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Editorial

Note

The November 2015 issue of the *Journal of International Business Disciplines (JIBD)* has been the result of a rigorous process in two stages:

- Stage 1: all papers that were submitted to the 2015 IABD conference went through blind reviews, and high quality papers were accepted for presentation at conference.
- Stage 2: approximately ten percent of the accepted articles and one invited manuscript were selected for possible publication in *JIBD*, and the respective authors were contacted and asked to resubmit their papers for a second round of reviews. These manuscripts went through a rigorous review process by the editorial board members and external reviewers. In the end, four articles were recommended by the editorial board for publication in the November 2015 issue of *JIBD*.

JIBD is committed to maintaining high standards of quality in all of its publications.

Ahmad Tootoonchi, Chief Editor
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CREATING EFFECTIVE BUSINESS INTERNSHIPS

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ABSTRACT

Internships offered through schools of business can provide significant learning opportunities and are potentially beneficial for both the student and the organization. However, organizations may be missing opportunities not only to improve the learning experience for the student, but to also develop high-potential applicants and develop a systematic approach to recruiting, retaining, and developing high-performance employees as part of a strategic approach to manage human resources. This paper addresses areas of improvement that can help organizations realize the full potential of internships. Experiential learning theory, benefits and challenges of internships, and student preparation are addressed, and the Malcolm Baldrige Criteria Framework is also provided to support internships. Discussion, implications, and future research recommendations are followed by conclusions.

INTRODUCTION

Internships supported by schools of business are universally perceived as beneficial, providing students with hands-on experience in the workplace. Internships have demonstrated their value to students and are also valued by the institutions of higher learning, faculty, and the organization hosting the intern (Weibel, 2010). O'Neill (2010) suggests that internships are usually successful regardless of student outcomes because at a minimum the internship may help the student determine what they don't want to do, particularly if the student is not clear about interests or goals. For students that have a clear vision of what they want to do, the internship can provide a high impact learning experience and meaningful work (O'Neill, 2010). The author has worked with numerous student interns and discovered that even though the intern may have a clear vision and a list of goals they wish to accomplish, the organization may have other ideas. Too often student interns have been relegated to accomplishing simple tasks for the organization not necessarily related to the intended educational experience or the goals of the internship, and interns may receive little or no feedback during the internship process from on-site supervisors. In other instances the student intern does not obtain an understanding of how the job or position contributes to organizational goals and thus misses an opportunity to obtain a basic

understanding of the business environment. As a result of these and other events, the student intern may not have a satisfactory experience.

The Society for Human Resource Management (SHRM) provides the SHRM Guide for organizing an internship program and offers samples of different forms, discusses establishing processes, and provides supporting documentation to enable effective internship programs (Kluttz & Salvetti, n.d.). However, organizations may not understand the need for a systematic approach to internships as suggested by the Baldrige framework (NIST, 2013), which is necessary to take full advantage of talent, recruiting opportunities, and developing future employees. Organizations need to ensure an effective process that serves all stakeholders if the full benefit of an internship program can be realized. Literature supporting internships discusses starting programs (e.g., Kluttz & Salvetti, n.d; Tovey, 2001), how internships are valued by students for future careers (e. g., Knouse & Fontenot, 2008), and how stakeholders benefit (e. g., Weibel, 2010), but little is available to help businesses integrate internships and enhance the alignment of interns with organizational goals to create maximum value for the organization. As a result, not all organizational benefits can be realized; some research is also dated, which may not reflect current issues and challenges.

This paper offers a framework for using the Malcolm Baldrige Criteria for Performance Excellence (NIST, 2013) as an approach to align efforts focused on internships with the intent of maximizing the benefits for organizations. This alignment may assist in not only improving organizational outcomes relative to the internship program but also may enhance the student experience as well as the organizational experience, and establish a foundation for attracting high potential interns in the future (Tovey, 2001). Definitions are discussed, including types internships. Theory supporting internships is provided, followed by issues, benefits and challenges with recommendations for organizations. A structure for effective internships is offered for organizations to consider based on the Malcolm Baldrige Framework (NIST, 2013), followed by a discussion of implications, future research and conclusions.

