 |
| ,399 ,351 ,318 ,317 ,281 ,264 ,228 ,423 ,423 ,228 ,423 ,293 ,293 ,222 ,367 | ,658 ,658 ,658 ,689 ,032 ,256 ,283 | ,268 ,268 ,361 ,455 ,398 ,398 ,406 ,207 | ,191 ,311 ,463 ,463 ,382 ,139 ,139 ,194 ,194 |
| ,453 ,452 ,433 ,489 ,382 ,382 ,290 ,330 ,550 ,450 ,450 ,459 ,489 | ,658 ,720 ,743 ,096 ,360 ,411 | ,033 ,359 ,470 ,530 ,530 ,482 ,407 ,407 ,522 ,522 ,339 | ,285 ,355 ,535 ,529 ,529 ,205 ,205 ,188 ,188 |
| ,540 ,474 ,483 ,506 ,379 ,301 ,325 ,521 ,483 ,382 ,489 | ,669 ,497 ,552 ,598 ,111 ,422 ,471 | ,372 ,424 ,451 ,418 ,396 ,093 ,670 | ,264 ,373 ,534 ,555 ,555 ,223 ,396 ,181 ,181 |
| ,325 ,321 ,342 ,332 ,236 ,187 ,188 ,339 ,339 ,332 ,332 ,332 ,312 | ,339 ,286 ,320 ,310 ,310 ,021 ,305 ,307 | ,002 ,277 ,279 ,213 ,233 ,205 ,267 ,525 1,000 | ,095 ,225 ,364 ,394 ,394 ,252 ,212 ,146 -,096 |
| 1 3 4 5 6 7 8 9 1 1 1 3 4 5 6 7 8 9 1 1 1 3 4 5 6 7 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 22 22 20 17 16 16 | 31 30 29 28 27 27 26 25 | 38 37 37 33 34 |

33.50 33 **7.** (100 %) (

COVARIANCE MATRIX FOR THE MEASURE (IMO)

| ,2, | | <u>, , , </u> | • | <u>, </u> | <u>, </u> | <u>, ,</u> | <u>, , , , , , , , , , , , , , , , , , , </u> | <u></u> ; | <u> </u> | · | • | <u>, </u> | <u>, </u> | <u>, ,</u> | <u>, , , , , , , , , , , , , , , , , , , </u> | <u>, -</u> | | | | _ | <u>, -</u> , | <u>, -</u> , | • . | | | | ٠ , | _ | ٠, | | <u>,</u> | <u>,-</u> , | | ٠, |
|--------------------|----------------|----------------|-----------|--|--|------------|---|-----------|----------|--|---------------|--|--|------------|---|------------|-------|-------|-------|-------|--------------|--------------|----------|-------|-------|-------------|--|--------------------|---------------------------------------|---------------------|----------|-------------|------|----------------|
| 2,571 | | | | | Ţ | _ | ζ. | ٠. | | | ` | ٠. | Τ. | ` | ٠. | ٠. | _ | Τ. | - | • | | | | | . • | • | • | • | | | ٠. | Ϋ. | _ ` | |
| 1,535 3 | 1,961 1,849 | 2,168 | ,687 | 1,010 | 1,657 | , 602 | 1,599 | . 848 | 397 | 380,1 | ,268 | 1,422 | 1,296 | ,907 | 1,466 | ,475 | ,807 | 1,378 | ,163 | ,972 | I,138 | ,078 | , 008 | 1,016 | .173 | .734 | , 20, 20, | 7,039 | 000 | ,50/ | 509 | 1,119 | 080 | 1,223 |
| 1,658 | 3,035 | 1,025 2,100 | ,993 | 1,465 | 1,909 | 1,580 | 1,740 | 1,626 | 1,620 | 1,250 | ,326 | 1,408 | 1,301 | ,981 | 1,461 | 1,461 | ,939 | 1,399 | ,202 | 1,005 | 1,121 | 1,233 | 1,060 | 1,406 | .347 | 1,226 | - ,, 262 | 1,20 131 | 1,00 | 1,633 | 1,694 | 1,100 | 911 | 1,269 |
| 1,806 5 | 2,10 | 3,86 | ,92 | 1,32 | 1,81 | 1,75 | 1,91 | 2,07 | 1,79 | , <u>,</u> , 3, 3, 4, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, | , <u>ب</u> | 2,04 | 1,96 | 1,57 | 2,00 | 1,82 | 1,06 | 1,70 | ,09 | 1,31 | 1,54 | 1,56 | 1,23 | 1,32 | 01 | 1.26 | ر 1. رو 1. رو | л У | 1,0 | 1,2 2,0 2,0 | 1,87 | 1,36 | 1,14 | 1,31 |
| 6 ,922 | | _ | ۔ ، | _ | _ | | | | | | | _ | | | _ | | | - | | | | | | | | - | | | | | | | | |
| | - 0. | | | _ | _ | • | _ | | - | | _ | • | • | • | _ | _ | _ | • | | • | _ | • | • | - | | | - | | | | • | | | |
| ,923 1 7 | , | • | _ | • | • | | | _ | • | • | | •• | •• | •• | • | — | • | | • | | _ | • | _ | _ | | • | | _ | • | | - | | • | • |
| 1,231 | | | | • | | | ٠. | | | | | | • | Ξ. | | | • | | - | _ | • | | | _ | • | _ ` | | • | | | | • | | |
| 1,529 | 1,909 | 1,010 | ,948 | 1,645 | 2,822 | 1,763 | 1,668 | 1.640 | 1,200 | 1,159 | ,234 | 1,367 | 1,203 | 1,029 | 1,587 | 1,570 | ,930 | 1,432 | ,240 | ,931 | 1,121 | 1,116 | 1,1 4 | 1,154 | .213 | 1.068 | , 163 1 | ر. 1, ا 1, ا | , 700 | 1,545 545 545 | 1,491 | ,979 | 898 | 1,043 |
| 1,441 | 1,580 1,607 | ,94/ 1,750 | ,811 i | 1,306 | 1,763 | 3,084 | 1,821 | 1,740 | 1,680 | 1,233 | ,414 | 1,335 | 1,213 | 1,092 | 1,457 | 1,484 | 1,047 | 1,397 | ,128 | ,997 | 1,307 | 1,005 | 1,082 | 1,061 | .1 | .934 | - ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 512 512 | , 007 2007 | 1,492 | 1,439 | 1,123 | 787 | 1,045 1 180 |
| 1,525 | 1,740 1.599 | ,810 1,913 | ,802 | 1,225 | 1,668 | 1,821 | 2,931 | 1,791 | 1,470 | 1,555 | ,371 | 1,435 | 1,333 | 1,203 | 1,486 | 1,465 | ,983 | 1,473 | ,286 | ,982 | 1,445 | 1,244 | ,996 | 1,113 | .136 | 884 488. | - 273 | 583 | 1,097 | 1,/93 | 1,705 | 1,061 | .817 | 1,100 1,404 |
| 1,610 13 | 1,626 1,848 | 2,076 | ,830 | 1,109 | 1,640 | 1,740 | 1,791 | 2,785 | 1,342 | 1,321 | ,437 | 1,711 | 1,550 | 1,334 | 1,743 | 1,627 | ,940 | 1,457 | ,083 | 1,113 | 1,448 | 1,335 | 1,062 | 1,118 | .025 | 1,167 | - 185 - 187 | 5.090 5.090 | 4 ,09/ | 1,/65 | 1,760 | 1,231 | 962 | 1,123 |
| 1,488 14 | 1,620 | 1,79 | ,72 | 1,13! | 1,48 | 1,680 | 1,81 | 1,87 | 2.36 | 1,38 | ,47 | 1,45 | 1,296 | 1,178 | 1,49 | 1,499 | ,998 | 1,388 | ,220 | 1,000 | 1,340 | 1,217 | 1,048 | 1,229 | . 180 | 1.01 | , , 10, | 480 | , , , , , , , , , , , , , , , , , , , | 1,69 | 1,63 | 1,08 | 70 | 1,05 |
| 3 1,339 15 | | | | | Τ. | _ | _ | _ | | | | | Ϊ. | •• | Τ. | | •• | | _ | • | Ϊ. | | •• | _ | _ | | • | _ | ` - | | | | | |
| 16 | | | | _ | | _ | • | | | ٠ | _ | | _ | _ | | • | | • | - | • | _ | - | _ | - | _ | | | | | | | - | | |
| | <i></i> | - | | _ | _ | • | • | | • | _ | | • | _ | • | | • | 1 | . • | - | _ | _ | _ | - | • | 1 | _ ` | ~ . | | - | | _ | | • | |
| ,377 17 | ω O. | - + | | _ | - | +- | _ | 7' | ~ (| _ | ٠ | _ | 7 | 7 | - | - | ٠ | ٠. | ١٠ | w | - | • | w | ٠. | ω. | | _ ` | ~ - | | - 0 | . ~ | 0. | _ | _ 0, |
| 1,350 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,244 | 1,301 1,296 | ,958 1,968 | ,678 | ,957 | 1,203 | 1,213 | 1,333 | 1,550 | 1.296 | , 94 4 1 | ,227 | 3,113 | 3,680 | 2,422 | 2,558 | 1,859 | 1,063 | 1,547 | -,107 | 1,277 | 1,485 | 1,615 | 1,156 | 1,001 | .009 | 1,047 | - ,007 189 | ,461 1644 | 4 ,004 | 1,4/5 | 1,634 | 1,121 | 799 | 1,097 1 343 |
| 1,087 21 | ,981 907 | ,/16 1,578 | ,698 | ,934 | 1,029 | 1,092 | 1,203 | 1,334 | 1.178 | ,878 | ,037 | 2,564 | 2,422 | 3,508 | 2,373 | 1,748 | 1,013 | 1,346 | -,028 | 1,213 | 1,357 | 1,436 | 1,121 | ,874 | 086 | . 779 | - 778 | 679 679 | , , , , , , , | 1,218 | 1,486 | 1,030 | 479 | ,844 134 |
| 1,495 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,382 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ,860 24 | ,939 807 | 1,063 | ,586 | ,706 | ,930 | 1,047 | ,983 | .940 | .998 | ,867 | ,086 | ,999 | 1,063 | 1,013 | 1,100 | 1,385 | 2,701 | 1,463 | ,651 | ,646 | ,795 | ,654 | ,839 | ,814 | .120 | 888. | - 325 | , 007 007 | ,000 | 1,010 | ,992 | ,693 | 218 | ,790 804 |

| 25 1,334 1,339 1,339 1,339 1,339 1,432 1,432 1,443 1,142 1,142 1,142 1,142 1,142 1,144 1,346 1,253 1,253 1,253 1,253 1,565 1,5 |
|---|
| 26 073 073 073 070 070 070 070 070 |
| 27 1,135 1,005 1,315 1,005 1,315 1,315 1,934 1,006 1,214 |
| 28 1,138 1,138 1,134 1,121 1,121 1,121 1,130 1,1 |
| 29 1,1342 1,1563 1,1652 1,1052 1,1052 1,1052 1,1053 1,1436 |
| 30 1,000 1,000 1,000 1,000 1,002 1,002 1,002 1,103 1,1 |
| 31 981 981 981 981 983 933 934 945 945 945 945 945 945 945 945 945 94 |
| 32 742 742 744 744 745 746 746 746 746 746 746 746 746 |
| 33 98, 96, 96, 96, 96, 97, 98, 98, 98, 98, 98, 98, 98, 98 |
| 34 46 47 47 47 47 47 47 47 47 47 47 |
| 35 35 36 37 37 37 37 37 37 37 37 37 37 |
| 36 1,379 1,261 1,261 1,165 1,166 1,170 1,273 1,393 1,393 1,382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1382 1,1483 1, |
| 37 888, 100,1, 110,061, 1281, 1281, 1386, 13 |
| 38 1,569 1,569 1,633 1,633 1,698 1,793 1,7 |
| 39 1,699 1,694 1,694 1,694 1,132 1,132 1,1337 1,280 1,589 1,647 1,589 1,599 1, |
| 40, 1, 1039 1, 1039 1, 1000 1, |
| 467, 488, 488, 488, 488, 488, 488, 488, 48 |
| 42, 1, 1, 289, 1, 1, 289, 1, 1, 289, 1, 1, 289, 1, 1, 289, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, 1, 1, 280, |
| 43 915 1,223 1,269 1,269 1,269 1,043 1,043 1,045 1,004 1,005 1,004 |

CORRELATION MATRIX FOR THE MEASURE (MO)

| _ | 1,00 | ,538 | ,451 | ,439 | ,386 | ,371 | ,385 | ,309 | ,385 | ,410 | ,374 | ,436 | ,373 | ,351 | ,162 | ,046 | ,343 | ,239 | ,321 | ,220 | ,159 | ,220 | ,245 | ,285 | ,274 | ,236 | ,303 | ,270 | ,289 | ,243 | ,245 | ,315 |
|----------------|---------------|--------|---------------|--------|---------------|--------|--------|---------------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------|------|----------|----------|
| 2 | ,538 | 1,00 | ,751 | ,627 | ,544 | ,510 | ,607 | ,555 | ,528 | ,634 | ,506 | ,486 | ,549 | ,435 | ,207 | ,088 | ,528 | ,442 | ,571 | ,270 | ,321 | ,365 | ,476 | ,472 | ,481 | ,405 | ,488 | ,414 | ,436 | ,427 | ,351 | ,468 |
| ω | ,451 | ,751 | 1,00 | ,646 | ,559 | ,554 | ,606 | ,541 | ,524 | ,565 | ,476 | ,496 | ,602 | ,420 | ,194 | ,110 | ,562 | ,451 | ,584 | ,285 | ,331 | ,376 | ,525 | ,534 | ,503 | ,393 | ,480 | ,481 | ,472 | ,483 | ,417 | ,506 |
| 4 | ,439 | ,627 | ,646 | 1,00 | ,721 | ,676 | ,590 | ,525 | ,528 | ,610 | ,471 | ,541 | ,511 | ,491 | ,245 | ,094 | ,531 | ,423 | ,548 | ,252 | ,308 | ,334 | ,436 | ,458 | ,448 | ,405 | ,438 | ,443 | ,432 | ,423 | ,367 | ,480 |
| J | ,386 | ,544 | ,559 | ,721 | 1,00 | ,836 | ,601 | ,493 | ,506 | ,540 | ,461 | ,495 | ,520 | ,463 | ,201 | ,107 | ,459 | ,446 | ,499 | ,263 | ,280 | ,331 | ,413 | ,419 | ,426 | ,383 | ,393 | ,386 | ,380 | ,392 | ,331 | ,428 |
| 6 | ,371 | ,510 | ,554 | ,676 | ,836 | 1,00 | ,613 | ,447 | ,497 | ,506 | ,446 | ,457 | ,500 | ,423 | ,211 | ,102 | ,472 | ,434 | ,462 | ,235 | ,291 | ,312 | ,411 | ,395 | ,393 | ,356 | ,388 | ,381 | ,383 | ,394 | ,324 | ,417 |
| 7 | ,385 | ,607 | ,606 | ,590 | ,601 | ,613 | 1,00 | ,522 | ,510 | ,568 | ,454 | ,486 | ,523 | ,428 | ,177 | ,119 | ,529 | ,452 | ,542 | ,266 | ,352 | ,348 | ,461 | ,455 | ,453 | ,428 | ,468 | ,441 | ,433 | ,410 | ,391 | ,437 |
| œ | ,309 | ,555 | ,541 | ,525 | ,493 | ,447 | ,522 | 1,00 | ,561 | ,737 | ,515 | ,469 | ,489 | ,469 | ,250 | ,105 | ,515 | ,469 | ,514 | ,233 | ,315 | ,364 | ,421 | ,452 | ,521 | ,445 | ,489 | ,484 | ,455 | ,422 | ,356 | ,420 |
| 9 | ,385 | ,528 | ,524 | ,528 | ,506 | ,497 | ,510 | ,561 | 1,00 | ,683 | ,574 | ,518 | ,545 | ,523 | ,253 | ,118 | ,521 | ,459 | ,495 | ,290 | ,314 | ,327 | ,447 | ,423 | ,547 | ,456 | ,479 | ,419 | ,422 | ,428 | ,348 | ,460 |
| 6 | ,410 | ,634 | ,565 | ,610 | ,540 | ,506 | ,568 | ,737 | ,683 | 1,00 | ,596 | ,577 | ,557 | ,534 | ,294 | ,145 | ,549 | ,499 | ,593 | ,287 | ,326 | ,394 | ,503 | ,492 | ,576 | ,492 | ,533 | ,509 | ,471 | ,456 | ,393 | , 484 |
| 1 | ,374 | ,506 | ,476 | ,471 | ,461 | ,446 | ,454 | ,515 | ,574 | ,596 | 1,00 | ,512 | ,512 | ,665 | ,238 | ,125 | ,439 | ,414 | ,512 | ,291 | ,272 | ,329 | ,434 | ,388 | ,502 | ,421 | ,456 | ,391 | ,398 | ,388 | ,304 | ,418 |
| 12 | ,436 | ,486 | ,496 | ,541 | ,495 | ,457 | ,486 | ,469 | ,518 | ,577 | ,512 | 1,00 | ,602 | ,533 | ,229 | ,125 | ,496 | ,482 | ,500 | ,247 | ,345 | ,376 | ,423 | ,452 | ,482 | ,392 | ,434 | ,396 | ,399 | ,430 | ,438 | ,476 |
| 3 | ,373 | ,549 | ,602 | ,511 | ,520 | ,500 | ,523 | ,489 | ,545 | ,557 | ,512 | ,602 | 1,00 | ,478 | ,243 | ,190 | ,599 | ,510 | ,563 | ,294 | ,338 | ,398 | ,525 | ,554 | ,537 | ,382 | ,462 | ,419 | , 4 43 | ,509 | ,432 | ,528 |
| 14 | ,351 | ,435 | ,420 | ,491 | ,463 | ,423 | ,428 | ,469 | ,523 | ,534 | ,665 | ,533 | ,478 | 1,00 | ,215 | ,134 | ,436 | ,402 | ,434 | ,222 | ,242 | ,281 | ,347 | ,347 | ,437 | ,395 | ,373 | ,364 | ,337 | ,360 | ,270 | ,372 |
| 15 | ,162 | ,207 | ,194 | ,245 | ,201 | ,211 | ,177 | ,250 | ,253 | ,294 | ,238 | ,229 | ,243 | ,215 | 1,00 | ,362 | ,300 | ,278 | ,251 | ,294 | ,205 | ,268 | ,261 | ,253 | ,287 | ,205 | ,242 | ,177 | ,202 | ,270 | ,248 | ,266 |
| 16 | ,046 | ,088 | ,110 | ,094 | ,107 | ,102 | ,119 | ,105 | ,118 | ,145 | ,125 | ,125 | ,190 | ,134 | ,362 | 1,00 | ,246 | ,234 | ,163 | ,224 | ,124 | ,173 | ,202 | ,188 | ,185 | ,141 | ,169 | ,103 | ,161 | ,273 | , 181 | ,189 |
| 17 | ,343 | ,528 | ,562 | ,531 | ,459 | ,472 | ,529 | ,515 | ,521 | ,549 | ,439 | ,496 | ,599 | ,436 | ,300 | ,246 | 1,00 | ,581 | ,583 | ,306 | ,334 | ,369 | ,489 | ,534 | ,480 | ,398 | ,457 | ,450 | ,445 | ,504 | ,405 | ,519 |
| 1 8 | ,239 | ,442 | ,451 | ,423 | ,446 | ,434 | ,452 | ,469 | ,459 | ,499 | ,414 | ,482 | ,510 | ,402 | ,278 | ,234 | ,581 | 1,00 | ,502 | ,258 | ,370 | ,358 | ,476 | ,461 | ,474 | ,411 | ,472 | ,460 | ,467 | ,514 | ,503 | ,524 |
| 19 | ,321 | ,571 | ,584 | ,548 | ,499 | ,462 | ,542 | ,514 | ,495 | ,593 | ,512 | ,500 | ,563 | ,434 | ,251 | ,163 | ,583 | ,502 | 1,00 | ,301 | ,378 | ,409 | ,515 | ,619 | ,547 | ,459 | ,506 | ,477 | ,467 | ,427 | ,449 | ,500 |
| 20 | ,220 | ,270 | ,285 | ,252 | ,263 | ,235 | ,266 | ,233 | ,290 | ,287 | ,291 | ,247 | ,294 | ,222 | ,294 | ,224 | ,306 | ,258 | ,301 | 1,00 | ,375 | ,375 | ,370 | ,296 | ,316 | ,270 | ,273 | ,255 | ,266 | ,282 | ,268 | ,333 |
| 21 | ,159 | ,321 | ,331 | ,308 | ,280 | ,291 | ,352 | ,315 | ,314 | ,326 | ,272 | ,345 | ,338 | ,242 | ,205 | ,124 | ,334 | ,370 | ,378 | ,375 | 1,00 | ,635 | ,566 | ,399 | ,409 | ,321 | ,355 | ,321 | ,344 | ,331 | ,390 | ,392 |
| 22 | ,220 | ,365 | ,376 | ,334 | ,331 | ,312 | ,348 | ,364 | ,327 | ,394 | ,329 | ,376 | ,398 | ,281 | ,268 | ,173 | ,369 | ,358 | ,409 | ,375 | ,635 | 1,00 | ,627 | ,436 | ,445 | ,374 | ,403 | ,350 | ,396 | ,387 | ,398 | , 401 |
| 23 | ,245 1 | ,476 2 | ,525 3 | ,436 4 | ,413 5 | ,411 6 | ,461 7 | ,421 8 | ,447 9 | | | | | | | | | | | | | | | | | | | | | | ,472 31 | |