BACKGROUND

Internships have evolved in the last few decades. The traditional view of an internship is defined as an unpaid internship taken for college credit and an experience that "...integrates career related experience into an undergraduate education through participation in planned, supervised work" (O'Neill, 2010, para. 17) in organizations and is more carefully defined by the United States Department of Labor relevant to wages and guidelines (2010). The traditional view of an academic internship is further explained by Rothman (2007) who emphasizes that organizations who host these interns are receiving educated students who benefit from professional experience in a supportive learning environment and should be primarily focused on providing learning opportunities for students in an organizational context. In return, schools of business administration offer credit for internships taken as academic courses (Rothman, 2007).

The US Department of Labor (2010) provided a definition and parameters for internship programs under the Fair Labor Standards Act (FLSA) that follows these parameters, including

that training would be similar to that given in an educational environment; the experiences for the benefit of the intern while working under close supervision of existing staff; and that the employer and intern understand that the intern is not entitled to wages, among other criteria. Generally speaking, the internship is viewed as an extension of the educational experience, as a college or university will usually exercise oversight and provides educational credit.

However, different types of internships and programs available may include but are not limited to paid and unpaid internships, where individuals may be hired for summer jobs or temporary positions in organizations, and service learning, such as class projects and collaborations. Summer internships, or those offered by different organizations also at other times during the year, provide work experience opportunities for those awarded the internships but often work for little or no salary. Service learning may be conducted through the classroom instead of as an internship program (e.g., Tovey, 2001). These examples of other types include internships that may not part of a program at a university or college.

The focus of this paper is primarily on traditional, academic internships as discussed by Rothman (2007) and O'Neill (2010) for the purpose of demonstrating the systems approach and potential impact on multiple stakeholders as explained by the Malcolm Baldrige Criteria (2013). Different aspects of this framework may apply in other internship situations, however, in a more limited way. As an example, companies who hire summer interns for limited time periods through established human resources processes would only represent a limited aspect of the Baldrige Framework. For the purposes of this paper, internships are considered to be part of or directly related to the educational program in a post-secondary institution, for the benefit of the student, and focusing on undergraduate business programs. The organization hosting an intern for the purpose of an internship will be referred to as a host organization.

LITERATURE REVIEW

Theory Supporting Internships

The theoretical bases for internships offered by this paper can be found in multiple theories; for the purposes of this paper, Kolb's experiential learning or ELT (e.g., McCarthy, 2010; Akella, 2010) was chosen as the primary focus because of the hands-on experience offered by internships. Indeed, internships are highly valued specifically for this reason whether the internships are for undergraduate or graduate students (Anonymous, 1994). Experiential learning theory (ELT) is an approach offering a perspective that combines experience, cognition, perception, behavior, and affirms knowledge is created through the integration of the four areas; the process of creating knowledge covers all areas and there is no required sequence. Experiential learning enhances the marketability of undergraduates in entry-level positions as well as enhancing career preparation (Gault, Leach, & Duey, 2010).

One area that is not often noted in business or in internships relates to the inter-subjective experience as found in critical theory (Herzog, 2010) and communication as experienced by at

least two people in an organizational setting. Herzog explains about the development of a reality that emerges from at least two people who share a space. Without this shared understanding there can hardly be a shared reality. Such experiences are based in the social construction and relate to defining and promoting a positive image through conversation, observation and symbols, and in other areas generally through these inter-subjective experiences. This combination of ELT and dialectics when coupled with hermeneutics, which focuses on interpretation and understanding of inter-subjective experiences (Herzog, 2010), plays a powerful role for interns as they are not only learning about the business, but learning how to function effectively within the context of an organization and with other employees.

There are different motivational theories that may also apply; McClelland's need theory (Dowling, 1972), which emphasizes achievement as one of the elements is also included with this paper because achievement can be perceived in different ways for all internship stakeholders, including students, employers and hosting organizations, faculty and postsecondary institutions. Moghaddam's research (2011) acknowledges need theory and determines that motivation appears to be higher for students who have yet to complete internship programs as compared to those who have already served in an intern role. In addition, those who had yet to complete internships had significantly higher expectations than did those who had already experienced the outcomes. Internships were noted as most effective when they focused on meaningful activities including providing services of value to the hosting organizations, and the need for achievement was a strong indicator for students who had yet to complete an internship.

KEY ISSUES

Rothman (2007) notes that student interns typically encounter problems such as doing menial tasks, vague directions, oversight and responsibilities, and a lack of information on expectations. Student interns should not be treated like temporary or part-time employees (Rothman, 2007); this is supported by guidelines provided by the United States Department of Labor (2010). Because the intent of an internship is to provide an educational experience, organizations need to make commitment to provide this experience. In addition, providing a job description, supervisor or mentor and specific directions, providing professional tasks as well as the rationale behind the assignment, including job structure, directions and oversight, and providing better training and orientation for the internship. It is also necessary for the organization to provide clear expectations for the student intern, feedback during the internship process, a list of responsibilities and clarity and detail in communication (Rothman, 2007).

Tasks should be professional tasks, not something temporary or that which part-time or full-time help can accomplish; Beneen and Rousseau (2010) differentiated internship tasks from simple skill exercises that employees could easily manage. Hosting organizations and supervisors should not assume that interns have working knowledge relative to organizational culture, routines and other aspects of work that those with experience take for granted. A lack of work or poor planning can be avoided by a clearly-defined internship program with a specified overall purpose, mission, and goal set. This is where the emphasis on ELT emerges: student interns understand the context in which they work, why their work is important and contributes to the

overall success of the organization and as noted in interaction with others in the learning that follows. Jusoh, Simun, and Chong (2011) note the implications and the importance of the role played by employers in addressing expectations of recent graduates, and found communication and motivation significantly related to job satisfaction. In addition, exposing students to the entire organization instead of simply the unit or department of the internship can provide a significant learning opportunity to understand the larger context of not only the organization but how business functions in general. For host organizations, this is a clear indication of the need to address the multiple aspects of the internship experience and focus on job satisfaction as a way to increase motivation.

BENEFITS AND CHALLENGES OF INTERNSHIPS

Internships are considered highly beneficial in the field of business (Anonymous, 1994) for numerous reasons including the experiential learning that takes place in an organizational setting. Businesses have also taken advantage of the opportunity to host interns from colleges and universities, using internships to identify potential full-time employees following graduation. Internships are noted for enhancing employment opportunities and providing job experience. Internships are seen as beneficial for both the student and the host organization because internships provide recruiting channels for organizations and placement avenues for students (Anonymous, 1994).

The importance of providing workplace experience for students has been well established and supports the ELT approach (e. g., Knouse & Fontenot, 2008; Weibel, 2010; Brooks & Green, 1998) and the inter-subjective experience as noted by Herzog (2010). Internships can benefit not only the student by providing hands-on experience, higher starting salaries and increased job satisfaction (Weibel, 2010), internships can also benefit the organization by providing the first choice of potential employees with work experience, part-time help, and the creation of a network to colleges and thus exposure to new ideas (Weibel, 2010). Overall, this may help in reducing costs related to recruitment and hiring. Organizations who host interns can provide feedback to the intern and the educational program in higher education not only on knowledge and skills of the interns, but also can assist in developing partnerships, providing individuals to serve on advisory boards, and further enhance their relationships with the community.