| - 0 | 32 ,315 | 31 ,245 | 30 ,243 | 29 ,289 | 28 ,270 | 27 ,303 | 26 ,236 | 25 ,274 | 24 ,285 |
|--------------|-------------|--------------|--------------|-------------------|-------------------|--------------------|-------------------|----------------|--------------|
| 7 m | ,468 506 | ,351 .417 | ,427 .483 | ,436 .472 | 4, 4, 4, 148 | ,488 480 480 | ,405 .393 | ,481 .503 | ,472 .534 |
| 4 | ,480 | ,367 | ,423 | ,432 | , 4, | ,438 | ,405 | , 448 | ,458 |
| 2 | ,428 | ,331 | ,392 | ,380 | ,386 | ,393 | ,383 | ,456 | ,419 |
| 9 | ,417 | ,324 | ,394 | ,383 | ,381 | ,388 | ,356 | ,393 | ,395 |
| / | ,437 | ,391 | ,410 | ,433 | 4, | ,468 | ,428 | ,453 | ,455 |
| ∞ | ,420 | ,356 | ,422 | ,455 | ,484 | ,489 | ,445 | ,521 | ,452 |
| 6 | ,460 | ,348 | ,428 | ,422 | ,419 | ,479 | ,456 | ,547 | ,423 |
| 9 | ,484 | ,393 | ,456 | ,471 | ,509 | ,533 | ,492 | ,576 | ,492 |
| 7 | ,418 | ,304 | ,388 | ,398 | ,391 | ,456 | ,421 | ,502 | ,388 |
| 12 | ,476 | ,438 | ,430 | ,399 | ,396 | ,434 | ,392 | ,482 | ,452 |
| 13 | ,528 | ,432 | ,509 | , 4 43 | ,419 | ,462 | ,382 | ,537 | ,554 |
| 4 | ,372 | ,270 | ,360 | ,337 | ,364 | ,373 | ,395 | ,437 | ,347 |
| 15 | ,266 | ,248 | ,270 | ,202 | ,177 | ,242 | ,205 | ,287 | ,253 |
| 16 | ,189 | ,181 | ,273 | ,161 | ,103 | ,169 | ,141 | ,185 | ,188 |
| 17 | ,519 | ,405 | ,504 | , 445 | ,450 | ,457 | ,398 | ,480 | ,534 |
| ∞ | ,524 | ,503 | ,514 | ,467 | ,460 | ,472 | , 111 | ,474 | ,461 |
| 19 | ,500 | ,449 | ,427 | ,467 | ,477 | ,506 | ,459 | ,547 | ,619 |
| 20 | ,333 | ,268 | ,282 | ,266 | ,255 | ,273 | ,270 | ,316 | ,296 |
| 21 | ,392 | ,390 | ,331 | ,344 | ,321 | ,355 | ,321 | ,409 | ,399 |
| 22 | ,401 | ,398 | ,387 | ,396 | ,350 | ,403 | ,374 | ,445 | ,436 |
| 23 | ,523 | ,472 | ,492 | ,491 | ,424 | ,476 | ,402 | ,527 | ,580 |
| 24 | , 541 | ,465 | ,486 | ,428 | ,416 | ,437 | ,408 | ,517 | 1,000 |
| 25 | ,533 | , 444 | ,448 | ,475 | ,442 | ,531 | ,534 | 1,000 | ,517 |
| 76 | ,389 | ,387 | ,419 | ,496 | ,527 | ,616 | 1,000 | ,534 | ,408 |
| 27 | ,471 | ,443 | ,472 | ,628 | ,682 | 1,000 | ,616 | ,531 | ,437 |
| 28 | 4, | ,443 | ,457 | ,586 | 1,000 | ,682 | ,527 | ,442 | ,416 |
| 29 | ,454 | ,480 | ,530 | 1,000 | ,586 | ,628 | ,496 | ,475 | ,428 |
| 30 | ,602 | ,510 | 1,000 | ,530 | ,457 | ,472 | ,419 | ,448 | ,486 |
| 31 | ,562 | 1,000 | ,510 | ,480 | ,443 | ,443 | ,387 | 4 , | ,465 |
| 32 | 1,000 | ,562 | ,602 | ,454 | , | ,471 | ,389 | ,533 | ,541 |

COVARIANCE MATRIX FOR THE MEASURE (MO)

| | _ | 2 | ω | 4 | 5 | 6 | 7 | ∞ | 9 | 10 | 1 | 12 | 13 | 14 | 15 | 16 | 17 | 1 8 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | <u>ω</u> | 32 |
|----|----------|----------|-------|----------|-------|-------|-------|----------|-------|----------|----------|-------|------------|-------|----------|----------|-------|----------------|-------|------|-------|------|-------|-------|-------|-------|-------|--------------|-------|---------|----------|---------|
| _ | 2,046 | 1,092 | ,947 | ,965 | ,808 | ,789 | ,823 | ,624 | ,834 | ,787 | ,767 | 1,095 | ,842 | ,745 | ,340 | ,088 | ,677 | ,542 | ,667 | ,478 | ,390 | ,495 | ,503 | ,537 | ,604 | ,570 | ,589 | ,541 | ,596 | ,543 | ,583 | ,728 |
| 2 | 1,092 | 2,014 | 1,578 | 1,347 | 1,184 | 1,126 | 1,253 | 1,146 | 1,126 | 1,248 | 1,036 | 1,210 | 1,237 | ,970 | ,490 | ,189 | 1,023 | 1,046 | 1,190 | ,593 | ,782 | ,796 | 1,021 | ,997 | 1,070 | ,929 | 1,004 | ,903 | 1,029 | ,952 | ,856 | 1,062 |
| ω | ,947 | 1,578 | 2,197 | 1,483 | 1,293 | 1,257 | 1,351 | 1,194 | 1,199 | 1,169 | 1,002 | 1,284 | 1,399 | ,960 | ,465 | ,224 | 1,170 | 1,180 | 1,291 | ,695 | ,845 | ,844 | 1,156 | 1,128 | 1,131 | ,930 | 1,075 | 1,156 | 1,194 | 1,130 | 1,080 | 1,199 |
| | | | | 2,285 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | • | • | | 1,721 | | | _ | •• | _ | _ | •• | _ | •• | • | •• | •• | _ | • | • | | _ | • | _ | _ | | | _ | • | •• | • | • | _ |
| | •• | _ | • | 1,581 | _ | • | _ | _ | _ | • | | _ | | • | •• | • | • | •• | _ | •• | •• | •• | _ | _ | • | _ | _ | _ | • | _ | • | • |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 1,042 |
| | | | | 0 1,103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 3 1,209 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | _ | - | _ |)9 1,230 | _ | - | _ | _ | | _ | • | - | | | _ | _ | | | | _ | _ | _ | _ | • | • | _ | | • | • | _ | - | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ,988 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 1,095 | 1,210 | 1,284 | 1,430 | 1,319 | 1,189 | 1,237 | 1,126 | 1,357 | 1,319 | 1,232 | 2,769 | 1,611 | 1,409 | ,586 | ,250 | 1,198 | 1,334 | 1,291 | ,676 | ,944 | ,892 | 1,055 | 1,144 | 1,302 | 1,037 | 1,067 | 1,010 | 1,081 | 1,155 | 1,251 | 1,281 |
| 13 | ,842 | 1,237 | 1,399 | 1,238 | 1,252 | 1,193 | 1,182 | 1,129 | 1,324 | 1,206 | 1,132 | 1,611 | 2,418 | 1,196 | ,613 | ,393 | 1,336 | 1,358 | 1,297 | ,700 | ,880 | ,877 | 1,151 | 1,171 | 1,260 | ,929 | 1,024 | 1,027 | 1,119 | 1,201 | 1,129 | 1,256 |
| 14 | ,745 | ,970 | ,960 | 1,136 | 1,117 | ,981 | ,941 | 1,042 | 1,231 | 1,101 | 1,507 | 1,409 | 1,196 | 2,461 | ,574 | ,377 | ,926 | 1,035 | 1,049 | ,621 | ,625 | ,683 | ,804 | ,810 | 1,116 | ,953 | ,772 | ,833 | ,788 | ,879 | ,741 | ,950 |
| 15 | ,340 | ,490 | ,465 | ,578 | ,493 | ,535 | ,429 | ,559 | ,590 | ,607 | ,584 | ,586 | ,613 | ,574 | 2,682 | ,895 | ,680 | ,794 | ,596 | ,737 | ,606 | ,694 | ,592 | ,604 | ,665 | ,459 | ,519 | , 44 1 | ,507 | ,623 | ,688 | ,654 |
| 16 | ,088 | ,189 | ,224 | ,208 | ,195 | ,196 | ,254 | ,210 | ,229 | ,219 | ,290 | ,250 | ,393 | ,377 | ,895 | 2,221 | ,495 | ,594 | ,365 | ,516 | ,356 | ,370 | ,439 | ,346 | ,337 | ,327 | ,336 | ,233 | ,358 | ,602 | ,407 | ,363 |
| 17 | ,677 | 1,023 | 1,170 | 1,149 | ,997 | 1,030 | 1,118 | 1,024 | 1,083 | 1,006 | ,830 | 1,198 | 1,336 | ,926 | ,680 | ,495 | 2,018 | 1,346 | 1,208 | ,645 | ,741 | ,707 | ,961 | 1,054 | 1,014 | ,834 | ,884 | ,973 | ,941 | 1,036 | ,992 | 1,169 |
| 18 | ,542 | 1,046 | 1,180 | 1,086 | 1,173 | 1,151 | 1,161 | 1,110 | 1,058 | 1,079 | ,974 | 1,334 | 1,358 | 1,035 | ,794 | ,594 | 1,346 | 2,665 | 1,252 | ,628 | 1,002 | ,866 | 1,203 | 1,127 | 1,220 | 1,061 | 1,136 | 1,185 | 1,237 | 1,348 | 1,462 | 1,374 |
| | <u> </u> |) | . س | 4 | י וכ | 6 | 7 | ~ | ٠ , | <u> </u> | <u> </u> | 13 | <u>ئ</u> . | 1 . | <u>,</u> | <u>,</u> | 17 | 2 . | 10 | 20 | 21 | 77 | 23 | 24 | 25 | 26 | 27 | 2 6 | 20 | بر د | י ני | بر د |

| 19 | ,667 | 1,190 | 1,291 | 1,236 | 1,179 | 1,061 | 1,215 | 1,124 | 1,101 | 1,212 | 1,095 | 1,291 | 1,297 | 1,049 | ,596 | ,365 | 1,208 | 1,252 | 2,261 | ,739 | 696, | ,923 | 1,134 | 1,385 | 1,237 | 1,065 | 1,083 | 1,088 | 1,171 | ,990 | 1,139 | 1,192 |
|----|------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|--------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|-------|-------|-------|-------|-------|-------|
| 70 | ,478 | ,593 | ,695 | ,631 | ,658 | ,598 | ,630 | ,495 | ,599 | ,572 | ,664 | ,676 | ,700 | ,621 | ,737 | ,516 | ,645 | ,628 | ,739 | 2,249 | 968, | ,899 | ,865 | ,674 | ,681 | 669, | ,550 | ,618 | 699' | ,627 | ,715 | ,779 |
| 21 | ,390 | ,782 | ,845 | 908, | ,788 | ,796 | ,878 | ,745 | ,800 | ,746 | ,653 | , 4 | ,880 | ,625 | ,606 | ,356 | ,741 | 1,002 | 696, | ,968 | 2,622 | 1,543 | 1,363 | ,955 | ,998 | ,754 | ,837 | ,764 | ,894 | ,858 | 1,093 | ,993 |
| 22 | ,495 | ,796 | , 844 | ,806 | 808, | ,751 | ,779 | ,817 | ,754 | ,813 | ,733 | ,892 | ,877 | ,683 | ,694 | ,370 | ,707 | ,866 | ,923 | 668, | 1,543 | 2,082 | 1,335 | ,909 | ,991 | ,833 | ,878 | ,855 | ,904 | ,829 | ,971 | 968, |
| 23 | ,503 | 1,021 | 1,156 | ,999 | ,940 | ,925 | ,975 | ,963 | 1,024 | 1,005 | ,899 | 1,055 | 1,151 | ,804 | ,592 | ,439 | ,961 | 1,203 | 1,134 | ,865 | 1,363 | 1,335 | 2,165 | 1,208 | 1,163 | ,957 | 1,051 | 1,037 | 1,213 | 1,070 | 1,201 | 1,212 |
| 24 | ,537 | ,997 | 1,128 | 1,020 | ,930 | ,874 | 1,018 | ,976 | ,912 | ,987 | ,800 | 1,14 | 1,171 | ,810 | , 604 | ,346 | 1,054 | 1,127 | 1,385 | ,674 | ,955 | ,909 | 1,208 | 2,094 | 1,149 | ,977 | ,998 | 1,011 | 1,023 | 1,031 | 1,181 | 1,189 |
| 25 | ,604 | 1,070 | 1,131 | 1,081 | 1,086 | ,955 | 1,024 | 1,267 | 1,282 | 1,259 | 1,119 | 1,302 | 1,260 | 1,116 | ,665 | ,337 | 1,014 | 1,220 | 1,237 | ,681 | 866, | ,991 | 1,163 | 1,149 | 2,369 | 1,321 | 1,176 | 1,106 | 1,215 | 1,031 | 1,196 | 1,222 |
| 76 | ,570 | ,929 | ,930 | ,911 | ,924 | ,833 | 1,010 | ,991 | 1,030 | 1,026 | ,961 | 1,037 | ,929 | ,953 | ,459 | ,327 | ,834 | 1,061 | 1,065 | 669, | ,754 | ,833 | ,957 | ,977 | 1,321 | 2,281 | 1,372 | 1,207 | 1,283 | 1,079 | 1,081 | ,992 |
| 27 | ,589 | 1,004 | 1,075 | ,904 | ,854 | ,806 | 1,002 | ,985 | ,978 | 1,022 | ,885 | 1,067 | 1,024 | ,772 | ,519 | ,336 | ,884 | 1,136 | 1,083 | ,550 | ,837 | ,878 | 1,051 | ,998 | 1,176 | 1,372 | 2,011 | 1,487 | 1,480 | 1,089 | 1,190 | 1,067 |
| 28 | ,541 | ,903 | 1,156 | ,987 | ,930 | ,879 | 1,030 | 1,052 | ,977 | 1,033 | ,889 | 1,010 | 1,027 | ,833 | , 44 1 | ,233 | ,973 | 1,185 | 1,088 | ,618 | ,764 | ,855 | 1,037 | 1,011 | 1,106 | 1,207 | 1,487 | 2,386 | 1,504 | 1,159 | 1,297 | 1,098 |
| 53 | ,596 | 1,029 | 1,194 | 1,118 | ,985 | ,955 | 1,058 | 1,042 | ,967 | 1,023 | ,880 | 1,081 | 1,119 | ,788 | ,507 | ,358 | ,941 | 1,237 | 1,171 | 699, | ,894 | ,904 | 1,213 | 1,023 | 1,215 | 1,283 | 1,480 | 1,504 | 2,580 | 1,298 | 1,348 | 1,108 |
| 30 | ,543 | ,952 | 1,130 | 966, | ,984 | ,959 | ,968 | ,967 | ,990 | ,930 | ,826 | 1,155 | 1,201 | ,879 | ,623 | ,602 | 1,036 | 1,348 | ,990 | ,627 | ,858 | ,829 | 1,070 | 1,031 | 1,031 | 1,079 | 1,089 | 1,159 | 1,298 | 2,326 | 1,359 | 1,395 |
| 31 | ,583 | ,856 | 1,080 | ,976 | 968, | ,902 | 1,053 | ,913 | ,875 | ,934 | ,704 | 1,251 | 1,129 | ,741 | ,688 | ,407 | ,992 | 1,462 | 1,139 | ,715 | 1,093 | ,971 | 1,201 | 1,181 | 1,196 | 1,081 | 1,190 | 1,297 | 1,348 | 1,359 | 2,898 | 1,472 |
| 32 | ,728 | 1,062 | 1,199 | 1,184 | 1,063 | 1,030 | 1,042 | ,961 | 1,090 | 1,019 | ,930 | 1,281 | 1,256 | ,950 | ,654 | ,363 | 1,169 | 1,374 | 1,192 | ,779 | ,993 | 968, | 1,212 | 1,189 | 1,222 | ,992 | 1,067 | 1,098 | 1,108 | 1,395 | 1,472 | 2,448 |
| | _ | 7 | m | 4 | 2 | 9 | 7 | ∞ | 6 | 9 | 7 | 12 | 13 | 4 | 15 | 16 | 17 | 8 | 19 | 70 | 21 | 22 | 23 | 24 | 22 | 7 6 | 27 | 28 | 53 | 30 | 31 | 32 |

CORRELATION MATRIX FOR THE MEASURE (JS)

| _ | 1 000 | 637 | ,606 | ,637 | .342 | .257 | ,282 | .001 | .020 | .278 | .108 | ,552 | ,540 | ,456 | .489 | .378 | .417 | .418 | ,445 | .398 | ,355 | .385 | .514 | .511 |
|----|------------|-------|---------------|--------|--------|---------------|---------------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------------|----------------|----------------|----------------|
| 2 | 637 | 1 000 | ,478 | .510 | .246 | .332 | ,354 | .021 | .086 | .266 | .096 | .498 | ,498 | ,421 | .466 | .225 | .289 | .288 | ,299 | .366 | .307 | .374 | .359 | ,374 |
| ω | ሃዐኦ | 478 | 1,000 | ,429 | .493 | .174 | .179 | .059 | .046 | .119 | -,018 | .413 | ,413 | .338 | .325 | .259 | .303 | .283 | ,313 | .250 | .293 | .253 | .363 | .348 |
| 4 | 637 | 510 | ,429 | 1,000 | ,467 | .217 | ,236 | .013 | .046 | .378 | .162 | ,422 | ,414 | .365 | .371 | .328 | .332 | .339 | ,354 | .394 | .331 | .326 | .471 | ,468 |
| 5 | 347 | 746 | ,493 | ,467 | 1.000 | .130 | .136 | .060 | .032 | .158 | -,023 | .271 | ,248 | .261 | .216 | .216 | .212 | .192 | ,211 | .169 | .167 | .123 | .219 | .226 |
| 6 | 257 | 227 | ,174 | ,217 | .130 | 1.000 | ,646 | .181 | ,274 | .308 | .138 | .297 | ,299 | .216 | .301 | .102 | .105 | .123 | ,133 | ,234 | ,203 | .260 | .204 | .212 |
| 7 | 787 | ٦۶,۷ | ,179 | ,236 | .136 | .646 | 1,000 | .224 | ,254 | .415 | .147 | .287 | ,360 | ,316 | .342 | .143 | .114 | .120 | ,134 | ,255 | .194 | .289 | .181 | .182 |
| œ | 201 | 021 | -,059 | 013 | 060 | .181 | ,224 | 1.000 | ,233 | .198 | .396 | .040 | ,032 | .031 | .056 | 027 | 030 | .017 | -,006 | .019 | .034 | .074 | .009 | .046 |
| 9 | 020 | 780 | ,046 | .046 | .032 | .274 | ,254 | .233 | 1,000 | .138 | .112 | .048 | .084 | .090 | .123 | .020 | 031 | .040 | ,015 | .092 | .055 | .089 | .026 | .011 |
| 10 | 778 | 266 | ,119 | .378 | .158 | .308 | ,415 | .198 | .138 | 1.000 | .397 | .275 | ,325 | .237 | .287 | .147 | .124 | .163 | ,212 | .330 | .268 | .301 | .307 | .309 |
| 1 | 108 | 960 | -,018 | ,162 | 023 | .138 | ,147 | .396 | ,112 | .397 | 1,000 | .117 | ,117 | .067 | .115 | .034 | .049 | .117 | ,127 | ,182 | .150 | .150 | .142 | ,147 |
| 12 | 777 | 498 | ,413 | ,422 | .271 | .297 | ,287 | .040 | .048 | .275 | .117 | 1.000 | ,689 | .519 | .578 | .217 | .277 | .307 | ,352 | ,357 | ,363 | .391 | .403 | ,431 |
| | | | | | | | | | | | | | | | | | | | | | | | .375 | |
| 14 | 456 | 471 | ,338 | ,365 | .261 | .216 | ,316 | .031 | .090 | .237 | .067 | .519 | ,561 | 1,000 | .616 | .332 | .320 | .247 | ,277 | .301 | ,282 | .348 | .327 | .298 |
| 15 | 489 | 466 | ,325 | .371 | .216 | .301 | ,342 | .056 | .123 | .287 | .115 | .578 | ,587 | .616 | 1.000 | .259 | .262 | .264 | ,282 | .308 | .359 | .361 | .361 | ,357 |
| | | | | | | | | - | | | | | | | | _ | | | | | | | .242 | |
| 17 | 417 | 789 | ,303 | ,332 | .212 | .105 | ,114 | 030 | 031 | .124 | .049 | .277 | ,314 | .320 | .262 | .804 | 1.000 | .414 | ,367 | .214 | .200 | .253 | .278 | ,247 |
| 18 | 418 | 788 | ,283 | ,339 | .192 | .123 | ,120 | .017 | .040 | .163 | .117 | .307 | ,309 | ,247 | .264 | .411 | .414 | 1.000 | ,832 | ,303 | ,263 | .277 | .365 | ,358 |
| | | | | | | | | | | | | | | | | | | | | | | | .400 | |
| 20 | २०४ 1 | 366 2 | ,250 3 | ,394 4 | .169 5 | .234 6 | .255 7 | .019 8 | .092 9 | .330 10 | .182 11 | .357 12 | ,348 13 | .301 14 | .308 15 | .207 16 | .214 17 | .303 18 | ,312 19 | 1,000 20 | .592 21 | .502 22 | .483 23 | .465 25 |

| | 25 | 23 | 22 | 71 |
|----------|------|------|------|------|
| _ | ,511 | ,514 | ,385 | ,355 |
| 7 | ,374 | ,359 | ,374 | ,307 |
| m | .348 | ,363 | .253 | .293 |
| 4 | .468 | .471 | .326 | .331 |
| 2 | ,226 | ,219 | ,123 | .167 |
| 9 | .212 | ,204 | .260 | .203 |
| 7 | ,182 | ,181 | ,289 | .194 |
| œ | .046 | 600, | ,074 | ,034 |
| 6 | .011 | .026 | 680. | .055 |
| 9 | ,309 | ,307 | .301 | .268 |
| 7 | .147 | .142 | ,150 | .150 |
| 12 | ,431 | ,403 | ,391 | ,363 |
| 13 | ,376 | ,375 | ,405 | ,327 |
| 4 | .298 | ,327 | ,348 | ,282 |
| 15 | .357 | ,361 | .361 | .359 |
| 9 | .203 | ,242 | ,253 | .187 |
| 1 | .247 | ,278 | ,253 | .200 |
| <u>∞</u> | ,358 | ,365 | ,277 | ,263 |
| 6 | .397 | .400 | .257 | .258 |
| 20 | .465 | ,483 | .502 | .592 |
| 21 | .344 | ,367 | ,635 | 1,00 |
| 22 | .371 | ,384 | 1,00 | .635 |
| 23 | .794 | 1,00 | .384 | .367 |
| 52 | 1,00 | ,794 | ,371 | ,344 |
| | > | | | |

COVARIANCE MATRIX FOR THE MEASURE (JS)

| | 19 | | 17 | 16 | | 14 | 13 | 12 | 1 | 10 | 9 | œ | 7 | 6 | υī | 4 | ω | _ |
|----------------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| _ | 1,157 | | 1,140 | 1,138 | | ,910 | 1,026 | 1,147 | ,175 | ,483 | -,007 | -,075 | ,363 | ,379 | ,808 | 1,338 | 1,616 | 2,408 |
| ω | ,636 | | ,671 | ,549 | | ,676 | ,748 | ,829 | ,072 | ,359 | ,140 | -,009 | ,436 | ,469 | ,487 | ,885 | 1,056 | 1,210 |
| 4 | ,871 | | ,969 | ,908 | | ,781 | ,906 | ,947 | -,120 | ,230 | ,166 | -,220 | ,284 | ,354 | 1,363 | 1,051 | 3,213 | 1,616 |
| 5 | ,842 | | ,799 | ,855 | | ,624 | ,716 | ,806 | ,251 | ,566 | ,012 | -,096 | ,264 | ,295 | ,926 | 1,860 | 1,051 | 1,338 |
| 6 | ,511 | | ,582 | ,574 | | ,472 | ,502 | ,550 | -,047 | ,291 | ,102 | -,129 | ,187 | ,225 | 2,229 | ,926 | 1,363 | ,808 |
| 7 | ,262 | | ,175 | ,205 | | ,298 | ,377 | ,453 | ,183 | ,378 | ,463 | ,300 | ,659 | 1,181 | ,225 | ,295 | ,354 | ,379 |
| œ | ,231 | | ,185 | ,248 | | ,384 | ,436 | ,378 | ,174 | ,467 | ,356 | ,276 | ,888 | ,659 | ,187 | ,264 | ,284 | ,363 |
| 9 | -,077 | | -,137 | -,083 | | ,032 | ,019 | ,092 | ,957 | ,339 | ,538 | 2,835 | ,276 | ,300 | -,129 | -,096 | -,220 | -,075 |
| 10 | ,018 | | -,114 | ,054 | | ,191 | ,143 | ,114 | ,213 | ,191 | 2,845 | ,538 | ,356 | ,463 | ,102 | ,012 | ,166 | -,007 |
| <u> </u> | ,418 | | ,303 | ,400 | | ,388 | ,479 | ,452 | ,635 | 1,390 | ,191 | ,339 | ,467 | ,378 | ,291 | ,566 | ,230 | ,483 |
| 12 | ,253 | | ,134 | ,186 | | ,068 | ,168 | ,162 | 2,201 | ,635 | ,213 | ,957 | ,174 | ,183 | -,047 | ,251 | -,120 | ,175 |
| 13 | ,786 | ,683 | ,651 | ,551 | ,973 | ,885 | 1,124 | 1,858 | ,162 | ,452 | ,114 | ,092 | ,378 | ,453 | ,550 | ,806 | ,947 | 1,147 |
| 4 | ,726 | | ,667 | ,673 | | ,894 | 1,554 | 1,124 | ,168 | ,479 | ,143 | ,019 | ,436 | ,377 | ,502 | ,716 | ,906 | 1,026 |
| 15 | ,590 | | ,669 | ,756 | | 1,613 | ,894 | ,885 | ,068 | ,388 | ,191 | ,032 | ,384 | ,298 | ,472 | ,624 | ,781 | ,910 |
| 16 | ,571 | | ,603 | ,593 | | ,994 | ,891 | ,973 | ,166 | ,381 | ,226 | ,070 | ,421 | ,410 | ,410 | ,602 | ,712 | ,936 |
| 17 | 1,206 | | 2,592 | 3,309 | | ,756 | ,673 | ,551 | ,186 | ,400 | ,054 | -,083 | ,248 | ,205 | ,574 | ,855 | ,908 | 1,138 |
| 1 8 | 1,182 | | 3,066 | 2,592 | | ,669 | ,667 | ,651 | ,134 | ,303 | -,114 | -,137 | ,185 | ,175 | ,582 | ,799 | ,969 | 1,140 |
| 19 | 2,402 | | 1,300 | 1,368 | | ,559 | ,637 | ,683 | ,261 | ,309 | ,044 | -,029 | ,190 | ,222 | ,498 | ,806 | ,807 | 1,084 |
| 20 | 2,888 | | 1,182 | 1,206 | | ,590 | ,726 | ,786 | ,253 | ,418 | ,018 | -,077 | ,231 | ,262 | ,511 | ,842 | ,871 | 1,157 |
| 21 | ,762 | | ,584 | ,584 | | ,534 | ,590 | ,686 | ,315 | ,503 | ,179 | ,029 | ,317 | ,334 | ,293 | ,704 | ,617 | ,812 |
| 22 | ,570 | | ,506 | ,520 | | ,531 | ,606 | ,707 | ,299 | ,457 | ,156 | ,116 | ,266 | ,320 | ,293 | ,582 | ,700 | ,709 |
| 23 | ,485 | | ,537 | ,590 | | ,558 | ,605 | ,619 | ,208 | ,413 | ,159 | ,128 | ,334 | ,313 | ,218 | ,491 | ,541 | ,682 |
| 24 | 1,201 | | ,866 | ,827 | | ,701 | ,764 | ,882 | ,242 | ,599 | ,032 | -,009 | ,302 | ,347 | ,590 | 1,099 | 1,109 | 1,330 |
| 25 | 1,249 | | ,754 | ,666 | ,722 | ,627 | ,787 | 1,020 | ,297 | ,652 | -,033 | ,087 | ,297 | ,407 | ,591 | 1,130 | 1,061 | 1,354 |

| _ | 25 | 23 | 22 | 21 | |
|----------|-------|----|-------|----------|-----|
| - (| 1,354 | | ,682 | `` | 209 |
| 7 | ,851 | | ,596 | τĭ | 09 |
| m · | 1,061 | | ,541 | Ľ, | 8 |
| 4 r | 1,130 | | ,491 | ,55 | 32 |
| ς , | ,591 | | ,218 | ,29 | 2 |
| 0 1 | ,407 | | ,313 | ,32 | 0 |
| ۰ ، | ,297 | | ,334 | ,26 | 9 |
| | ,087 | | ,128 | <u>,</u> | 2 |
| , ⊆ | -,033 | | ,159 | ,15 | ٠,0 |
| 2 = | ,652 | | ,413 | ,45 | _ |
| 2 | ,297 | | ,208 | ,299 | _ |
| <u>_</u> | 1,020 | | ,619 | ,707 | |
| 4 | ,787 | | ,605 | 909, | _ |
| 2 | ,627 | | ,558 | ,531 | |
| 9 | ,722 | | ,540 | 989, | _ |
| _ | 999' | | ,590 | ,520 | _ |
| ∞ | ,754 | | ,537 | ,506 | _ |
| 6 | 1,101 | | ,504 | ,587 | _ |
| 0 | 1,249 | | ,485 | ,570 | _ |
| Σ. | 1,089 | | ,824 | 1,04 | 9 |
| 7 | ,817 | | 1,035 | 1,82 | 0 |
| 33 | ,752 | | 1,366 | 1,03 | 2 |
| 4 | 2,305 | | ,730 | ,790 | _ |
| 5 | 3.127 | | .752 | .817 | _ |

CORRELATION MATRIX FOR THE MEASURE (OC)

| _ | 1,000 | ,603 | ,437 | ,273 | ,436 | ,472 | ,527 | ,434 | ,143 | ,180 | ,127 | ,279 | ,128 | ,177 | ,104 | ,153 | -,041 | ,100 | ,119 | ,014 | -,153 | -,065 | -,122 | ,147 |
|----------|----------------|----------------|-------|-------|-------|----------------|---------|---------|--------|----------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|-------|
| 2 | ,603 | 1,000 | ,455 | ,125 | ,386 | ,440 | ,499 | ,389 | ,140 | ,119 | ,057 | ,258 | ,109 | ,144 | ,049 | ,080 | -,091 | ,037 | ,053 | ,014 | -,137 | -,098 | -,127 | ,140 |
| ω | ,437 | ,455 | 1,000 | ,195 | ,352 | ,449 | ,534 | ,376 | ,191 | ,214 | ,183 | ,360 | ,229 | ,247 | ,196 | ,151 | -,047 | ,121 | ,153 | ,020 | -,049 | -,011 | -,043 | ,190 |
| 4 | ,273 | ,125 | ,195 | 1,000 | ,295 | ,344 | ,302 | ,310 | ,116 | ,225 | ,253 | ,194 | ,168 | ,117 | ,094 | ,191 | ,026 | ,094 | ,127 | ,017 | -,086 | -,034 | -,090 | ,066 |
| ъ | ,436 | ,386 | ,352 | ,295 | 1,000 | ,733 | ,458 | ,606 | ,069 | ,228 | ,148 | ,172 | ,062 | ,087 | -,053 | ,194 | -,041 | -,005 | ,038 | ,053 | -,181 | -,167 | -,215 | ,026 |
| 6 | ,472 | ,440 | ,449 | ,344 | ,733 | 1,000 | ,576 | ,643 | ,134 | ,248 | ,169 | ,241 | ,117 | ,127 | ,006 | ,210 | -,029 | ,019 | ,059 | ,043 | -,175 | -,141 | -,203 | ,064 |
| 7 | ,527 | ,499 | ,534 | ,302 | ,458 | ,576 | 1,000 | ,472 | ,170 | ,182 | ,127 | ,358 | ,145 | ,238 | ,099 | ,153 | -,074 | ,093 | ,129 | -,003 | -,109 | -,091 | -,123 | ,145 |
| ∞ | ,434 | ,389 | ,376 | ,310 | ,606 | ,643 | ,472 | 1,000 | ,080 | ,275 | ,192 | ,219 | ,114 | ,090 | -,024 | ,229 | ,002 | ,025 | ,063 | ,037 | -,127 | -,108 | -,143 | ,068 |
| 9 | ,143 | ,140 | ,191 | ,116 | ,069 | ,134 | ,170 | ,080 | 1,000 | ,118 | ,220 | ,308 | ,180 | ,306 | ,401 | ,063 | ,025 | ,048 | ,085 | -,013 | ,077 | ,053 | ,029 | ,152 |
| | | | | | | | ,182 | | | | | | | | | | | | | | | -,010 | | |
| 1 | | | | | | | ,127 | | | | | | | | | | | | | | | | -,029 | ,051 |
| 12 | ,279 | ,258 | ,360 | ,194 | ,172 | ,241 | ,358 | ,219 | ,308 | ,291 | ,252 | 1,000 | ,360 | ,550 | ,380 | ,187 | -,116 | ,143 | ,122 | | | | -,053 | ,192 |
| 13 | ,128 | ,109 | ,229 | ,168 | ,062 | ,117 | ,145 | ,114 | ,180 | ,154 | ,154 | ,360 | 1,000 | ,388 | ,327 | ,099 | -,098 | ,043 | ,104 | -,054 | -,003 | ,008 | -,031 | ,120 |
| 14 | ,177 | ,144 | ,247 | ,117 | ,087 | ,127 | ,238 | ,090 | ,306 | ,255 | ,220 | ,550 | ,388 | 1,000 | ,447 | ,094 | -,080 | ,078 | ,077 | -,012 | ,032 | ,012 | ,012 | ,164 |
| 15 | ,104 | ,049 | ,196 | ,094 | -,053 | ,006 | ,099 | -,024 | ,401 | ,160 | ,194 | ,380 | ,327 | ,447 | 1,000 | ,068 | -,033 | ,168 | ,116 | | ,126 | | ,119 | ,156 |
| 16 | ,153 | ,080 | ,151 | ,191 | ,194 | ,210 | ,153 | ,229 | ,063 | ,258 | ,262 | ,187 | ,099 | ,094 | ,068 | 1,000 | ,054 | -,002 | ,006 | ,061 | -,137 | -,061 | -,148 | -,016 |
| 17 | -,041 | -,091 | | | -,041 | | -,074 | | | | | | | | | | | | | | | | | |
| 18 | ,100 | ,037 | ,121 | | | | ,093 | ,025 | ,048 | ,054 | ,026 | ,143 | ,043 | ,078 | ,168 | -,002 | ,185 | 1,000 | ,630 | ,052 | ,378 | ,448 | ,381 | ,363 |
| 19 | ,119 | ,053 | ,153 | ,127 | ,038 | ,059 | ,129 | ,063 | ,085 | ,045 | ,012 | ,122 | ,104 | ,077 | ,116 | ,006 | ,213 | ,630 | 1,000 | ,084 | ,376 | ,365 | ,353 | ,446 |
| 20 | ,014 | ,014 | ,020 | ,017 | ,053 | ,043 | -,003 | ,037 | -,013 | -,010 | ,036 | ,011 | -,054 | -,012 | -,068 | ,061 | ,120 | ,052 | ,084 | 1,000 | ,022 | ,038 | ,031 | ,034 |
| 21 | -,153 1 | -,137 2 | | | | -,175 6 | -,109 7 | -,127 8 | ,077 9 | -,014 10 | -,031 11 | | | | | | | | | | | ,548 22 | | |

| | 24 | 23 | 22 |
|----|-------|-------|------------|
| _ | ,147 | -,122 | -,0% |
| 7 | ,140 | -,127 | -,09 |
| m | ,190 | -,043 | -,0 |
| 4 | 990' | -,090 | -,03 |
| 2 | ,026 | -,215 | -,16 |
| 9 | ,064 | -,203 | -,14 |
| / | ,145 | -,123 | -,09 |
| ∞ | ,068 | -,143 | -,10 |
| 6 | ,152 | ,029 | ,05 |
| 0 | ,058 | -,037 | -,0 |
| _ | ,051 | -,029 | ٤, |
| 7 | ,192 | -,053 | ą |
| m | ,120 | -,031 | 9, |
| 4 | ,164 | ,012 | ρ, |
| 2 | ,156 | ,119 | ,16 |
| 9 | -,016 | -,148 | -,06 |
| 7 | ,173 | ,306 | ,24 |
| ∞ | ,363 | ,381 | 4 |
| 6 | ,446 | ,353 | ,36 |
| 0 | ,034 | ,031 | ,03 |
| Σ. | ,341 | ,524 | 4 , |
| 7 | ,345 | ,729 | 1,00 |
| m | ,381 | 1,000 | 77, |
| 4 | 1,000 | ,381 | ,34 |

COVARIANCE MATRIX FOR THE MEASURE (OC)

| | 2,960 1, | 1,730 2, | •- | | 1,324 1, | | | | | | | | | | | ,318 , | | | | | | | |
|----------|----------|----------|--------|---------|----------|--------|---------|--------|------|------|----------|-------|-------|-------|------|--------|--------|----------------|------|------|--------|--------|--------|
| 2 | ö | 2,636 1, | _ | ,282 , | | | | | | | | | | | | | | | | | | | |
| | 1,408 | | | ,520 2, | | | 1,566 | | | | | | | | | | | | | | | | |
| | ,837 1 | | ,520 1 | 2,706 | | | ,801 1 | | | | | | | | | ,468 | | | | | | | , |
| | 1,324 1 | 1,107 1 | ,137 1 | ,783 | ,269 2 | ,365 3 | 1,356 1 | ,882 2 | ,124 | ,726 | ,382 | ,523 | ,055 | ,258 | ,133 | ,577 | ,108 - | ,004 | ,101 | ,140 | ,561 - | ,500 - | , |
| | | 1,235 1 | ,391 1 | ,972 | | | | | | | | | | | | | | | | | | | |
| | 1,511 1 | 1,330 1 | - | | | | | | | | | | | | | | | | | | | | |
| ∞ | 1,322 | 1,089 | | ,856 | | | 1,420 | | | | | | | | | | | | | | | | |
| 9 | | | | | | | ,405 | | | | | | | | | | | | | | | | |
| 10 | ,528 | ,337 | | | | | ,482 | | | | | | | | | | | | | | | | , |
| 1 | | ,195 | | | | | ,342 | | | | | | | | | | | | | | | | , |
| 12 | ,806 | ,712 | 1,143 | | | | 1,046 | | | | | | | | | | | | | | | | |
| | ,379 | • | | | | | ,368 | | | | | | | | | | | | | | | | |
| 14 | ,524 | ,423 | ,754 | ,326 | ,258 | ,393 | ,729 | ,230 | ,813 | ,737 | | | | | | | | | | | | | , |
| | | •• | ,507 | ,349 | -,133 | ,024 | ,274 | | | ,438 | ,544 | | | | | ,056 | | | | | | | , |
| 16 | ,318 | ,135 | ,325 | ,468 | ,577 | ,601 | ,363 | | | ,654 | ,581 | ,363 | ,123 | ,087 | ,056 | 2,253 | | | ,016 | | | | , |
| 17 | -,118 | -,259 | -,237 | ,192 | | -,019 | -,284 | ,051 | ,010 | ,210 | -,004 | -,518 | -,450 | -,440 | | ,088 | 3,602 | ,648 | ,660 | ,334 | ,873 | ,868 | ,,,,,, |
| | _ | 2 | ω | 4 | 5 | 6 | 7 | œ | 9 | 10 | 1 | 12 | 13 | 4 | 15 | 6 | 17 | 1 8 | 19 | 20 | | 22 | 1 |

| | 24 | 23 | 22 | 21 | 70 | 19 | 18 |
|----|-------|-------|-------|-------|-------|-------|-----------|
| _ | ,453 | -,361 | -,124 | -,361 | -,004 | ,487 | ,352 |
| 7 | ,406 | -,313 | -,178 | -,373 | ,064 | ,161 | ,159 |
| r | ,598 | -,184 | -,007 | -,143 | ,112 | ,505 | ,405 |
| 4 | ,162 | -,305 | -,056 | -,299 | ,053 | ,384 | ,339 |
| 2 | ,145 | -,695 | -,500 | -,561 | ,140 | ,101 | , 400, |
| 9 | ,245 | -,702 | -,428 | -,528 | ,167 | ,200 | ,080 |
| 7 | ,469 | -,374 | -,234 | -,255 | -,013 | ,439 | ,356 |
| œ | ,201 | -,481 | -,315 | -,432 | ,079 | ,184 | ,067 |
| 6 | ,428 | ,181 | ,337 | ,348 | -,085 | ,323 | ,296 |
| 10 | ,169 | ,034 | ,079 | ,035 | -,024 | ,179 | ,173 |
| 7 | ,152 | -,075 | ,068 | -,110 | ,115 | ,046 | ,021 |
| 12 | ,640 | -,182 | ,207 | ,056 | -,001 | ,400 | ,426 |
| 13 | ,343 | -,106 | ,048 | ,110 | -,276 | ,343 | ,111 |
| 4 | ,519 | ,037 | ,159 | ,203 | -,073 | ,260 | ,259 |
| 15 | ,405 | ,313 | ,533 | ,448 | -,205 | ,404 | ,557 |
| 16 | -,107 | -,455 | -,231 | -,458 | ,197 | ,016 | -,087 |
| 17 | ,486 | 1,008 | ,868 | ,873 | ,334 | ,660 | ,648 |
| 48 | 1,156 | 1,240 | 1,402 | 1,220 | ,125 | 2,136 | 3,387 |
| 19 | 1,425 | 1,157 | 1,183 | 1,179 | ,232 | 3,433 | 2,136 |
| 20 | ,053 | ,160 | ,059 | -,028 | 3,498 | ,232 | ,125 |
| 21 | 1,096 | 1,725 | 1,806 | 3,111 | -,028 | 1,179 | 1,220 |
| 22 | 1,188 | 2,543 | 3,512 | 1,806 | ,059 | 1,183 | 1,402 |
| 23 | 1,268 | 3,498 | 2,543 | 1,725 | ,160 | 1,157 | 1,240 |
| 24 | 3,138 | 1,268 | 1,188 | 1,096 | ,053 | 1,425 | 1,156 |