Different challenges were noted for hosting organizations such as screening potential interns and matching interns with appropriate opportunities; assigning appropriate tasks; follow-up which could include feedback and evaluation for the intern, and overall coordination internally and with stakeholders. O'Neill (2010) and Beenen and Rousseau (2010) and others cited the importance of screening as well as reviewing the intentions of the hiring organization. For example, Beenen and Rousseau (2010) further explained the need to know the difference between seeking an intern with the capacity to learn and perform, and to place the intern in an appropriate position which will help professional development as opposed to seeking an intern employer who values existing skills. Some host organizations, according to Beenen and Rousseau (2010), bring student interns in to accomplish tasks based on the skills the interns may already have; this would be inappropriate. Since the focus should be on providing learning experiences for the

intern, organizations should focus on providing new experiences rather than accepting an intern who could fill an immediate need for a skill set; this also needs to be in alignment with the guidelines of a nonpaid internship based on the requirements of the US Department of Labor (2010). Bennen and Rousseau (2010) noted employers should structure roles to challenge the interns' skills. While this may make the internship more difficult, clear goals, guidance and supported activities will assist in helping interns complete work products. Lord, Sumrall and Sambandam (2011) explain how personal qualities can be a strong influence on the performance of the intern and thus have a large effect on the organization's satisfaction with the program. Demonstrations of maturity, initiative and responsibility are necessary so screening for such attributes would be beneficial in matching students with internship assignments. However, interns should not be overqualified because this could result in dissatisfaction with the internship experience. Interns want to use the skills they have developed and want opportunities to demonstrate achievement (Lord et al., 2011).

SUGGESTIONS FOR HOST ORGANIZATIONS FROM INTERNS

Student perceptions of internships have also changed (Cannon & Arnold, 1998), and hosting organizations need to be aware of the shift in expectations. Students now see internships as a pathway to gaining a competitive edge instead of a continuance of a learning experience that supports their education. This view is supported by Knouse, Tanner, and Harris (1999) who note that students who complete undergraduate internships find jobs more quickly. However, both of these studies are not current. More recent research with those in student intern programs such as Rothman (2007) and Moghddam (2011) provide more current information students expect to learn from the internship experience.

Moghaddam's research (2011) determined that students found the exit interviews and feedback on student performance least effective; this indicates the need for improving feedback on student performance by the on-site supervisor. Instead, students valued timely and immediate feedback on their performance while on the job, as providing feedback after the internship did not allow interns to focus on improvements while on the job. Rothman (2007), in a content analysis of 345 interns discussing how to improve the experience for future interns, noted how much interns appreciated and valued the learning opportunities provided, including the transition experience from education to a job.

Improvements suggested for internships were named, including but not limited to the need for more structure on the part of the host organization for the internship itself. Some of the suggestions for improvements included more effective training programs for interns, better orientations, and clearer expectations. Some interns mentioned a lack of work or poor planning on work assignments and providing a schedule that lists specific responsibilities. Interns also requested that employers communicate with greater detail and clarity when giving directions, not only about the work but in general how to do things better. More direct contact, mentoring and guidance is needed instead of simply task delegation to the interns (Moghaddam, 2011).

Critical elements considered necessary for a successful internship included making supervisors available, providing feedback, and challenging assignments with explicit expectations along with clarity on exactly what is to be accomplished. Overall exposure to the larger organization will also provide job and work context for the student intern. Organizations, according to Rothman (2007), should also remember that these interns are essentially volunteering their time in exchange for experience and thus are deserving of respect. Interns should also provide feedback to the host organization, including what the employer can change to make improvements for the next internship.

Verney, Holovial, and Winter (2009) believe the evaluation by the internship employer is a valuable tool to assess student learning as well as to provide information for internship program review and revisions. It would be a mistake to assume that university education assist in students gaining skills necessary to succeed (Verney et al., 2009), therefore learning goals for the internship must be specified and assessed to determine goal accomplishment. Clearly, how to function in an organizational culture, develop working relationships and demonstrate appropriate behavior, when learning on the job, demonstrates the application of ELT and the importance of learning in context (Herzog, 2010). The potential for success of students in internships is also clearly demonstrated with the example provided by Gault et al. (2010). Hewlett-Packard recruited a record number of 70% of its workforce from a single pool of interns. This example not only addressed the importance of qualified intern candidates, it also represented how an employee or may reduce the costs of hiring; in addition, those who had served as interns were compensated to a greater extent than those who had not served as interns.

SUGGESTIONS FOR PREPARING INTERNS

Gault et al. (2010), in their research on the value of the internship experience relative to employee compensation, noted career preparation skills that were significant including "...oral and written communication, problem solving, analytical skills, computer applications and leadership/teamwork skills" (p. 79). Intern supervisors in host organizations, as part of the same research, identified 10 career preparation skills: "...reliability; consistency of performance; eagerness to learn new skills; timeliness; effectively prioritizing tasks; demonstrating initiative/self-motivation; exhibiting ethical behavior and accepting criticism constructively" (Gault et al., 2010, p. 79). Their research determined that employability is best when assessed by the quality of the offer to graduates instead of by the graduate employment rate. This information included metrics such as what employers were willing to offer interns plus different predictors to assess intern performance.

With appropriate preparation, students should have more realistic expectations relative to the workplace; especially those students who do not have previous work experience. For example, specific orientation courses prior to participating in a college business internship can provide insights relative to acceptable workplace behavior, appropriate attire and what constitutes appropriate interaction with business employees at the internship site. Preparation should also include an orientation toward working with others, as teamwork and group work is typically found in organizations. At Eastern Carolina University, this need is met with a three-hour

semester course, which also requires the completion of 140 hours on the job plus other requirements such as a portfolio and other assignments (Tovey, 2001). Research with organizations who hosted internships for students at the University of North Carolina-Chapel Hill (Brooks and Greene, 1998) indicates organizations want interns who already have communication skills, technical and computer skills, the ability to work with teams, professional maturity, and knowledge of subject matter. Tovey (2001) and Cannon and Arnold (1998) concur, as student preparation may best be accomplished by requiring a class that is provided as a prerequisite to an internship. This class would address expectations, behaviors, requirements, and generally provide an overall orientation from the perspective of the college or university and serve as an effective method to manage internship expectations.

Some organizations are also looking for prior experience (Brooks & Green, 1998). The level of satisfaction with the interns' skills and organizations are highest for prior experience and teamwork, followed by professional maturity, knowledge of subject matter, technical and computer skills, and was lowest in communication skills. O'Neill (2010) emphasizes the need to match the internship with career development goals as well as learning goals and the importance for the intern candidate to know the difference. Verney et al. (2009) and Morrison, Graden and Barnett (2009) explained the importance of effective measures for internships, and the need to have a variety of perspectives, data, and assessments to support student learning, career goals, and academic requirements. From the perspective of the host organization, assessing student interns should include the same types of assessments given to regular employees such as evaluations, ongoing feedback, and other methods used by the host organization, but these need to be more frequent because of the short duration of the internship. McDonald, Rodriguez and Prior-Miller (2009) highlight the critical need for reliable assessment methods to provide accurate information for all stakeholders; for the host organization reliable assessments from internships supervisors, observations, and other organizational measures or surveys can provide a foundation for improving the design of internships, improving student satisfaction and thereby providing a good experience as well as a good reputation as a host organization. When shared with those who manage the internship programs in education, more effective placement and a closer match to student goals can also enhance intern and host organization satisfaction.

STRUCTURING EFFECTIVE INTERNSHIPS

Hergert (2009) notes how students obtain a higher value from internships that had been integrated into the academic program of study and were structured appropriately. Onley (n.d.) explains the need for specific content for any internship, including adequate supervision that includes training and orientation on organizational rules such as attire, behavior, ethical expectations and technology use. As previously noted, Rothman (2007) discusses how students express the need for more effective orientation and preparation from the organization. This is a clear call to review, redesign, and establish effective internship structures in host organizations. In addition, organizations also need formal processes to gather feedback from the intern about the experience as well as a critique of the work completed at the hosting organization. Periodic feedback and a formal evaluation of the internship should be provided to both the intern and the academic supervisor with the intent of improving the experience of the internship, and to provide

the necessary feedback to support the development of appropriate business skills for the intern. The hosting organization, through the work supervisor, should also provide a written evaluation, the intern may also provide feedback to the organization and the academic supervisor to be used as input for the internship program, the academic program, work tasks, and the overall intern experience. Standard approaches to gathering data at the end of the internship often include an exit interview frequently conducted by the work supervisor and a written evaluation for us as from the student. The student intern should be asked not only to provide opinions often in the form of the survey on the internship experience, but also to provide a review of the internship process in terms of a program assessment, as this will help the host organization conduct reviews which may support process improvement efforts.