CORRELATION MATRIX FOR THE MEASURE (MOT)

| | 18 | 17 | 16 | 15. | 14: | 13 | 12 | 1 | 10 | 9 | ∞ | 7 | 6 | ъ | 4 | ω | 2 | _ |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|
| _ | ,288 | -,037 | ,255 | ,134 | ,306 | ,266 | -,042 | ,176 | ,362 | ,133 | ,135 | ,337 | ,220 | ,230 | ,147 | ,031 | ,367 | 1,000 |
| 2 | ,068 | -,011 | ,410 | ,050 | ,125 | ,236 | -,042 | ,136 | ,102 | ,622 | -,005 | ,217 | ,176 | ,005 | -,014 | ,108 | 1,000 | ,367 |
| ω | -,103 | ,355 | ,061 | -,093 | -,039 | ,096 | ,280 | ,034 | -,108 | ,085 | -,142 | -,027 | ,107 | -,137 | -,138 | 1,000 | ,108 | ,031 |
| 4 | ,361 | -,158 | ,086 | ,420 | ,308 | ,086 | -,137 | ,253 | ,403 | -,017 | ,596 | ,277 | ,187 | ,480 | 1,000 | -,138 | -,014 | ,147 |
| J | ,647 | -,108 | ,149 | ,433 | ,399 | ,187 | -,129 | ,338 | ,515 | ,000 | ,476 | ,417 | ,332 | 1,000 | ,480 | -,137 | ,005 | ,230 |
| 6 | ,318 | ,099 | ,237 | ,297 | ,307 | ,383 | ,075 | ,678 | ,264 | ,141 | ,225 | ,416 | 1,000 | ,332 | ,187 | ,107 | ,176 | ,220 |
| 7 | ,427 | -,050 | ,303 | ,371 | ,545 | ,373 | -,052 | ,393 | ,474 | ,213 | ,396 | 1,000 | ,416 | ,417 | ,277 | -,027 | ,217 | ,337 |
| œ | | -,162 | ,086 | ,556 | ,400 | ,151 | -,173 | ,319 | ,502 | | | ,396 | ,225 | ,476 | ,596 | -,142 | -,005 | ,135 |
| 9 | ,032 | ,030 | ,402 | | ,122 | ,168 | -,003 | ,115 | | | ,034 | ,213 | ,141 | ,000 | -,017 | ,085 | ,622 | ,133 |
| 10 | | -,137 | ,209 | | ,483 | ,193 | -,125 | ,340 | 1,000 | | ,502 | ,474 | ,264 | ,515 | ,403 | -,108 | ,102 | ,362 |
| <u> </u> | ,375 | ,051 | ,208 | | ,357 | ,366 | ,023 | 1,000 | ,340 | | ,319 | | ,678 | ,338 | ,253 | ,034 | ,136 | ,176 |
| 12 | -,116 | ,597 | -,023 | | ,002 | ,105 | 1,000 | ,023 | -,125 | | -,173 | | ,075 | -,129 | -,137 | ,280 | -,042 | -,042 |
| 13 | | ,100 | ,218 | | ,433 | 1,000 | ,105 | ,366 | | | ,151 | | ,383 | ,187 | ,086 | ,096 | ,236 | ,266 |
| 14 | ,429 | -,048 | ,240 | ,479 | 1,000 | ,433 | ,002 | ,357 | | | ,400 | | ,307 | ,399 | ,308 | -,039 | ,125 | ,306 |
| 15 | | -,055 | ,168 | 1,000 | ,479 | ,329 | -,074 | ,418 | | ,041 | ,556 | ,371 | ,297 | ,433 | ,420 | -,093 | ,050 | ,134 |
| 16 | ,206 | ,012 | | ,168 | ,240 | ,218 | -,023 | ,208 | ,209 | ,402 | ,086 | ,303 | ,237 | ,149 | ,086 | ,061 | ,410 | ,255 |
| 17 | -,101 | 1,000 | ,012 | -,055 | -,048 | ,100 | ,597 | ,051 | -,137 | ,030 | -,162 | -,050 | ,099 | -,108 | -,158 | ,355 | -,011 | -,037 |
| 18 | 1,000 | -,101 | ,206 | ,446 | ,429 | ,236 | -,116 | ,375 | ,595 | ,032 | ,446 | ,427 | ,318 | ,647 | ,361 | -,103 | ,068 | ,288 |

COVARIANCE MATRIX FOR THE MEASURE (MOT)

| | 18 | 17 | 16 | 15 | 4 | 13 | 12 | 1 | 10 | 6 | œ | 7 | 9 | 22 | 4 | m | 7 | - |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| _ | ,716 | -,111 | ,777 | ,325 | ,765 | ,833 | -,100 | ,440 | ,849 | ,410 | ,316 | 1,030 | ,670 | ,613 | ,315 | ,079 | 1,050 | 3,184 |
| 7 | ,213 | ,015 | 1,284 | ,113 | ,291 | ,730 | -,141 | ,361 | ,260 | 1,983 | -,020 | ,629 | ,529 | ,093 | 900, | ,313 | 3,098 | 1,050 |
| m | -,218 | ,963 | ,203 | -,182 | -,098 | ,278 | ,774 | ,061 | -,207 | ,289 | -,272 | -,016 | ,269 | -,244 | -,236 | 2,444 | ,313 | 620, |
| 4 | ,501 | -,303 | ,145 | ,495 | ,449 | ,182 | -,199 | ,377 | ,504 | ,000 | ,686 | ,406 | ,315 | 999' | 1,133 | -,236 | ,000 | ,315 |
| 2 | 1,113 | -,175 | ,333 | ,647 | ,731 | ,489 | -,193 | ,682 | ,808 | 690' | ,662 | ,846 | ,795 | 1,784 | 999, | -,244 | ,093 | ,613 |
| 9 | ,693 | ,280 | ,650 | ,506 | ,705 | 1,150 | ,251 | 1,606 | ,561 | ,453 | ,385 | 1,112 | 2,703 | ,795 | ,315 | ,269 | ,529 | ,670 |
| / | ,846 | -,044 | ,781 | ,631 | 1,160 | 1,168 | ,022 | ,951 | ,880 | ,640 | ,604 | 2,481 | 1,112 | ,846 | ,406 | -,016 | ,629 | 1,030 |
| œ | ,613 | -,286 | ,152 | ,689 | ,621 | ,327 | -,273 | ,517 | ,672 | ,106 | 1,233 | ,604 | ,385 | ,662 | ,686 | -,272 | -,020 | ,316 |
| 6 | ,146 | ,190 | 1,243 | ,122 | ,315 | ,589 | ,040 | ,361 | ,326 | 3,050 | ,106 | ,640 | ,453 | 690' | ,000 | ,289 | 1,983 | ,410 |
| 0 | ,942 | | ,429 | ,524 | ,811 | ,454 | -,151 | ,605 | 1,577 | ,326 | ,672 | ,880 | ,561 | ,808 | ,504 | -,207 | ,260 | ,849 |
| _ | ,707 | ,126 | ,499 | ,677 | ,763 | ,976 | ,116 | 2,178 | ,605 | ,361 | ,517 | ,951 | 1,606 | ,682 | ,377 | ,061 | ,361 | ,440 |
| 7 | -,173 | | -,052 | -,052 | ,125 | ,442 | 3,022 | ,116 | -,151 | ,040 | -,273 | ,022 | ,251 | -,193 | -,199 | ,774 | -,141 | -,100 |
| m | ,559 | ,372 | ,692 | ,671 | 1,143 | 3,339 | ,442 | ,976 | ,454 | ,589 | ,327 | 1,168 | 1,150 | ,489 | ,182 | ,278 | ,730 | ,833 |
| 4 | ,775 | -,047 | ,491 | ,777 | 1,960 | 1,143 | ,125 | ,763 | ,811 | ,315 | ,621 | 1,160 | ,705 | ,731 | ,449 | -,098 | ,291 | ,765 |
| 2 | ,629 | -,075 | ,295 | 1,244 | ,777 | ,671 | -,052 | ,677 | ,524 | ,122 | 689, | ,631 | ,506 | ,647 | ,495 | -,182 | ,113 | ,325 |
| 9 | ,436 | ,077 | 2,725 | ,295 | ,491 | ,692 | -,052 | ,499 | ,429 | 1,243 | ,152 | ,781 | ,650 | ,333 | ,145 | ,203 | 1,284 | 777, |
| _ | -,165 | 2,948 | ,077 | -,075 | -,047 | ,372 | 1,715 | ,126 | -,268 | ,190 | -,286 | -,044 | ,280 | -,175 | -,303 | ,963 | ,015 | -,111 |
| œ | 1,670 | -,165 | ,436 | ,629 | ,775 | ,559 | -,173 | ,707 | ,942 | ,146 | ,613 | ,846 | ,693 | 1,113 | ,501 | -,218 | ,213 | ,716 |

CORRELATION MATRIX FOR THE MEASURE (JP)

| _ | 1,000 | ,576 | ,245 | ,300 | ,381 | ,202 | ,173 | ,574 | ,246 | ,082 | ,247 | ,208 | -,082 | ,315 | ,248 | ,151 | ,109 | ,199 | ,172 | ,140 | ,212 | ,241 | ,190 | ,237 | ,119 | ,018 | ,218 | ,161 |
|----------|---------------|--------|---------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ω | ,576 | 1,000 | ,230 | ,321 | ,394 | ,184 | ,206 | ,584 | ,206 | ,114 | ,233 | ,177 | -,098 | ,371 | ,264 | ,080 | ,109 | ,243 | ,214 | ,164 | ,222 | ,271 | ,214 | ,260 | ,121 | ,018 | ,200 | ,166 |
| 4 | ,245 | ,230 | 1,000 | ,159 | ,386 | ,334 | ,240 | ,204 | ,792 | -,112 | ,351 | ,605 | -,050 | ,240 | ,307 | , 195 | , 155 | ,094 | ,137 | ,280 | ,119 | ,150 | ,141 | ,116 | -,050 | ,133 | ,203 | ,043 |
| ъ | ,300 | ,321 | ,159 | 1,000 | ,298 | ,098 | ,166 | ,290 | ,100 | ,041 | ,191 | ,026 | -,101 | ,266 | ,157 | ,124 | ,106 | ,088 | ,107 | ,133 | ,116 | ,143 | ,095 | ,276 | ,052 | ,021 | ,168 | ,119 |
| 6 | ,381 | ,394 | ,386 | ,298 | 1,000 | ,425 | ,303 | ,400 | ,330 | -,012 | ,365 | ,301 | -,196 | ,359 | ,373 | ,229 | ,235 | ,192 | ,175 | ,356 | ,213 | ,308 | ,255 | ,310 | ,057 | ,078 | ,299 | ,130 |
| 1 | ,202 | ,184 | ,334 | ,098 | ,425 | 1,000 | ,277 | ,169 | ,314 | -,074 | ,317 | ,304 | -,153 | ,282 | ,314 | ,199 | ,203 | ,151 | ,179 | ,320 | ,203 | ,192 | ,230 | ,175 | -,010 | ,095 | ,234 | ,105 |
| 13 | ,173 | ,206 | ,240 | ,166 | ,303 | ,277 | 1,000 | ,264 | ,235 | -,049 | ,301 | ,234 | -,154 | ,285 | ,280 | ,230 | ,228 | ,199 | ,133 | ,277 | ,124 | ,134 | ,200 | ,244 | ,038 | ,075 | ,239 | ,039 |
| 14 | ,574 | ,584 | ,204 | ,290 | ,400 | ,169 | ,264 | 1,000 | ,211 | ,085 | ,230 | ,160 | -,124 | ,371 | ,284 | ,151 | ,176 | ,240 | ,194 | ,176 | ,175 | ,227 | ,166 | ,315 | ,190 | -,018 | ,215 | ,179 |
| 16 | ,246 | ,206 | ,792 | ,100 | ,330 | ,314 | ,235 | ,211 | 1,000 | -,162 | ,372 | ,663 | -,039 | ,216 | ,311 | ,206 | ,143 | ,069 | ,107 | ,257 | ,118 | ,145 | ,145 | ,112 | -,025 | ,125 | ,214 | ,073 |
| 17 | ,082 | ,114 | -,112 | ,041 | -,012 | -,074 | -,049 | ,085 | -,162 | 1,000 | -,018 | -,156 | -,020 | ,027 | -,016 | -,073 | -,081 | ,061 | ,037 | -,052 | ,103 | ,089 | ,015 | ,034 | ,130 | -,053 | -,005 | ,043 |
| 20 | ,247 | ,233 | ,351 | ,191 | ,365 | ,317 | ,301 | ,230 | ,372 | -,018 | 1,000 | ,369 | -,178 | ,218 | ,332 | ,203 | ,101 | ,142 | ,139 | ,376 | ,265 | ,188 | ,182 | ,209 | ,007 | ,114 | ,293 | ,176 |
| 22 | ,208 | ,177 | ,605 | ,026 | ,301 | ,304 | ,234 | ,160 | ,663 | -,156 | ,369 | 1,000 | -,075 | ,240 | ,319 | ,245 | ,148 | ,113 | ,123 | ,266 | ,095 | ,131 | ,182 | ,130 | -,001 | ,153 | ,224 | ,083 |
| 24 | -,082 | -,098 | -,050 | -,101 | -,196 | -,153 | -,154 | -,124 | -,039 | -,020 | -,178 | -,075 | 1,000 | -,242 | -,241 | -,063 | -,065 | -,195 | -,221 | -,228 | -,237 | -,197 | -,093 | -,266 | -,009 | ,007 | -,293 | -,168 |
| 25 | ,315 | ,371 | ,240 | ,266 | ,359 | ,282 | ,285 | ,371 | ,216 | ,027 | ,218 | ,240 | -,242 | 1,000 | ,321 | ,259 | ,337 | ,273 | ,365 | ,184 | ,200 | ,398 | ,346 | ,371 | ,102 | -,019 | ,321 | ,201 |
| 27 | ,248 | ,264 | ,307 | ,157 | ,373 | ,314 | ,280 | ,284 | ,311 | -,016 | ,332 | ,319 | -,241 | ,321 | 1,000 | ,349 | ,152 | ,229 | ,219 | ,331 | ,252 | ,270 | ,218 | ,257 | ,032 | ,014 | ,382 | ,271 |
| 29 | ,151 | ,080 | ,195 | ,124 | ,229 | ,199 | ,230 | ,151 | ,206 | -,073 | ,203 | ,245 | -,063 | ,259 | ,349 | 1,000 | ,175 | ,049 | ,104 | ,141 | ,049 | ,154 | ,123 | ,209 | -,036 | ,067 | ,180 | ,060 |
| <u>د</u> | ,109 1 | ,109 3 | ,155 4 | ,106 5 | | | | | | | | | | | ,152 27 | | | | | | | | | | | | | |

| _ | 22 | 24 | 52 | 49 | 47 | 45 | 40 | 39 | 37 | 35 | 33 |
|--------|------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|
| m | ,161 | ,218 | ,018 | ,119 | ,237 | ,190 | ,241 | ,212 | ,140 | ,172 | ,199 |
| 4 | ,166 | ,200 | ,018 | ,121 | ,260 | ,214 | ,271 | ,222 | ,164 | ,214 | ,243 |
| 2 | ,043 | ,203 | ,133 | -,050 | ,116 | 141, | ,150 | ,119 | ,280 | ,137 | ,094 |
| 9 | ,119 | ,168 | ,021 | ,052 | ,276 | ,095 | ,143 | ,116 | ,133 | ,107 | .088 |
| 7 | | ,299 | ,078 | ,057 | ,310 | ,255 | ,308 | ,213 | ,356 | ,175 | ,192 |
| 13 | | ,234 | ,095 | -,010 | ,175 | ,230 | ,192 | ,203 | ,320 | ,179 | ,151 |
| 4 | | ,239 | ,075 | ,038 | ,244 | ,200 | ,134 | ,124 | ,277 | ,133 | ,199 |
| 16 | | ,215 | -,018 | ,190 | ,315 | .166 | ,227 | ,175 | ,176 | ,194 | ,240 |
| 17 | | ,214 | ,125 | -,025 | ,112 | ,145 | ,145 | ,118 | ,257 | ,107 | 690. |
| 20 | | -,005 | -,053 | ,130 | ,034 | ,015 | 680, | ,103 | -,052 | ,037 | .061 |
| 22 | | ,293 | ,114 | ,000 | ,209 | .182 | ,188 | ,265 | ,376 | ,139 | ,142 |
| 24 | | ,224 | ,153 | -,001 | ,130 | ,182 | ,131 | ,095 | ,266 | ,123 | ,113 |
| 25 | | -,293 | ,000 | -,000 | -,266 | -,093 | -,197 | -,237 | -,228 | -,221 | -,195 |
| 27 | | ,321 | -,019 | ,102 | .371 | .346 | ,398 | ,200 | .184 | ,365 | .273 |
| ; ć | | ,382 | ,014 | ,032 | ,257 | ,218 | ,270 | ,252 | ,331 | ,219 | ,229 |
| , , | | ,180 | 790, | -,036 | ,209 | ,123 | ,154 | ,049 | .141 | ,104 | ,049 |
| - : | | ,130 | ,031 | ,016 | .145 | .209 | ,253 | .078 | ,122 | ,219 | ,236 |
| , , | | ,251 | -,036 | .109 | ,313 | .220 | ,232 | ,238 | ,182 | ,421 | 1,000 |
| 0 0 | | ,216 | -,019 | ,047 | ,222 | ,331 | ,289 | ,211 | ,205 | 1,000 | ,421 |
| 3, | | ,332 | ,117 | -,033 | ,253 | ,127 | ,192 | ,224 | 1,000 | ,205 | ,182 |
| 39 | | ,318 | ,027 | ,000 | ,224 | ,265 | ,478 | 1,000 | ,224 | ,211 | ,238 |
| 40 | | ,292 | ,011 | ,021 | .236 | .367 | 1,000 | ,478 | ,192 | ,289 | ,232 |
| 42 | | ,234 | ,048 | ,014 | .211 | 1,000 | ,367 | ,265 | ,127 | ,331 | .220 |
| 47 | | ,391 | -,005 | ,122 | 1,000 | ,211 | ,236 | ,224 | ,253 | ,222 | ,313 |
| 49 | | -,043 | -,152 | 1,000 | ,122 | ,014 | ,021 | , 100, | -,033 | ,047 | ,109 |
| 25 | | 060, | 1,000 | -,152 | -,005 | .048 | ,011 | .027 | .117 | -,019 | -,036 |
| 24 | | 1,000 | 060. | -,043 | .391 | ,234 | .292 | ,318 | ,332 | .216 | ,251 |
| 22 | - | ,402 | ,018 | -,030 | ,244 | ,202 | ,217 | ,297 | ,171 | ,221 | ,235 |

COVARIANCE MATRIX FOR THE MEASURE (JP)

| _ | ,892 | ,517 | ,320 | ,369 | ,384 | ,260 | ,204 | ,504 | ,314 | ,136 | ,344 | ,262 | -,108 | ,313 | ,273 | ,202 | ,169 | ,243 | ,226 | ,180 | ,281 | ,289 | ,268 | ,256 | ,202 | ,023 | ,259 | ,220 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ω | ,517 | ,900 | ,302 | ,396 | ,399 | ,238 | ,243 | ,515 | ,264 | ,192 | ,326 | ,223 | -,130 | ,371 | ,293 | ,107 | ,170 | ,298 | ,282 | ,211 | ,296 | ,325 | ,304 | ,282 | ,206 | ,023 | ,239 | ,227 |
| 4 | ,320 | ,302 | 1,912 | ,286 | ,570 | ,630 | ,415 | ,262 | 1,481 | -,273 | ,716 | 1,111 | -,097 | ,350 | ,496 | ,383 | ,352 | ,168 | ,262 | ,526 | ,232 | ,263 | ,292 | ,182 | -,123 | ,246 | ,353 | ,086 |
| 5 | ,369 | ,396 | ,286 | 1,691 | ,413 | ,174 | ,269 | ,350 | ,175 | ,094 | ,367 | ,045 | -,183 | ,365 | ,238 | ,228 | ,227 | ,148 | ,193 | ,234 | ,212 | ,235 | ,185 | ,410 | ,121 | ,038 | ,275 | ,223 |
| 6 | ,384 | ,399 | ,570 | ,413 | 1,141 | ,619 | ,403 | ,396 | ,476 | -,022 | ,576 | ,428 | -,292 | ,404 | ,466 | ,348 | ,413 | ,265 | ,259 | ,517 | ,320 | ,417 | ,407 | ,379 | ,109 | ,113 | ,402 | ,201 |
| 11 | ,260 | ,238 | ,630 | ,174 | ,619 | 1,859 | ,471 | ,214 | ,578 | -,179 | ,639 | ,551 | -,291 | ,405 | ,500 | ,385 | ,454 | ,267 | ,339 | ,594 | ,389 | ,332 | ,470 | ,273 | -,024 | ,174 | ,402 | ,206 |
| 13 | ,204 | ,243 | ,415 | ,269 | ,403 | ,471 | 1,558 | ,306 | ,396 | -,109 | ,555 | ,388 | -,269 | ,375 | ,409 | ,407 | ,467 | ,321 | ,230 | ,470 | ,218 | ,211 | ,373 | ,348 | ,084 | ,126 | ,376 | ,070 |
| 14 | ,504 | ,515 | ,262 | ,350 | ,396 | ,214 | ,306 | ,862 | ,265 | ,139 | ,315 | ,198 | -,161 | ,363 | ,309 | ,198 | ,268 | ,288 | ,250 | ,223 | ,229 | ,267 | ,230 | ,334 | ,315 | -,023 | ,251 | ,240 |
| 16 | ,314 | ,264 | 1,481 | ,175 | ,476 | ,578 | ,396 | ,265 | 1,827 | -,386 | ,741 | 1,191 | -,074 | ,307 | ,492 | ,396 | ,317 | ,121 | ,201 | ,471 | ,225 | ,247 | ,292 | ,172 | -,060 | ,227 | ,364 | ,143 |
| 17 | ,136 | ,192 | -,273 | ,094 | -,022 | -,179 | -,109 | ,139 | -,386 | 3,112 | -,046 | -,366 | -,050 | ,050 | -,032 | -,184 | -,235 | ,139 | ,090 | -,124 | ,255 | ,198 | ,038 | ,069 | ,411 | -,126 | -,011 | ,109 |
| 20 | ,344 | ,326 | ,716 | ,367 | ,576 | ,639 | ,555 | ,315 | ,741 | -,046 | 2,177 | ,723 | -,368 | ,339 | ,572 | ,425 | ,244 | ,271 | ,284 | ,755 | ,550 | ,351 | ,401 | ,353 | ,019 | ,226 | ,545 | ,376 |
| 22 | ,262 | ,223 | 1,111 | ,045 | ,428 | ,551 | ,388 | ,198 | 1,191 | -,366 | ,723 | 1,765 | -,139 | ,335 | ,496 | ,461 | ,322 | ,194 | ,227 | ,481 | ,177 | ,220 | ,361 | ,198 | -,002 | ,273 | ,375 | ,160 |
| 24 | -,108 | -,130 | -,097 | -,183 | -,292 | -,291 | -,269 | -,161 | -,074 | -,050 | -,368 | -,139 | 1,955 | -,357 | -,394 | -,126 | -,150 | -,352 | -,429 | -,434 | -,466 | -,348 | -,194 | -,425 | -,022 | ,013 | -,516 | -,339 |
| 25 | ,313 | ,371 | ,350 | ,365 | ,404 | ,405 | ,375 | ,363 | ,307 | ,050 | ,339 | ,335 | -,357 | 1,110 | ,395 | ,388 | ,584 | ,372 | ,534 | ,264 | ,296 | ,531 | ,545 | ,447 | ,192 | -,027 | ,426 | ,307 |
| 27 | ,273 | ,293 | ,496 | ,238 | ,466 | ,500 | ,409 | ,309 | ,492 | -,032 | ,572 | ,496 | -,394 | ,395 | 1,367 | ,579 | ,291 | ,346 | ,355 | ,525 | ,414 | ,399 | ,381 | ,343 | ,067 | ,022 | ,562 | ,458 |
| 29 | ,202 | ,107 | ,383 | ,228 | ,348 | ,385 | ,407 | ,198 | ,396 | -,184 | ,425 | ,461 | -,126 | ,388 | ,579 | 2,013 | ,408 | ,091 | ,205 | ,272 | ,098 | ,276 | ,261 | ,338 | -,092 | ,129 | ,322 | ,124 |
| <u>u</u> | ,169 | ,170 | ,352 | ,227 | ,413 | ,454 | ,467 | ,268 | ,317 | -,235 | ,244 | ,322 | -,150 | ,584 | ,291 | ,408 | 2,701 | ,501 | ,500 | ,273 | ,181 | ,527 | ,514 | ,273 | ,047 | ,068 | ,269 | ,220 |
| | _ | ω | 4 | 5 | 6 | 1 | 3 | 14 | 16 | 17 | 20 | 22 | 24 | 25 | 27 | 29 | 31 | ω | 35 | 37 | 39 | 40 | 45 | 47 | 49 | 52 | 54 | 55 |

| | 22 | 24 | 52 | 49 | 47 | 45 | 40 | 39 | 37 | 32 | 33 |
|----|---------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|
| _ | ,220 | ,259 | ,023 | ,202 | ,256 | ,268 | ,289 | ,281 | ,180 | ,226 | ,243 |
| m | ,227 | ,239 | ,023 | ,206 | ,282 | ,304 | ,325 | .296 | ,211 | ,282 | .298 |
| 4 | ,086 | ,353 | ,246 | -,123 | ,182 | ,292 | ,263 | ,232 | ,526 | ,262 | ,168 |
| 2 | ,223 | ,275 | .038 | ,121 | .410 | ,185 | ,235 | ,212 | ,234 | ,193 | .148 |
| 9 | ,201 | ,402 | ,113 | ,109 | ,379 | ,407 | ,417 | ,320 | ,517 | ,259 | ,265 |
| 7 | ,206 | ,402 | ,174 | -,024 | ,273 | ,470 | ,332 | ,389 | ,594 | ,339 | ,267 |
| 13 | ,070 | ,376 | .126 | .084 | ,348 | ,373 | ,211 | ,218 | .470 | ,230 | ,321 |
| 4 | ,240 | ,251 | -,023 | ,315 | ,334 | ,230 | ,267 | ,229 | ,223 | ,250 | ,288 |
| 16 | ,143 | ,364 | ,227 | -,060 | ,172 | ,292 | ,247 | ,225 | ,471 | ,201 | ,121 |
| 17 | ,109 | -,011 | -,126 | , 111 | 690' | ,038 | ,198 | ,255 | -,124 | ,090 | ,139 |
| 20 | ,376 | ,545 | ,226 | ,019 | ,353 | ,401 | ,351 | ,550 | ,755 | ,284 | ,271 |
| 22 | ,160 | ,375 | ,273 | -,002 | ,198 | ,361 | ,220 | ,177 | ,481 | ,227 | ,194 |
| 24 | -,339 | -,516 | ,013 | -,022 | -,425 | -,194 | -,348 | -,466 | -,434 | -,429 | -,352 |
| 25 | ,307 | ,426 | -,027 | ,192 | ,447 | ,545 | ,531 | ,296 | ,264 | ,534 | ,372 |
| 27 | ,458 | ,562 | ,022 | ,067 | ,343 | ,381 | ,399 | ,414 | ,525 | ,355 | ,346 |
| 29 | ,124 | ,322 | ,129 | -,092 | ,338 | ,261 | ,276 | ,098 | ,272 | ,205 | ,091 |
| 31 | ,220 | .269 | .068 | .047 | ,273 | ,514 | ,527 | ,181 | .273 | .500 | .501 |
| 33 | ,439 | ,409 | -,063 | ,251 | ,462 | ,425 | ,381 | ,433 | ,320 | ,756 | 1,673 |
| 35 | , 43 | ,377 | -,035 | ,118 | ,352 | ,687 | ,508 | ,413 | ,386 | 1,926 | ,756 |
| 37 | ,336 | ,568 | ,215 | -,081 | ,392 | ,259 | ,330 | ,428 | 1,846 | ,386 | ,320 |
| 39 | ,604 | ,562 | ,052 | ,003 | ,360 | ,558 | ,850 | 1,978 | ,428 | ,413 | ,433 |
| 40 | ,398 | ,466 | ,019 | ,048 | ,341 | ,695 | 1,603 | ,850 | ,330 | ,508 | ,381 |
| 45 | ,436 | ,440 | ,097 | ,037 | ,361 | 2,235 | ,695 | ,558 | ,259 | ,687 | ,425 |
| 47 | ,403 | ,562 | -,008 | ,248 | 1,304 | ,361 | ,341 | ,360 | ,392 | ,352 | ,462 |
| 49 | -,076 | -,097 | -,364 | 3,196 | ,248 | ,037 | ,048 | ,003 | -,081 | ,118 | ,251 |
| 52 | .034 | ,152 | 1,809 | -,364 | -,008 | .097 | ,019 | ,052 | .215 | -,035 | -,063 |
| 54 | ,731 | 1,583 | ,152 | -,097 | ,562 | .440 | ,466 | ,562 | ,568 | ,377 | ,409 |
| 22 | 2,094 | ,731 | ,034 | -,076 | ,403 | ,436 | ,398 | ,604 | ,336 | ,443 | ,439 |

CORRELATION MATRIX FOR THE MEASURE (ISQ)

| _ | 1,00 | ,517 | ,656 | ,681 | ,688 | ,636 | ,582 | ,526 | ,583 | ,338 | ,368 | ,470 | ,357 | ,504 | ,240 | ,479 | ,428 | ,550 | ,460 | ,635 | ,591 | ,570 |
|--------|----------|------|------|------|--------|--------|------|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 2 | ,517 | 1,00 | ,530 | ,462 | ,476 | ,466 | ,437 | ,359 | ,362 | ,267 | ,278 | ,327 | ,288 | ,444 | ,181 | ,405 | ,370 | ,447 | ,290 | ,414 | ,411 | ,447 |
| ω | ,656 | ,530 | 1,00 | ,735 | ,660 | ,596 | ,548 | ,461 | ,535 | ,308 | ,317 | ,430 | ,332 | ,458 | ,202 | ,417 | ,408 | ,510 | ,412 | ,563 | ,529 | ,526 |
| 4 | ,681 | ,462 | ,735 | 1,00 | ,815 | ,731 | ,674 | ,582 | ,623 | ,336 | ,375 | ,496 | ,376 | ,544 | ,286 | ,529 | ,480 | ,598 | ,493 | ,687 | ,633 | ,626 |
| ر ت | ,688 | ,476 | ,660 | | 1,00 | ,849 | ,785 | ,669 | ,687 | ,365 | ,404 | ,517 | ,370 | ,579 | ,292 | ,575 | ,509 | ,658 | ,540 | ,697 | ,696 | ,678 |
| 6 | ,636 | ,466 | ,596 | ,731 | ,849 | 1,00 | ,833 | ,696 | ,666 | ,330 | ,400 | ,499 | ,379 | ,630 | ,281 | ,594 | ,527 | ,679 | ,515 | ,657 | ,704 | ,667 |
| 7. | ,582 | ,437 | ,548 | ,674 | ,785 | ,833 | 1,00 | ,720 | ,642 | ,334 | ,387 | ,510 | ,373 | ,617 | ,316 | ,604 | ,562 | ,659 | ,535 | ,655 | ,695 | ,670 |
| œ | ,526 | ,359 | ,461 | ,582 | ,669 | ,696 | ,720 | 1,00 | ,656 | ,336 | ,390 | ,542 | ,375 | ,528 | ,307 | ,575 | ,485 | ,598 | ,521 | ,617 | ,677 | ,634 |
| 9 | ,583 | ,362 | ,535 | ,623 | ,687 | ,666 | ,642 | ,656 | 1,00 | ,352 | ,368 | ,552 | ,346 | ,495 | ,337 | ,518 | ,445 | ,546 | ,504 | ,611 | ,628 | ,591 |
| 10 | ,338 | ,267 | ,308 | | | ,330 | | | | | | | | | | | | | | | | ,367 |
| 1 | ,368 | ,278 | ,317 | | | ,400 | | | | | | | | | | | | | | | | ,393 |
| 12 | ,470 | ,327 | | | | ,499 | | | | | | | | | | | | | | | ,513 | ,464 |
| 13 | ,357 | ,288 | | | | ,379 | | | | | | | | | | | | | | ,398 | | ,396 |
| 14 | ,504 | ,444 | | | | ,630 | | | | | | | | | | | | ,718 | | ,591 | | ,611 |
| 15 | ,240 | ,181 | ,202 | | | | | | | | | | | | 1,00 | | | ,300 | | ,321 | ,310 | ,316 |
| 16 | ,479 | ,405 | ,417 | ,529 | ,575 | ,594 | | | | | | | | | | | | ,720 | | | ,674 | ,630 |
| 17 | ,428 | ,370 | | | | ,527 | | | - | | | - | | | | | | | | | ,535 | ,569 |
| 18 | ,550 | | | | | ,679 | | | | | | | | _ | | | | • | | | - | _ |
| | | | | | | ,515 | | | | | | | | | | | | | | | | |
| | | | | | | ,657 | | | | | | | | | | | | | | | | |
| | | | | | | 7 ,704 | | | | | | | | | | | | | | | | |
| | | | | | | 4 ,667 | | | | | | | | | | | | | | | | |
| | <u> </u> | 7 2 | ω | 4 | σ σ | | 0 7 | 4 ∞ | | | | | | | 6 15 | | | | | | | |

COVARIATION MATRIX FOR THE MEASURE (ISQ)

| | 7 | ۵ ۵ | 0 | 2 | _ | 0 | 2 | ∞ | 3 | _ | 6 | 7 | 4 | 6 | 3 | ∞ | 7 | 7 | 2 | 2 | 2 |
|----|---------|-------------|---------|-------|-------|--------|--------|-------|--------|------|------|------|-------|------|--------|-------|--------|------|--------|-------|-------|
| | 1,722 | | | | | | | | | | | | | | | | | | | | |
| 7 | ,946 | 1,939 | ,877 | ,951 | ,940 | ,899 | ,597 | ,635 | ,608 | ,630 | ,566 | ,570 | ,920 | ,414 | ,819 | ,732 | ,891 | ,489 | ,751 | ,723 | ,845 |
| m | 1,158 | 1,031 | 1,286 | 1,243 | 1,164 | 1,079 | ,781 | ,895 | ,695 | ,692 | ,761 | ,656 | ,934 | ,488 | ,859 | ,790 | 1,006 | ,651 | ,995 | ,930 | ,960 |
| 4 | 1,190 | ,8// | 1,781 | 1,551 | 1,473 | 1,352 | 1,025 | 1,051 | 969' | ,790 | ,900 | ,713 | 1,135 | ,661 | 1,086 | ,903 | 1,181 | ,806 | 1,222 | 1,114 | 1,148 |
| | 1,295 | | | | | | | | | | | | | | | | | | | | |
| | 1,231 | | | | | | | | | | | | | | | | | | | | |
| | 1,150 | | | | | | | | | | | | | | | | | | | | |
| | ,915 | | | | | | | | | | | | | | | | | | | | |
| | 998 | | | | | | | | | | | | | | | | | | | | |
| 10 | ,713 | ,000, | , 969, | , 805 | , 789 | , 807 | , 719 | , 729 | .,772 | ,777 | ,752 | ,533 | ,804 | ,744 | , 751 | ,639 | ,745 | ,659 | , 928, | , 709 | , 811 |
| | ,801 | | | | | | | | | | | | | | | | | | | | |
| | ,839 | | | | | | | | | | | | | | | | | | | | |
| | ,697 | | | | | | | | | | | | | | | | | | | | |
| | ,994 | | | | | | | | | | | | | | | | | | | | |
| | ,529 | | | | | | | | | | | | | | | | | | | | |
| | ,943 | | | | | | | | | | | | | | | | | | | | |
| 17 | ,758 | 790 | ,903 1 | ,980 | ,063 | ,125 1 | ,843 1 | ,769 | ,639 | ,688 | ,801 | ,623 | ,148 | ,439 | ,995 2 | ,088 | ,276 1 | ,743 | ,973 | ,003 | ,086 |
| | 1,047 | | | | | | | | | | | | | | | | | | | | |
| | ,767 1 | | | | | | | | | | | | | | | | | | | | |
| | 1,115 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| 7 | 5 1,025 | ن c ر م | . ∞ | 9 1,3 | 9 1,3 | 8 1,3 | 2 1,1 | 9 1,0 | 1, | 3, 0 | 3, | 3, | 9 1,3 | 3, 8 | 8 1,3 | 6 1,C | 5 1,4 | ۶, | 4,1 | 4 1,7 | 5 1,5 |
| 22 | 1,015 | , 20, 9, | , 1, | 1,32 | 1,35 | 1,34 | 1,13 | 1,03 | , 8 | ,87 | | | | | | | | | | | |
| | _ | 7 | ω z | 1. г. | , 4 | , , | . α | • | , 5 | | : 2 | . 4 | 4 | . 7. | . 4 | 17 | : ~ | . 6 | . 2 | 7 2 | 22 |

CORRELATION MATRIX FOR THE MEASURE (WEB SITE QUALITY)

| | _ | 7 | 3 | 4 | 2 | 9 | 7 | œ | 6 | 0 | _ | 7 | 3 | 4 | 2 | 9 | 7 | œ | 6 | 0 | _ | 7 | m | 4 | L |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-----|
| 22 | .348 | .511 | .442 | ,426 | .397 | .350 | .254 | .437 | .400 | .433 | .480 | .514 | .456 | .579 | .557 | ,340 | .421 | .442 | .257 | .297 | .692 | .617 | .543 | .657 | 600 |
| 24 | .314 | .508 | ,310 | ,439 | .342 | .274 | .239 | .318 | ,350 | .383 | ,392 | .459 | .361 | .436 | ,437 | .269 | .344 | ,333 | .186 | .216 | .719 | 9/9. | ,615 | 1,000 | 657 |
| 23 | .165 | .487 | ,349 | .409 | .385 | .315 | .294 | .253 | .318 | .426 | ,445 | .466 | .467 | .526 | ,511 | ,224 | .278 | .456 | .178 | .293 | .635 | .633 | 1,000 | ,615 | 543 |
| 22 | .287 | ,652 | .291 | ,435 | .410 | .181 | .262 | .224 | .311 | .394 | .507 | .604 | .424 | .517 | .540 | ,421 | .348 | .490 | .332 | .402 | .752 | 1,000 | ,633 | 9/9 | 617 |

COVARIANCE MATRIX FOR THE MEASURE (WEB SITE QUALITY)

| _ | 1,960 | ,802 | ,410 | ,568 | ,338 | ,444 | ,386 | ,205 | ,602 | ,465 | ,388 | ,550 | ,484 | ,379 | ,409 | ,354 | ,403 | ,341 | ,098 | ,218 | ,602 | ,673 | ,358 | ,728 | ,729 |
|----|---------------|---------------|---------------|--------|--------|--------|---------------|---------------|---------------|----------------|----------------|---------|----------------|---------|----------------|-----------------|----------|----------------|----------------|---------|---------|----------|---------|---------|----------------|
| 2 | ,802 | 2,050 | 1,026 | 1,068 | ,874 | ,674 | ,746 | ,568 | ,850 | ,817 | 1,079 | 1,179 | ,875 | ,983 | ,848 | ,965 | ,712 | ,696 | ,503 | ,654 | 1,499 | 1,566 | 1,077 | 1,206 | 1,093 |
| ω | ,410 | 1,026 | 3,174 | 1,025 | ,771 | 1,165 | ,372 | 1,044 | ,661 | ,502 | ,875 | ,834 | ,905 | ,710 | ,723 | ,686 | ,871 | ,623 | ,901 | ,653 | ,949 | ,869 | ,961 | ,916 | 1,177 |
| 4 | ,568 | 1,068 | 1,025 | 1,859 | ,875 | ,830 | ,760 | ,646 | ,624 | ,614 | ,916 | ,935 | 1,139 | ,729 | ,724 | ,859 | ,503 | ,586 | ,236 | ,401 | 1,052 | ,996 | ,862 | ,992 | ,867 |
| ъ | ,338 | ,874 | ,771 | ,875 | 1,114 | ,551 | ,737 | ,345 | ,700 | ,701 | ,814 | ,752 | ,810 | ,737 | ,641 | ,674 | ,431 | ,581 | ,266 | ,614 | ,724 | ,726 | ,627 | ,599 | ,626 |
| 6 | ,444 | ,674 | 1,165 | ,830 | ,551 | 2,682 | ,652 | 1,018 | ,389 | ,384 | ,684 | ,523 | ,664 | ,654 | ,571 | ,264 | ,450 | ,336 | ,262 | ,287 | ,848 | ,498 | ,797 | ,744 | ,855 |
| 7 | ,386 | ,746 | ,372 | ,760 | ,737 | ,652 | 1,773 | ,277 | ,658 | ,594 | ,536 | ,606 | ,675 | ,533 | ,564 | ,524 | ,402 | ,430 | ,200 | ,299 | ,832 | ,585 | ,605 | ,529 | ,505 |
| œ | ,205 | ,568 | 1,044 | ,646 | ,345 | 1,018 | ,277 | 2,444 | ,339 | ,391 | ,724 | ,589 | ,719 | ,632 | ,636 | ,485 | ,894 | ,394 | ,355 | ,518 | 1,090 | ,588 | ,611 | ,823 | 1,020 |
| 9 | ,602 | ,850 | ,661 | ,624 | ,700 | ,389 | ,658 | ,339 | 1,983 | ,601 | ,403 | ,657 | ,669 | ,524 | ,484 | ,526 | ,840 | ,603 | ,210 | ,777 | ,945 | ,735 | ,691 | ,817 | ,841 |
| 10 | ,465 | ,817 | ,502 | ,614 | ,701 | ,384 | ,594 | ,391 | ,601 | 1,009 | ,739 | ,671 | ,676 | ,609 | ,626 | ,605 | ,447 | ,593 | ,180 | ,516 | ,680 | ,664 | ,661 | ,639 | ,650 |
| 1 | ,388 | 1,079 | ,875 | ,916 | ,814 | ,684 | ,536 | ,724 | ,403 | ,739 | 1,443 | ,953 | ,899 | ,955 | ,888 | ,813 | ,573 | ,675 | ,554 | ,796 | 1,144 | 1,022 | ,826 | ,781 | ,861 |
| 12 | ,550 | 1,179 | ,834 | ,935 | ,752 | ,523 | ,606 | ,589 | ,657 | ,671 | ,953 | 1,344 | ,896 | ,853 | ,821 | ,817 | ,431 | ,578 | ,297 | ,674 | 1,165 | 1,175 | ,834 | ,882 | ,890 |
| 13 | ,484 | ,875 | ,905 | 1,139 | ,810 | ,664 | ,675 | ,719 | ,669 | ,676 | ,899 | ,896 | 1,582 | ,946 | ,848 | ,735 | ,562 | ,690 | ,312 | ,635 | ,910 | ,894 | ,907 | ,753 | ,856 |
| 14 | ,379 | ,983 | ,710 | ,729 | ,737 | ,654 | ,533 | ,632 | ,524 | ,609 | ,955 | ,853 | ,946 | 1,674 | 1,159 | ,588 | ,687 | ,705 | ,489 | ,678 | 1,182 | 1,121 | 1,052 | ,935 | 1,119 |
| 15 | ,409 | ,848 | ,723 | _ | | ,571 | | _ | | | | | | 1,159 | | | | | | ,707 | | ,977 | ,852 | ,782 | ,899 |
| 16 | ,354 1 | ,965 2 | ,686 3 | ,859 4 | ,674 5 | ,264 6 | ,524 7 | ,485 8 | ,526 9 | ,605 10 | ,813 11 | ,817 12 | ,735 13 | ,588 14 | ,739 15 | 2,063 16 | 1,056 17 | ,537 18 | ,635 19 | ,782 20 | ,917 21 | 1,015 22 | ,497 23 | ,642 24 | ,730 25 |

| , | 25 | 23 | 22 | 21 | 70 | 19 | 8 | 17 |
|----------|-------|-------|-------|-------|-------|-----------|------|-------|
| _ (| ,729 | ,358 | ,673 | ,602 | ,218 | ,098 | ,341 | ,403 |
| 7 | 1,093 | 1,077 | 1,566 | 1,499 | ,654 | ,503 | 969' | ,712 |
| m | 1,177 | ,961 | 698, | ,949 | ,653 | ,901 | ,623 | ,871 |
| 4 | ,867 | ,862 | 966, | 1,052 | ,401 | ,236 | ,586 | ,503 |
| വ | ,626 | ,627 | ,726 | ,724 | ,614 | ,266 | ,581 | ,431 |
| 9 | ,855 | ,797 | ,498 | ,848 | ,287 | ,262 | ,336 | ,450 |
| _ | ,505 | ,605 | ,585 | ,832 | ,299 | ,200 | ,430 | ,402 |
| ∞ | 1,020 | ,611 | ,588 | 1,090 | ,518 | ,355 | ,394 | ,894 |
| 6 | ,841 | ,691 | ,735 | ,945 | 777, | ,210 | ,603 | ,840 |
| <u> </u> | ,650 | ,661 | ,664 | ,680 | ,516 | ,180 | ,593 | ,447 |
| Ξ | ,861 | ,826 | 1,022 | 1,144 | ,796 | ,554 | ,675 | ,573 |
| 7 | ,890 | ,834 | 1,175 | 1,165 | ,674 | ,297 | ,578 | ,431 |
| <u>~</u> | ,856 | ,907 | ,894 | ,910 | ,635 | ,312 | ,690 | ,562 |
| 4 | 1,119 | 1,052 | 1,121 | 1,182 | ,678 | ,489 | ,705 | ,687 |
| 2 | ,899 | ,852 | ,977 | ,958 | ,707 | ,403 | ,648 | ,697 |
| 9 | ,730 | ,497 | 1,015 | ,917 | ,782 | ,635 | ,537 | 1,056 |
| _ | ,904 | ,618 | ,839 | ,849 | ,917 | ,922 | ,651 | 2,068 |
| <u>∞</u> | ,659 | ,703 | ,819 | ,767 | 769, | ,374 | ,994 | ,651 |
| 6 | ,553 | ,396 | ,802 | ,488 | ,757 | 2,078 | ,374 | ,922 |
| 20 | ,567 | ,580 | ,863 | ,783 | 1,641 | ,757 | ,697 | ,917 |
| 7 | 1,895 | 1,798 | 2,310 | 3,356 | ,783 | ,488 | ,767 | ,849 |
| 77 | 1,544 | 1,640 | 2,812 | 2,310 | ,863 | ,802 | ,819 | ,839 |
| 53 | 1,253 | 2,389 | 1,640 | 1,798 | ,580 | ,396 | ,703 | ,618 |
| 7 | 1,627 | 1,575 | 1,879 | 2,183 | ,458 | 44, 44 | ,551 | ,821 |
| 22 | 2,231 | 1,253 | 1,544 | 1,895 | ,567 | ,553 | ,659 | ,904 |

CORRELATION MATRIX FOR THE MEASURE (JS) - CHAPTER 6

| -,028 ,024 ,255 ,291 ,349 ,366 ,367 ,418 | ۲77 | , , , , , | , , , , | 479 | , , | ,,,,, | ,40, | ,238 | -,235 | -,002 | . 192 | 030 | .248 | .528 | 511 | 621 | 1,000 |
|---|---------------|----------------------|-------------|-------|-------------|--------------|---------------|----------------|-----------------|--------------|----------------|----------------|--------------|-------------|--------------|---------------|-------------|
| | ,244 | ,217 3 <i>4</i> 2 | ,179 525 | ,084 | ,274 659 | ,245 687 | ,088 - 029 | ,134 199 | - ,101 - 199 | -,037 043 | ,076 184 | -,082 - 023 | ,406 210 | ,205 386 | 1,000 775 | ,225 1 000 | ,511 621 |
| | ,471 | ,384 | ,312 | ,309 | ,318 | ,246 | ,105 | ,265 | -,143 | -,011 | ,057 | -,012 | ,447 | 1,000 | ,205 | ,386 | ,528 |
| | ,230 | ,249 | ,177 | ,100 | ,177 | ,142 | -,026 | ,239 | -,027 | -,011 | ,074 | ,071 | 1,000 | ,447 | ,406 | ,210 | ,248 |
| | ,064 | ,082 | ,073 | ,127 | ,136 | ,058 | ,071 | ,147 | ,156 | ,018 | ,319 | 1,000 | ,071 | -,012 | -,082 | -,023 | -,030 |
| | ,038 | -,026 | ,166 | ,237 | ,395 | ,274 | ,085 | ,126 | ,196 | ,224 | 1,000 | ,319 | ,074 | ,057 | ,076 | ,184 | ,192 |
| | -,070 | -,112 | -,078 | -,045 | ,098 | -,005 | ,227 | ,128 | ,182 | 1,000 | ,224 | ,018 | -,011 | -,011 | -,037 | ,043 | -,002 |
| | -,266 | -,235 | -,096 | -,101 | -,046 | -,147 | -,025 | -,103 | 1,000 | ,182 | ,196 | ,156 | -,027 | -,143 | -,101 | -,199 | -,235 |
| | , 181 | ,119 | ,187 | ,137 | ,147 | ,152 | ,446 | 1,000 | -,103 | ,128 | ,126 | ,147 | ,239 | ,265 | ,134 | ,199 | ,238 |
| | ,127 | ,099 | -,004 | ,057 | ,003 | -,034 | 1,000 | ,446 | -,025 | ,227 | ,085 | ,071 | -,026 | ,105 | ,088 | -,029 | ,089 |
| | ,337 | ,282 | ,679 | ,657 | ,725 | 1,000 | -,034 | ,152 | -,147 | -,005 | ,274 | ,058 | ,142 | ,246 | ,245 | ,687 | ,457 |
| | ,324 | ,269 | ,566 | ,610 | 1,000 | ,725 | ,003 | ,147 | -,046 | ,098 | ,395 | ,136 | ,177 | ,318 | ,274 | ,659 | ,581 |
| | ,406 | ,321 | ,690 | 1,000 | ,610 | ,657 | ,057 | ,137 | -,101 | -,045 | ,237 | ,127 | ,100 | ,309 | ,084 | ,648 | ,429 |
| | ,335 | ,338 | 1,000 | ,690 | ,566 | ,679 | -,004 | ,187 | -,096 | -,078 | ,166 | ,073 | ,177 | ,312 | ,179 | ,525 | ,371 |
| | 1.000 ,795 | 1,000 | ,335 | ,321 | 374 ,269 | ,337 ,282 | ,127 ,099 | . 181 , 119 | -,266 -,235 | 070 -,112 | -,038 -,026 | ,064 | ,230 ,249 | 471 ,384 | ,217 | ,377 | ,388 |
| | ,439 | ,448 | ,312 | ,208 | ,268 | ,244 | ,072 | ,214 | -,170 | -,121 | -,014 | -,028 | ,255 | ,349 | ,367 | ,266 | ,392 |
| | ,439 | ,458 | ,243 | ,182 | ,237 | ,164 | ,090 | ,207 | -,136 | -,034 | -,009 | ,024 | ,291 | ,366 | ,418 | ,239 | ,395 |
| | ,220 | ,119 | ,211 | ,220 | ,371 | ,300 | ,104 | ,257 | -,089 | ,005 | ,187 | ,042 | ,192 | ,420 | ,212 | ,355 | ,602 |
| | ,248 | ,251 | ,360 | ,376 | ,389 | ,457 | ,106 | ,292 | -,073 | ,024 | ,205 | ,156 | ,337 | ,197 | ,188 | ,422 | ,335 |
| | ,295 | ,294 | ,443 | ,475 | ,555 | ,555 | ,041 | ,220 | -,036 | ,013 | ,286 | ,062 | ,152 | ,268 | ,120 | ,463 | ,372 |
| | ,361 | ,319 | ,325 | ,318 | ,352 | ,331 | ,056 | ,168 | -,059 | -,004 | ,146 | ,138 | ,268 | ,420 | ,315 | ,421 | ,534 |
| | ,344 | ,268 | ,356 | ,283 | ,320 | ,305 | ,091 | ,204 | -,012 | ,021 | ,134 | ,186 | ,275 | ,434 | ,304 | ,323 | ,476 |
| | ,405 | ,318 | ,364 | ,272 | ,337 | ,321 | ,121 | ,258 | -,098 | ,052 | ,139 | ,137 | ,325 | ,496 | ,310 | ,337 | ,498 |

| | 25 | 24 | 23 | 22 | 21 | 70 |
|----|-------|-------|-------|-------------------|-------|-------|
| _ | ,498 | ,476 | ,534 | ,372 | ,335 | ,602 |
| 7 | ,337 | ,323 | ,421 | ,463 | ,422 | ,355 |
| က | ,310 | ,304 | ,315 | ,120 | ,188 | ,212 |
| 4 | ,496 | ,434 | ,420 | ,268 | ,197 | ,420 |
| 2 | ,325 | ,275 | ,268 | ,152 | ,337 | ,192 |
| 9 | ,137 | ,186 | ,138 | ,062 | ,156 | ,042 |
| 7 | ,139 | ,134 | ,146 | ,286 | ,205 | ,187 |
| œ | ,052 | ,021 | -,004 | ,013 | ,024 | ,005 |
| 6 | -,098 | -,012 | -,059 | -,036 | -,073 | -,089 |
| 10 | ,258 | ,204 | ,168 | ,220 | ,292 | ,257 |
| 7 | ,121 | ,091 | ,056 | 6 , | ,106 | ,104 |
| 12 | ,321 | ,305 | ,331 | ,555 | ,457 | ,300 |
| 13 | ,337 | ,320 | ,352 | ,555 | ,389 | ,371 |
| 4 | ,272 | ,283 | ,318 | ,475 | ,376 | ,220 |
| 15 | ,364 | ,356 | ,325 | , 4 43 | ,360 | ,211 |
| 16 | ,318 | ,268 | ,319 | ,294 | ,251 | ,119 |
| 17 | ,405 | ,344 | ,361 | ,295 | ,248 | ,220 |
| 8 | ,268 | ,222 | ,265 | ,295 | ,237 | ,204 |
| 19 | ,294 | ,261 | ,288 | ,208 | ,162 | ,152 |
| 20 | ,474 | ,501 | ,522 | ,393 | ,374 | 1,000 |
| 21 | ,242 | ,256 | ,307 | ,608 | 1,000 | ,374 |
| 22 | ,320 | ,306 | ,357 | 1,000 | ,608 | ,393 |
| 23 | ,766 | ,794 | 1,000 | ,357 | ,307 | ,522 |
| 24 | ,862 | 1,000 | ,794 | ,306 | ,256 | ,501 |
| 25 | 1,000 | ,862 | ,766 | ,320 | ,242 | ,474 |

| | VARIABLE | VARIABLES IN CHAPTER 6 (PLS) | TER 6 (PL | S; |
|------|----------|------------------------------|-----------|----------------|
| ٩ | Sſ | 96 | OCB | VARIABLES |
| 196 | .305 | .513 | .332 | AVE |
| 89. | 06: | .90 | 68. | Composite |
| .473 | .438 | .528 | .198 | \mathbb{R}^2 |
| .61 | 88. | .85 | 88. | Cronbach |

COVARIANCE MATRIX FOR THE MEASURE (JS) - CHAPTER 6

| _ | ,954 17 | ,859 16 | ,504 15 | ,626 14 | ,725 13 | ,672 12 | ,154 11 | ,303 10 | -,456 9 | -,005 8 | ,114 7 | -,039 6 | ,461 5 | ,784 4 | ,974 3 | ,855 2 | 1,475 1 |
|----------------|-------------------|-------------------|-------------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-------------------|
| 2 | ,680 | ,707 | ,665 | ,882 | ,768 | ,943 | -,047 | ,237 | -,360 | ,082 | ,102 | -,028 | ,364 | | ,400 | 1,284 | ,855 |
| ω | ,609 | ,621 | ,314 | ,158 | ,442 | ,467 | ,198 | ,221 | -,253 | -,098 | ,058 | -,137 | ,975 | | 2,466 | ,400 | ,974 |
| 4 | ,916 | ,855 | ,426 | ,454 | ,400 | ,365 | ,184 | ,340 | -,280 | -,023 | ,034 | -,015 | ,835 | | ,393 | ,535 | ,784 |
| 5 | ,558 | ,693 | ,303 | ,184 | ,278 | ,263 | -,058 | ,384 | -,067 | -,030 | | ,115 | 2,337 | ,835 | ,975 | ,364 | ,461 |
| 6 | ,108 | ,159 | ,086 | ,162 | ,148 | ,074 | ,108 | ,165 | ,266 | ,032 | ,166 | 1,132 | ,115 | -,015 | -,137 | -,028 | -,039 |
| 7 | ,030 | -,023 | ,090 | ,139 | ,199 | ,162 | ,059 | ,065 | ,153 | ,186 | ,239 | ,166 | ,055 | ,034 | ,058 | ,102 | ,114 |
| œ | -,188 | -,347 | -,148 | -,092 | ,172 | -,009 | ,552 | ,228 | ,495 | 2,879 | ,186 | ,032 | -,030 | -,023 | -,098 | ,082 | -,005 |
| 9 | -,677 | -,684 | -,172 | -,194 | -,076 | -,284 | -,057 | -,173 | 2,559 | ,495 | ,153 | ,266 | -,067 | -,280 | -,253 | -,360 | -,456 |
| 10 | ,302 | ,227 | ,219 | ,173 | ,158 | ,194 | ,671 | 1,101 | -,173 | ,228 | ,065 | ,165 | ,384 | ,340 | ,221 | ,237 | ,303 |
| 1 | ,290 | ,258 | -,006 | ,098 | ,005 | -,059 | 2,053 | ,671 | -,057 | ,552 | ,059 | ,108 | -,058 | ,184 | ,198 | -,047 | ,154 |
| 12 | ,649 | ,622 | ,919 | ,956 | ,903 | 1,468 | -,059 | ,194 | -,284 | -,009 | ,162 | ,074 | ,263 | ,365 | ,467 | ,943 | ,672 |
| 13 | ,529 | ,504 | ,650 | ,754 | 1,057 | ,903 | ,005 | ,158 | -,076 | ,172 | ,199 | ,148 | ,278 | ,400 | ,442 | ,768 | ,725 |
| 1 | ,776 | ,703 | ,926 | 1,443 | ,754 | ,956 | ,098 | ,173 | -,194 | -,092 | ,139 | ,162 | ,184 | ,454 | ,158 | ,882 | ,626 |
| 15 | ,595 | | 1,248 | ,926 | ,650 | ,919 | -,006 | ,219 | -,172 | -,148 | ,090 | ,086 | ,303 | ,426 | ,314 | ,665 | ,504 |
| 16 | 2,304 | | ,689 | ,703 | ,504 | ,622 | ,258 | ,227 | -,684 | -,347 | -,023 | ,159 | ,693 | ,855 | ,621 | ,707 | ,859 |
| 17 | 2,529 | | ,595 | ,776 | ,529 | ,649 | ,290 | ,302 | -,677 | -,188 | ,030 | ,108 | ,558 | ,916 | ,609 | ,680 | ,954 |
| 1 8 | 1,165 | | ,582 | ,417 | ,460 | ,494 | ,171 | ,375 | -,453 | -,343 | -,012 | -,050 | ,651 | ,712 | ,962 | ,503 | ,795 |
| 19 | 1,189 | | ,462 | ,373 | ,415 | ,339 | ,221 | ,370 | -,371 | -,099 | -,007 | ,044 | ,758 | ,762 | 1,118 | ,462 | ,817 |
| 20 | ,415 | ,257 | ,279 | ,313 | ,453 | ,432 | ,177 | ,320 | -,169 | ,010 | ,109 | ,053 | ,348 | ,610 | ,396 | ,477 | ,868 |
| 21 | ,471 | ,547 | ,480 | ,539 | ,478 | ,661 | ,181 | ,367 | -,139 | ,049 | ,119 | ,198 | ,616 | ,288 | ,353 | ,571 | ,486 |
| 22 | ,492 | ,562 | ,519 | ,599 | ,598 | ,705 | ,061 | ,242 | -,061 | ,024 | ,146 | ,069 | ,244 | ,344 | ,198 | ,549 | ,474 |
| 23 | ,908 | ,921 | ,574 | ,605 | ,573 | ,635 | ,126 | ,279 | -,149 | -,012 | ,113 | ,232 | ,647 | ,812 | ,783 | ,754 | 1,026 |
| 24 | ,886 | ,792 | ,644 | ,551 | ,533 | ,600 | ,210 | ,347 | -,032 | ,059 | ,106 | ,321 | ,682 | ,860 | ,774 | ,593 | ,938 |
| 25 | 1,011 | ,911 | ,639 | ,514 | ,545 | ,610 | ,272 | ,425 | -,245 | ,139 | ,107 | ,230 | ,781 | ,954 | ,766 | ,600 | ,951 |

| | 25 | 24 | 23 | 22 | 21 | 70 | 19 | 18 |
|----|-------|-------|-------|-------|------|-------|-------|-------|
| _ | ,951 | ,938 | 1,026 | ,474 | ,486 | ,868 | ,817 | ,795 |
| 7 | ,600 | ,593 | ,754 | ,549 | ,571 | ,477 | ,462 | ,503 |
| က | ,766 | ,774 | ,783 | ,198 | ,353 | ,396 | 1,118 | ,962 |
| 4 | ,954 | ,860 | ,812 | ,344 | ,288 | ,610 | ,762 | ,712 |
| 2 | ,781 | ,682 | ,647 | ,244 | ,616 | ,348 | ,758 | ,651 |
| 9 | ,230 | ,321 | ,232 | ,069 | ,198 | ,053 | ,044 | -,050 |
| 7 | ,107 | ,106 | ,113 | ,146 | ,119 | ,109 | -,007 | -,012 |
| œ | ,139 | ,059 | -,012 | ,024 | ,049 | ,010 | -,099 | -,343 |
| 6 | -,245 | -,032 | -,149 | -,061 | ,139 | -,169 | -,371 | -,453 |
| 9 | ,425 | ,347 | ,279 | ,242 | ,367 | ,320 | ,370 | ,375 |
| Ξ | ,272 | ,210 | ,126 | ,061 | ,181 | ,177 | ,221 | ,171 |
| 12 | ,610 | ,600 | ,635 | ,705 | ,661 | ,432 | ,339 | ,494 |
| 13 | ,545 | ,533 | ,573 | ,598 | ,478 | ,453 | ,415 | ,460 |
| 4 | ,514 | ,551 | ,605 | ,599 | ,539 | ,313 | ,373 | ,417 |
| 15 | ,639 | ,644 | ,574 | ,519 | ,480 | ,279 | ,462 | ,582 |
| 16 | ,911 | ,792 | ,921 | ,562 | ,547 | ,257 | 1,423 | 1,363 |
| 17 | 1,011 | ,886 | ,908 | ,492 | ,471 | ,415 | 1,189 | 1,165 |
| 8 | ,704 | ,602 | ,701 | ,515 | ,472 | ,405 | 2,322 | 2,787 |
| 19 | ,786 | ,722 | ,776 | ,372 | ,330 | ,308 | 2,903 | 2,322 |
| 20 | ,884 | ,965 | ,980 | ,489 | ,530 | 1,409 | ,308 | ,405 |
| 71 | ,454 | ,495 | ,581 | ,761 | ,427 | ,530 | ,330 | ,472 |
| 22 | ,527 | ,519 | ,592 | 1,098 | ,761 | ,489 | ,372 | ,515 |
| 23 | 1,903 | 2,035 | 2,502 | ,592 | ,581 | ,980 | ,776 | ,701 |
| 24 | 2,197 | 2,626 | 2,035 | ,519 | ,495 | ,965 | ,722 | ,602 |
| 25 | 2,470 | 2,197 | 1,903 | ,527 | ,454 | ,884 | ,786 | ,704 |

CORRELATION MATRIX FOR THE MEASURE (OC) - CHAPTER 6

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 1,000 | ,457 | ,287 | ,507 | ,620 | ,557 | ,439 | ,546 | ,345 |
| 2 | ,457 | 1,000 | ,254 | ,498 | ,369 | ,197 | ,400 | ,450 | ,144 |
| 3 | ,287 | ,254 | 1,000 | ,236 | ,349 | ,261 | ,216 | ,265 | ,342 |
| 4 | ,507 | ,498 | ,236 | 1,000 | ,596 | ,388 | ,589 | ,265 | ,215 |
| 5. | ,620 | ,369 | ,349 | ,596 | 1,000 | ,567 | ,612 | ,527 | ,374 |
| 6 | ,557 | ,197 | ,261 | ,388 | ,567 | 1,000 | ,441 | ,376 | ,602 |
| 7 | ,439 | ,400 | ,216 | ,589 | ,612 | ,441 | 1,000 | ,391 | ,219 |
| 8 | ,546 | ,450 | ,265 | ,265 | ,527 | ,376 | ,391 | 1,000 | ,181 |
| 9 | ,345 | ,144 | ,342 | ,215 | ,374 | ,602 | ,219 | ,181 | 1,000 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

COVARIANCE MATRIX FOR THE MEASURE (OC) - CHAPTER 6

1 1,791 1,169 ,664 1,073 1,432 ,795 1,076 1,214 ,368 **2** 1,169 3,654 ,839 1,506 1,217 ,402 1,400 1,428 ,220 ,664 ,839 2,983 ,644 1,042 ,482 ,685 ,760 ,471 4 1,073 1,506 ,644 2,502 1,627 ,655 1,706 ,695 ,272 **5** 1,432 1,217 1,042 1,627 2,981 1,045 1,936 1,512 ,515 ,795 ,402 ,482 ,655 1,045 1,140 ,861 ,666 ,513 **7** 1,076 1,400 ,685 1,706 1,936 ,861 3,354 1,189 ,320 **8** 1,214 1,428 ,760 ,695 1,512 ,666 1,189 2,759 ,240 ,368 ,220 ,471 ,272 ,515 ,513 ,320 ,240 ,637 1 2 3 5 6 7 8

CORRELATION MATRIX FOR THE MEASURE (OCB) - CHAPTER 6

COVARIANCE MATRIX FOR THE MEASURE (OCB) - CHAPTER 6

| | | 17 | | 16 | 15 | 14 | 13 | 12 | 1 | 10 | 9 | ∞ | 7 | 6 | σı | 4 | ω | 2 | _ |
|-----------------------------|------------------------|-------------------|-------------|---------|---------|-----|-----------------|------|------|-------|------|----------|------|------|-------|------|-------|-------|-------|
| ,037 ,069 ,127 ,210 | ,037 ,069 ,127 | ,037 ,069 | ,037 | | ,193 | | ,269 | ,234 | ,174 | ,278 | ,125 | ,284 | ,083 | ,370 | ,357 | ,298 | ,668 | ,730 | 2,684 |
| ,084 ,124 ,199 ,300 | ,084 ,124 ,199 | ,084 ,124 | ,084 | • | ,467 | | ,571 | ,611 | ,566 | ,559 | ,344 | ,300 | ,195 | ,397 | ,408 | ,279 | ,733 | 1,558 | ,730 |
| . ,284 ,311 ,132 ,027 ,222 | . ,284 ,311 ,132 ,027 | ,284 ,311 ,132 | ,284 ,311 | ,284 | . • | 2 | ,33; | ,343 | ,243 | ,163 | ,214 | ,279 | ,338 | ,609 | ,651 | ,698 | 1,742 | ,733 | ,668 |
|) ,264 ,225 ,129 ,139 ,221 |) ,264 ,225 ,129 ,139 |) ,264 ,225 ,129 |) ,264 ,225 | ,264 | _ | 0 | ,240 | ,238 | ,188 | ,214 | ,154 | ,230 | ,256 | ,563 | ,541 | ,838 | ,698 | ,279 | ,298 |
| ,275 ,233 ,117 ,172 ,236 | ,275 ,233 ,117 ,172 | ,275 ,233 ,117 | ,275 ,233 | ,275 | • | 7 | ,24 | ,306 | ,220 | ,218 | ,106 | ,210 | ,295 | ,674 | 1,043 | ,541 | ,651 | ,408 | ,357 |
| . ,382 ,185 ,136 ,112 ,214 | . ,382 ,185 ,136 ,112 | . ,382 ,185 ,136 | ,382 ,185 | ,382 | | , • | ,392 | ,408 | ,321 | ,186 | ,166 | ,270 | ,274 | ,897 | ,674 | ,563 | ,609 | ,397 | ,370 |
| ,233 ,159 ,194 ,260 ,260 | ,233 ,159 ,194 ,260 | ,233 ,159 ,194 | ,233 ,159 | ,233 | | 6 | ,39 | ,277 | ,257 | ,297 | ,186 | ,341 | ,757 | ,274 | ,295 | ,256 | ,338 | ,195 | ,083 |
| . ,259 ,114 ,111 ,250 ,239 | . ,259 ,114 ,111 ,250 | ,259 ,114 ,111 | ,259 ,114 | ,259 | , • | 2 | ,49 | ,279 | ,194 | ,324 | ,209 | 1,271 | ,341 | ,270 | ,210 | ,230 | ,279 | ,300 | ,284 |
| ,206 ,208 ,164 ,245 ,242 | ,206 ,208 ,164 ,245 | ,206 ,208 ,164 | ,206 ,208 | ,206 | | _ | ,29 | ,295 | ,404 | ,402 | ,510 | ,209 | ,186 | ,166 | ,106 | ,154 | ,214 | ,344 | ,125 |
| 3 ,350 ,169 ,136 ,302 ,281 | 3 ,350 ,169 ,136 ,302 | 3,350 ,169 ,136 | 350,169 | 350 | - | ∞ | , 5 <u>,</u> | ,457 | ,619 | 1,245 | ,402 | ,324 | ,297 | ,186 | ,218 | ,214 | ,163 | ,559 | ,278 |
| ,501 ,113 ,217 ,302 ,273 | ,501 ,113 ,217 ,302 | ,501 ,113 ,217 | ,501 ,113 | ,501 | 1 | 57 | , ₅ | ,627 | ,855 | ,619 | ,404 | ,194 | ,257 | ,321 | ,220 | ,188 | ,243 | ,566 | ,174 |
| ,479 ,138 ,201 ,278 ,247 | ,479 ,138 ,201 ,278 | ,479 ,138 ,201 | ,479 ,138 | ,479 | _ | 4 | ,67 | ,776 | ,627 | ,457 | ,295 | ,279 | ,277 | ,408 | ,306 | ,238 | ,343 | ,611 | ,234 |
| . ,573 ,046 ,073 ,306 ,287 | . ,573 ,046 ,073 ,306 | . ,573 ,046 ,073 | ,573 ,046 | ,573 | | 2 | 1,34 | ,674 | ,557 | ,518 | ,291 | ,492 | ,396 | ,392 | ,247 | ,240 | ,332 | ,571 | ,269 |
| 3 2,239 ,036 ,047 ,120 ,062 | 3 2,239 ,036 ,047 ,120 | , 2,239 ,036 ,047 | 2,239 ,036 | 2,239 | | ω | ,57 | ,479 | ,501 | ,350 | ,206 | ,259 | ,233 | ,382 | ,275 | ,264 | ,284 | ,467 | ,193 |
| ,036 ,848 ,197 ,135 ,133 | ,036 ,848 ,197 ,135 | ,036 ,848 ,197 | ,036 ,848 | ,036 | • | 6 | , 04 | ,138 | ,113 | ,169 | ,208 | ,114 | ,159 | ,185 | ,233 | ,225 | ,311 | ,084 | ,037 |
| ,047 ,197 ,559 ,297 ,294 | ,047 ,197 ,559 ,297 | ,047 ,197 ,559 | ,047 ,197 | ,047 | - | ω | ,07 | ,201 | ,217 | ,136 | ,164 | ,111 | ,194 | ,136 | ,117 | ,129 | ,132 | ,124 | ,069 |
| ,120 ,135 ,297 ,921 ,430 | ,120 ,135 ,297 ,921 | ,120 ,135 ,297 | ,120 ,135 | ,120 | • | 6 | ,30 | ,278 | ,302 | ,302 | ,245 | ,250 | ,260 | ,112 | ,172 | ,139 | ,027 | ,199 | ,127 |
| ,062 ,133 ,294 | ,062 ,133 ,294 ,430 | ,062 ,133 ,294 | ,062 ,133 | ,062 | 7 | 7 | ,28 | ,247 | ,273 | ,281 | ,242 | ,239 | ,260 | ,214 | ,236 | ,221 | ,222 | ,300 | ,210 |
| ,215 ,291 ,304 ,302 | ,215 ,291 ,304 | ,215 ,291 | ,215 | _ |) -,069 | _ | ,150 | ,201 | ,209 | ,174 | ,169 | ,151 | ,197 | ,078 | ,066 | ,064 | ,159 | ,146 | ,101 |
| 7 -,025 ,132 ,116 ,295 ,225 | 7 -,025 ,132 ,116 ,295 | 7 -,025 ,132 ,116 | ,025 ,132 | 7 -,025 | 7 | 7 | ,39 | ,394 | ,434 | ,463 | ,219 | -,049 | ,131 | ,113 | ,119 | ,008 | -,010 | ,290 | -,079 |

CORRELATION MATRIX FOR THE MEASURE (JP) - CHAPTER 6

| | _ | 7 | ٣ | 4 | 2 | 9 | _ | ∞ | 6 | 10 | 7 | 12 | 13 | 4 | 15 | 16 | 17 | 2 |
|-----|-------|-------|-----------|-------|-------|-------|-------|-----------|-------|-------|-----------|-----------|-------|-------|-------|-------|-------|--------------|
| _ | 1,000 | ,505 | ,322 | -,191 | ,389 | -,051 | ,293 | -,244 | ,193 | ,186 | -,072 | ,016 | -,128 | ,127 | ,054 | 4,- | ,215 | ,313 |
| 7 | ,505 | 1,000 | ,426 | -,201 | ,401 | ,116 | ,281 | -,208 | ,255 | ,274 | ,148 | ,160 | -,034 | ,071 | ,012 | -,194 | ,353 | ,384 |
| m | ,322 | ,426 | 1,000 | -,271 | ,246 | ,022 | -,016 | -,032 | ,268 | ,211 | -,033 | , 140, | -,090 | ,193 | -,042 | -,056 | ,269 | ,246 |
| 4 | -,191 | -,201 | -,271 | 1,000 | -,134 | ,296 | -,153 | ,164 | -,027 | ,025 | ,200 | -,080 | ,085 | -,293 | ,125 | ,030 | -,002 | ,025 |
| Ŋ | ,389 | ,401 | ,246 | -,134 | 1,000 | ,050 | ,301 | -,293 | ,334 | ,373 | ,089 | ,182 | -,042 | ,076 | ,117 | -,214 | ,201 | ,219 |
| 9 | -,051 | ,116 | ,022 | ,296 | ,050 | 1,000 | ,071 | ,199 | ,180 | ,152 | ,304 | ,153 | ,231 | -,327 | ,015 | ,125 | ,255 | ,125 |
| 7 | ,293 | ,281 | -,016 | -,153 | ,301 | ,071 | 1,000 | -,330 | ,241 | ,242 | -,000 | ,146 | -,126 | ,037 | ,023 | -,110 | ,345 | ,324 |
| ∞ | -,244 | -,208 | -,032 | ,164 | -,293 | ,199 | -,330 | 1,000 | -,146 | -,149 | , 440, | ,077 | ,101 | -,177 | ,093 | ,324 | -,012 | -,056 |
| | ,193 | | | | | | | | | | | | | | | | | |
| 10 | ,186 | ,274 | ,211 | ,025 | ,373 | ,152 | ,242 | -,149 | ,439 | 1,000 | ,092 | ,132 | -,065 | -,073 | ,040 | -,181 | ,375 | ,182 |
| 7 | -,072 | ,148 | -,033 | ,200 | ,089 | ,304 | -,009 | , 440, | ,090 | ,092 | 1,000 | ,331 | ,324 | -,149 | ,081 | -,102 | ,201 | ,129 |
| 12 | ,016 | ,160 | , 140, | -,080 | ,182 | ,153 | ,146 | ,077 | ,166 | ,132 | ,331 | 1,000 | ,346 | -,006 | -,115 | -,027 | ,221 | ,157 |
| 13 | -,128 | -,034 | -,090 | ,085 | -,042 | ,231 | -,126 | ,101 | -,147 | -,065 | ,324 | ,346 | 1,000 | -,097 | -,028 | ,120 | -,003 | -,037 |
| 4 | ,127 | ,071 | ,193 | -,293 | ,076 | -,327 | ,037 | -,177 | -,078 | -,073 | -,149 | -,006 | -,097 | 1,000 | -,063 | -,006 | -,006 | ,055 |
| 15. | ,054 | ,012 | -,042 | ,125 | ,117 | ,015 | ,023 | ,093 | ,000 | ,040 | ,081 | -,115 | -,028 | -,063 | 1,000 | ,052 | ,067 | ,027 |
| 16 | -,144 | -,194 | -,056 | ,030 | -,214 | ,125 | -,110 | ,324 | -,168 | -,181 | -,102 | -,027 | ,120 | -,006 | ,052 | 1,000 | -,082 | -,094 |
| 17 | ,215 | ,353 | ,269 | -,002 | ,201 | ,255 | ,345 | -,012 | ,322 | ,375 | ,201 | ,221 | -,003 | -,006 | ,067 | -,082 | 1,000 | ,526 |
| 8 | ,313 | ,384 | ,246 | ,025 | ,219 | ,125 | ,324 | -,056 | ,137 | ,182 | ,129 | ,157 | -,037 | ,055 | ,027 | -,094 | ,526 | 1,000 |
| | - | 7 | m | 4 | 2 | 9 | _ | ∞ | 6 | 10 | 7 | 12 | 13 | 4 | 15 | 16 | 17 | 18 |

COVARIANCE MATRIX FOR THE MEASURE (JP) - CHAPTER 6

| _ | 1,755 | ,906 | ,574 | -,377 | ,663 | -,103 | ,631 | -,459 | ,320 | ,296 | -,150 | ,038 | -,308 | ,281 | ,103 | -,244 | ,312 | ,491 |
|----|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2 | ,906 | 1,831 | ,776 | -,405 | ,698 | ,239 | ,618 | -,400 | ,432 | ,445 | ,317 | ,392 | -,083 | ,160 | ,023 | -,336 | ,524 | ,614 |
| ω | ,574 | ,776 | 1,811 | -,543 | ,425 | ,044 | -,035 | -,062 | ,450 | ,340 | -,069 | ,100 | -,219 | ,435 | -,081 | -,096 | ,397 | ,391 |
| 4 | -,377 | -,405 | -,543 | 2,211 | -,256 | ,669 | -,371 | ,346 | -,050 | ,045 | ,470 | -,215 | ,228 | -,729 | ,270 | ,058 | -,004 | ,045 |
| UI | ,663 | ,698 | ,425 | -,256 | 1,654 | ,097 | ,628 | -,535 | ,537 | ,575 | ,181 | ,425 | -,097 | ,163 | ,218 | -,351 | ,284 | ,333 |
| 6 | -,103 | ,239 | ,044 | ,669 | ,097 | 2,311 | ,175 | ,429 | ,341 | ,277 | ,728 | ,421 | ,636 | -,832 | ,034 | ,242 | ,424 | ,225 |
| 7 | ,631 | ,618 | -,035 | -,371 | ,628 | ,175 | 2,643 | -,761 | ,490 | ,472 | -,024 | ,432 | -,370 | ,101 | ,053 | -,228 | ,615 | ,623 |
| œ | -,459 | -,400 | -,062 | ,346 | -,535 | ,429 | -,761 | 2,013 | -,258 | -,253 | ,099 | ,199 | ,258 | -,421 | ,191 | ,586 | -,018 | -,094 |
| 9 | ,320 | ,432 | ,450 | -,050 | ,537 | ,341 | ,490 | -,258 | 1,563 | ,659 | ,178 | ,375 | -,332 | -,164 | ,016 | -,268 | ,441 | ,203 |
| 10 | ,296 | ,445 | ,340 | ,045 | ,575 | ,277 | ,472 | -,253 | ,659 | 1,438 | ,174 | ,287 | -,142 | -,147 | ,070 | -,277 | ,493 | ,258 |
| 1 | -,150 | ,317 | -,069 | ,470 | ,181 | ,728 | -,024 | ,099 | ,178 | ,174 | 2,489 | ,946 | ,925 | -,394 | ,186 | -,206 | ,348 | ,242 |
| 12 | ,038 | ,392 | ,100 | -,215 | ,425 | ,421 | ,432 | ,199 | ,375 | ,287 | ,946 | 3,288 | 1,136 | -,020 | -,301 | -,063 | ,439 | ,337 |
| 13 | -,308 | -,083 | -,219 | ,228 | -,097 | ,636 | -,370 | ,258 | -,332 | | ,925 | | 3,278 | | -,074 | | -,005 | -,080 |
| 14 | ,281 | ,160 | ,435 | -,729 | ,163 | -,832 | ,101 | -,421 | -,164 | -,147 | -,394 | -,020 | -,292 | 2,796 | -,151 | -,013 | -,011 | ,109 |
| 15 | ,103 | ,023 | -,081 | ,270 | ,218 | ,034 | ,053 | ,191 | ,016 | ,070 | ,186 | -,301 | -,074 | -,151 | 2,092 | ,097 | ,107 | ,047 |
| 16 | -,244 | -,336 | -,096 | ,058 | -,351 | ,242 | -,228 | ,586 | -,268 | -,277 | -,206 | -,063 | ,277 | -,013 | ,097 | 1,630 | -,115 | -,142 |
| 17 | ,312 | ,524 | ,397 | -,004 | ,284 | ,424 | ,615 | -,018 | , 441 | ,493 | ,348 | ,439 | -,005 | -,011 | ,107 | -,115 | 1,202 | ,682 |
| 28 | | | | ,045 | ,333 | ,225 | | | | ,258 | ,242 | | | | ,047 | -,142 | | 1,400 |

APPENDIX J

OTHER DOCUMENTATION

Erasmus cooperation protocol



Covilha | Portugal



UNIVERSIDAD DE EXTREMADURA Extremadura | España



PROGRAMA DEL PROTOCOLO DE COOPERACIÓN (O ACUERDO DE COOPERACIÓN) ENTRE LA UNIVERSIDADE DA BEIRA INTERIOR (COVILHĂ, PORTUGAL) Y LA UNIVERSIDAD DE EXTREMADURA, ESPAÑA, CONDUCIENTE AL TITULO DE "DOCTORADO EUROPEO" DE LA ESTUDIANTE VERA LÚCIA SILVA CARLOS

La Universidade da Beira Interior, con sede central en el Convento de Santo António, Covilhã, Portugal, que es llamada de UBI, representada por el Rector, Prof. Doctor António Carreto Fidalgo

Υ

La Universidad de Extremadura, con sede en Avda. de Elvas s/n, 06006 Badajoz, España, que es llamada de UEx, representada por el Rector, Doctor D. Segundo Píriz Durán,

Teniendo en cuenta el interés mutuo a la movilidad de estudiantes de tercer ciclo de estudios, con la realización de un determinado período de su actividad de investigación en una universidad europea distinta de su país de origen, para que se pueda concretar la posibilidad de candidatura al título de "Doctorado Europeo" que se asocia con el grado de Doctor, que los estudiantes obtendrán, recomendado por la Confederación de los Consejos de Rectores Europeos, por lo tanto acuerdan establecer un protocolo específico que lleva al Doctorado Europeo de la estudiante Vera Lúcia Silva Carlos, inscrita en el programa de Doctorado en Gestión de la UBI.

A este fin, las dos partes subscriben el presente Acuerdo Específico que se somete a las siguientes condiciones:

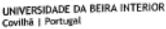
Primera

Alcance

El presente protocolo tiene como objetivo la realización de trabajo de investigación, bajo el tercer ciclo de estudios que llevan al grado de Doctor en Gestión de la UBI, en









UNIVERSIDAD DE EXTREMADURA Extremadura | España



el que se ha registrado la estudiante Vera Lúcia Silva Carlos, en UBI, con el fin de cumplir los requisitos para su aplicación al título de "Doctorado Europeo".

Segunda

Orientación

El director de tesis, en la UBI, es el Doctor Ricardo Gouveia Rodrigues, del Departamento de Gestión y Economía.

El responsable por la investigación a desarrollar en la UEx es el Doctor José Manuel Hernandéz Mogollón, del Departamento de Dirección de Empresas y Sociología, departamento donde los trabajos serán desarrollados.

Tercera

Plano de movilidad

El trabajo de investigación que la estudiante iba a desarrollar está sujeto a las normas de naturaleza administrativa existentes en la UEx. Este trabajo tiene la duración de 3 meses, de Julio de 2013 a Septiembre de 2013, en ese período se desarrollarán las siguientes actividades:

| Mes/Año | Actividad | | | | |
|-----------------|-------------------------|--|--|--|--|
| Julio/2013 | Discusión de Resultados | | | | |
| Agosto/2013 | Conclusión de artigo 4 | | | | |
| Septiembre/2013 | Conclusión de artigo 5 | | | | |
| | | | | | |
| | | | | | |

Cuarta

Certificación

El trabajo de investigación desarrollado por la estudiante es objeto de certificación por la UEx, en que se incluirá el responsable por la coordinación de los estudios/investigación, el periodo de estudios y las actividades desarrolladas, contenidas en la tercera cláusula.



2/3







UNIVERSIDAD DE EXTREMADURA Extremadura | España

Quinta

Gastos

La estudiante debe hacerse cargo de los gastos que se relacionen con el período de movilidad del presente protocolo, como el alojamiento, costos de vida, material pedagógico, salud y viajes. Otros costes que se relacionen con los estudios/investigación deben también ser cargo a la estudiante o sostenidas por fondos afectos al respectivo ciclo de estudios, o financiadas por proyectos de investigación relacionados con el trabajo de la tesis o otros fondos internos o externos.

Sexta

Duración

Este protocolo específico entrará en vigor en la fecha de firma y termina con el final del periodo de investigación en la UEx.

El presente protocolo específico es redactado en dos ejemplares de la misma forma y contenido, y los dos firmados por los representantes de las dos instituciones.

Covilhà, ____ de ____ de ____

Universidade da Beira Interior

Prof. Doctor Antonio Carreto Fidalgo

Rector

Badajoz, ____ de ____ de ___

Segundo Piriz Durán

Rector



CONSEJO DE GOBIERNO

INMACULADA DOMÍNGUEZ FABIÁN, PROFESORA TITULAR DE UNIVERSIDAD Y SECRETARIA GENERAL DE LA UNIVERSIDAD DE EXTREMADURA

CERTIFICA:

Que en la sesión Ordinaria de Consejo de Gobierno de esta Universidad, celebrada en el Salón de Actos de la Facultad de Ciencias del Deporte, en Cáceres, el día 13 de septiembre de 2013, en el punto 4º del Orden del día: Asuntos de Trámite; 4.1.: "Convenios con otras Instituciones", se tomó el siguiente acuerdo:

Aprobar el Programa del Protocolo de Cooperación entre la Universidad de Beira Interior (Covilha, Portugal) y la Universidad de Extremadura, España, conducente al título de Doctorado, en los términos que se recogen en el Anexo 4.1.-C4 del Acta de la sesión.

De conformidad con lo previsto en el articulo 27,5 de la Ley 30/1992, de 26 de noviembre, de Régimen Jurídico de las Administraciones Públicas y del Procedimiento Administrativo Común, se hace constar que la presente certificación se expide con anterioridad a la aprobación del Acta de la citada sestón de Consejo de Gobierna.

Y para que conste y surta efectos, extiendo la presente, con el Vº Bº del Sr. Rector Magfeo., en Cáceres a trece de septiembre de dos mil trece.





Erasmus training agreement



UNIVERSIDADE DA BEIRA INTERIOR

| | | TRAINING | AGREE | AENT | | | |
|--|--|--|---|--|---|--|---|
| I. DETAILS OF THE STUDE | NT | | | | | | |
| | M 15-1 | Cl | | | | - | |
| Name of the student: | Vera Lúcia da Silva Carlos Management (04.0) Academic year 2012/2013 | | | | | | |
| Subject area | | ment (04.0) | | Ac | ademic | year 20 | 12/2013 |
| Degree | | (Doctorate) | * | | | | |
| Sending institution | Universid | ade da Beira Inte | rior | | | | |
| II. DETAILS OF THE PROP | OSED TRAINI | NG PROGRAMME | ABROA | D | | | |
| Host organisation | University of | of Extremadura | | | | | |
| Planned dates of start | | | 1 | 1 | | I | T |
| and end of the | From | 03/12/2012 | TIN | 03-03- | 2013 | that is months | 3 months |
| 2- Improve the kr 3- Improve the kr 4- Gain compete b) Detailed programme 1- Developing the 2- Collecting date 3- Analysing date c) Tasks of the trainee: 1- Attendance of data processin 2- Building of a jo | nowledge an nowledge an nowledge and analytic performan | id skills related to to the analysis of ing period; ent scale. Incerning the field sis; | the bul the col results of Mark | ding of s lection a of an inv | cales; nd proce estigatio | n. ganizationa | |
| 4- Gathering of de 5- Processing and | ata for the De d analysis of luation plan: on by the stud | octorate investigo data. dent will be super | rition; | Profess | or José N | lanuel Hern | ández Mogollór |
| 4- Gathering of di 5- Processing and d) Monitoring and eval All work undertake The quality of work III. COMMITMENT OF T By signing this docume will abide by the princip document below. | ata for the Do d analysis of luation plan: on by the stud done by the HE THREE PAR | octorate Investiga data. dent will be super student will be e RTIES 1. The sending ins | vised by valuate | Professor | or José N same pr | lanuel Hernofessor who | ández Mogollór will supervise. |
| 4- Gathering of de 5- Processing and de year All work undertake The quality of work. III. COMMITMENT OF TO By signing this docume will abide by the principal document below. The student | ata for the Do d analysis of luation plan: on by the stud done by the HE THREE PAR | octorate Investiga data. dent will be super student will be e RTIES 1. The sending ins | vised by valuate | Professor | or José N same pr | lanuel Hernofessor who | ández Mogollór will supervise. |
| 4- Gathering of di 5- Processing and d) Monitoring and eval All work undertake The quality of work III. COMMITMENT OF T By signing this docume will abide by the princip document below. The student Vera Silva Carlos | ata for the Da d analysis of luation plan: no by the stude done by the HE THREE PAR not the studer poles of the Q | octorate Investigated at a. dent will be super- estudent will be extrict at the sending instruction and the sendin | rised by valuate titution not for Er | Professor | or José N same pr | nanuel Herni ofessor who anisation ca acements se | ández Mogollór will supervise. Infirm that they et out in the |
| 4- Gathering of de 5- Processing and of Monitoring and eval All work undertake The quality of work III. COMMITMENT OF THE By signing this docume will abide by the princip document below. The student | ata for the Da analysis of the | dent will be superior student will be extres It, the sending insuality Commitme | vised by valuate titution of for Er | r Professed by the and the asmus st | host organization of the control of | Date On satisfact | ández Mogollór will supervise. Infirm that they et out in the 25/11/2012 ory completion |
| 4- Gathering of de 5- Processing and of Monitoring and eval All work undertake The quality of work the quality of work the quality of work the student to th | ata for the Da analysis of luation plan: on by the stuce done by the stuce done by the the studer plan of the Garage of the Garage opposed training the institution of the institution of the institution of the Garage opposed training the institution of the institution of the Garage opposed training the institution of the Garage opposed training the institution of the institution of the Garage opposed training the institution of the Garage opposed training the institution of the Garage opposed training | dent will be superior student will be extres It, the sending insuality Commitme | vised by valuate titution of for Er | or Professed by the and the asmus st | host organization of the control of | Date On satisfact | ández Mogollór will supervise. Infirm that they et out in the 25/11/2012 ory completion |
| 4- Gathering of de 5- Processing and eval All work undertake The quality of work the quality of work will. COMMITMENT OF T By signing this document below. The student Vera Silva Carlos Student's signature The sending institution we confirm that this protection of the training programmed Diploma Supplement. | ata for the Data analysis of utualion plans: In by the student of the student of the student of the student operator of the Good operator of the institution of the i | dent will be super student will be extress that the sending instruction will be extress that the sending instruction will award | vised by valuate titution and for Er | or Professed by the and the asmus standard sent is appropriately appropr | br José N same pr host orgudent pla broved. | Date Date Date | ández Mogollór will supervise. Infirm that they et out in the 25/11/2012 ory completioning period in the 26/11/2012 |

Experts' opinion on the Ph.D. Thesis



MYKOLAS ROMERIS UNIVERSITY Faculty of Politics and Management Management Institute

OPINION

Dr. Agota Giedré Raišienė, Professor at Faculty of Politics and Management, Mykolas Romeris University, Lithuania, and researcher on the subject of organizational behaviour, having read the PhD thesis "Internal Market Orientation and Market Orientation in Higher Education Institutions: Implications on Workers' Attitudes, Behaviour and on Internal Service Quality" prepared by Vera Silva Carlos (tutored by prof. dr. Ricardo Gouveia Rodrigues), considers that:

- The topic of this thesis characterizes in scientific novelty and practical relevance.
- The author referred the works of authoritative researches of the area published in recognized scientific publications for preparation of the methodological basis of her thesis.
- 3. The research is well-grounded methodologically, representative and valid.
- The obtained results of the research are reliable, properly presented and reasoned.
- The structure of the thesis is reasonable, logic and properly modeled.
- 6. The conclusions are adequate, flowing from the results of the research.
- The dissertation is interdisciplinary: it integrates the knowledge of organizational psychology, organizational behaviour, marketing, high education management and ICT.
- 8. The dissertation is of high scientific quality and significant both in practical and theoretical aspects. It should be noted that researchers of organizations in the whole world are returning to the idea that employees' influence on organization's success in particular is the most important and determining its competitiveness, profitability and sustainability. Therefore, the author's proofs that: i) motivated workers are more satisfied, ii) satisfied workers are more committed and show a higher performance, and iii) committed workers also show a higher performance, are very relevant. These conclusions are also important because traditionally, a stereotype exists in the HE environment, that lecturers and scientists are motivated by their work content, noble and socially meaningful mission of the work and so on. However, the research of Vera Silva Carlos has shown that HE is a lot closer to any other work sector, and here the employees' are characterized by same needs and motives of behavior as in other organizations. Due to this reason, HR management in HE should be realized basing on general managerial recommendations and results of employee performance efficiency researches. Only that way higher education institutions will remain competitive and will be able to satisfy the needs of their clients (students, their parents, employers, society). Vera Silva Carlos noted that the "lecturing staff's performance is highly important for satisfying the external customer in HE". In other words, we can talk about interdependence where taking care of students begins with taking care of HE employees.

In my opinion the thesis represents an added value to European research in fields of HRM, marketing and social networking.

Vilnius, 05 June, 2014

Prof. dr. Ageta Giedre Raišienė



T.C. DUMLUPINAR ÜNİVERSİTESİ İKTİSADİ VE İDARİ BİLİMLER FAKÜLTESİ İşletme Bölüm Başkanlığı

Dumlupinar University
Faculty of Economics and Administrative Sciences
Department of Business Management
Kutahya/Turkey

OPINION About PhD Thesis

Ceren Giderler, Assistant Professor, Department of Business Management, University of Dumlupinar and researcher on the subject of education for human resource, having read the PhD thesis "Internal Market Orientation and Market Orientation In Higher Education Institutions: Implications On Workers' Attitudes, Behaviour And On Internal Service Quality", by the Ph.D student Vera Silva Carlos, considers that this Thesis:

- Has a research topic which is an issue of major scientific literature by the author;
- 2. Reveals a mastery of relevant and current scientific literature by the author;
- 3. Uses a methodology and appropriate scientific methods to the problem;
- 4. Rigorously analyzes the data;
- 5. Presents a unique contribution to scientific knowledge in the area.

By that is my opinion that the thesis represents an added value to European research.

13.05.2014

Assistant Professor Dr. Ceren Giderler

Merkez Kampus Tavşanlı Yolu 10.Km 43100 KÜTAHYA Telefon: (0 274) 265 21 93 (......) Faks: (0 274) 265 21 97

e-posta: iibfdekanlik@dpu.edu.tr Elektronik Ağ: www.dumlupinar.edu.tr

OPINION

I, László Józsa, Professor, Department of Marketing and Management, Kautz Gyula Faculty of Economics, Széchenyi István University, Győr, Hungary have read the PhD thesis "Internal market orientation and market orientation in higher education institutions: implications on workers' attitudes, behaviour and on internal service quality" written by Vera Silva Carlos, consider that this Thesis:

- 1. Has a very actual research topic with major scientific, economic and social relevance;
- 2. Gives an excellent summary of relevant and current scientific literature by the author;
- 3. Uses a good methodology and appropriate scientific methods to the problem;
- 4. Analyzes the data well;
- 5. Presents a unique contribution to scientific knowledge in the area.

According to my opinion the thesis represents a good added value to European researches.

Győr, Hungary, 19.05.2014

Prof. Dr. László Józsa E-mail: <u>jozsal@sze.hu</u> Széchenyi István University 9026 Győr, Egyetem tér 1. Hungary



Mr. Brian McGrath, Head of Department Department of Management and Enterprise Roinn na Bainistiochta agus Fioritair



School of Business,
Cork Institute of Technology.
Rossa Avenue,
Bishopstown.
Cork.
Ireland
7th June 2014.
Tel: 021 4335926
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To Whom It May Concern,

I am writing in my capacity as an academic reader of the PhD thesis of Vera Silva Carlos on the "Internal Market Orientation and Market Orientation in Higher Education Institutions: Implications on Workers' Attitudes, Behavior and on Internal Service Quality". This thesis is supervised by Professor Doctor Ricardo Gouveia Rodrigues. I found this thesis a very stimulating read. It is an area of huge academic and commercial relevance as higher education institutions become more market-oriented.

The area therefore is of major economic and social relevance not just in Portugal but throughout Europe and the world. I commend Vera on her detailed literature review and her use of an appropriate methodology to investigate her research objectives. I also commend her on her detailed and thorough analysis of her data and findings. I believe this is an area that has huge potential for further research and hope to see this work published in peer reviewed national as well as international journals and conferences.

I would like to praise the efforts of both student and supervisor in this research.

Yours truly,

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OPINION ON THE RELEVANCE OF Ph. D. THESIS ON

"INTERNAL MARKET ORIENTATION AND MARKET ORIENTATION IN HIGHER EDUCATION INSTITUTIONS: IMPLICATIONS ON WORKERS' ATTITUDES, BEHAVIOUR AND ON INTERNAL SEVICE QUALITY

Written by: VERA SILVA CARLOS

Defended at: University of Beira Interior, Department of Business and Economics, Portugal

- Doctoral thesis prepared by VERA SILVA CARLOS under title "INTERNAL MARKET ORIENTATION AND MARKET ORIENTATION IN HIGHER EDUCATION INSTITUTIONS: IMPLICATIONS ON WORKERS' ATTITUDES, BEHAVIOUR AND ON INTERNAL SEVICE QUALITY" is a relevant research topic for the doctoral thesis.
- VERA SILVA CARLOS has correctly defined the research problem, used the relevant contemporary literature for theoretical constructs as well as adequate research methodology and instruments.
- Research results are discussed on high quality level and present a clear scientific contribution to the research field. Moreover, research results can be used for practical implementation in higher education institutions marketing practices.

Meris lde Skeil

Mima Leko Šimić

Osijek, May 30, 2014.

PUBLICATIONS

Book Chapters

Carlos, V. S. & Rodrigues, R. G. (2014). The influence of (online) Social networks on the worker's Attitudes and Behaviours in Higher Education Institutions, In M. Cruz-Cunha, F. Moreira, & J. Varajão (Eds.), *Handbook of Research on Enterprise 2.0: Technological*, *Social*, *and Organizational Dimensions* (pp. 259-279). Hershey, PA: Business Science Reference.

Carlos, V. S. & Rodrigues, R. G. - Web site quality evaluation in Higher Education Institutions - accepted for publication by IGI-Global.

Conference Proceedings

Carlos, V. S., Lourenço, L. & Mendes, L. (2011). The Influence of TQM on employees' work-related attitudes and behavior. *Proceedings of the 14th Toulon-Verona Conference - The Excellence in services*, Alicante.

Carlos, V. S. & Rodrigues, R. G. (2012). Internal market orientation in Higher Education Institutions - Its inter-relations with other organizational variables. *Abstract Book of the 11th International Congress on Public and Non-Profit Marketing*, Vilnius.

Carlos, V. S. & Rodrigues, R. G. (2012). Web site quality evaluation in Higher Education Institutions. *Procedia Technology*, 5, 273-282. (4th Conference on ENTERprise Information Systems - Aligning technology, organizations and people, Algarve).

Journal articles

Carlos, V. S. & Rodrigues, R. G. (2012). Internal market orientation in Higher Education Institutions - Its inter-relations with other organizational variables. *Public Policy and Administration*, *11*(4), 690-702.

Carlos, V. S. & Rodrigues, R. G. - Development and validation of a self-reported measure of Job performance - accepted for publication by the Journal Social Indicators Research.



Conference on ENTERprise Information Systems

http://centeris.eiswatch.org

Declaration

As co-chair of CENTERIS'2012 – Conference on ENTERprise Information Systems – aligning technology, organizations and people, held in Vilamoura, Algarve, Portugal, from 3 to 5 October 2012, I hereby certify that Vera Silva Carlos is author of the paper titled Web site quality evaluation in Higher Education Institutions accepted for inclusion in a book with extended versions of selected papers, to be published by IGI-Global Inc.

The paper was subject of double blind review by two members of the Scientific Committee.

Portugal, 19th June 2014

Maria Manuela Cruz-Cunha

Conference co-chair Associate Professor Polytechnic Institute of Cávado and Ave Portugal