Such an approach can be applied to internship programs using the Malcolm Baldrige Criteria for Performance Excellence (NIST, 2013). The Baldrige Criteria represents a 360° approach to support alignment throughout the organization which can intern maximize opportunities for organizations as well as interns who could be future employees

A SYSTEMATIC APPROACH TO INTERNSHIP PROGRAMS

To be effective, an internship should be integrated into the organization instead of treated as an "add-on" component for a single department, a single individual in the organization, or as only the responsibility of human resources. Thurston (2000) advocates a systematic approach for teaching business students; although this may be challenging because of the focus on individual learning, the author notes when students learn to think beyond a linear approach, this can improve complex decision-making. An effective internship, which includes experience in all aspects of the organization as determined by the Baldrige Criteria (NIST, 2013), may provide a higher-quality experience for the intern and the organization; this may also support opportunities for additional engagement by the interns as well as providing a more complete business perspective.

The Criteria for Performance Excellence (NIST, 2013) is comprised of seven categories in the Performance Excellence Framework that represent a systems' perspective: Leadership (category 1); Strategic Planning (category 2); Customer Focus (category 3); Measurement, Analysis, and Knowledge Management (category 4), Workforce Focus (category 5), Operations Focus (category 6); and Results (category 7). The Criteria provide a systems perspective by demonstrating the linkage and interdependencies among all categories. The model presented here uses the Baldrige Criteria as an initiating structure to consider when establishing internships in organizations. The intent is to assist organizations in developing or improving internship programs by proposing a structure that integrates the internship effect more effectively into the organization which in turn may enhance the benefits for the organization derived from hosting college and university (for credit) internships. This also includes information on alignment and how the categories work together. Further development of appropriate internship program plans by any organization is required as organizational needs, environmental changes, and hiring requirements must address organizational and market needs. In all cases, the information offered here provides starting points and areas to consider but cannot provide specific information to

organizations on how to run internship programs; thorough development and implementation of any internship program must rely on organizational priorities, strategic goals, and the organization's mission, vision, and values.

Leadership

When establishing or implementing internship programs, organizational leadership not only needs to be aware of the program, but should fully support the effort. Human resources staff (HR) are usually involved in and aware of the internships but organizations may vary on how the internships are managed and how candidates are selected. At a minimum, top management and HR should be involved with internships as they represent potential future recruits. Onley (n.d.) noted that employers are looking at students often as potential job candidates. In addition, colleges and universities will have requirements that must be addressed, and federal, state, and local laws must be followed. The importance of providing an orientation for the intern is essentially the same as providing orientation for new employees; information on policies, procedures, expectations, organizational goals, ethical expectations, behavior expectations, and necessary paperwork are parts of a typical on-boarding process.

Multiple reporting responsibilities will be present. At a minimum, the on-site organizational manager who will be supervising the intern will be managing daily activities, while the academic supervisor, who is often a faculty member, will be tracking academic requirements of the internship. The intern should have a clear understanding of reporting responsibilities and the different expectations for the on-site supervisor in the organization as well as academic oversight.

Questions the organization may ask to determine the readiness of a future or existing internship program could include: Are accommodations available to support an orientation for interns, and are accommodations made for workspace and all necessary equipment? Is leadership aware of and supportive of the internship program? Are clear lines of responsibility designated for organizational supervision of the internship, and is there an open line of communication with the academic supervisor, the organizational supervisor, and the intern? Are plans prepared to provide ongoing feedback for the intern, a complete evaluation at the end of the internship, and data collection for multiple perspectives that may be shared with other stakeholders?

Strategic Planning

Internships should be included as part of the organizational strategic plan and integrated throughout the organization as part of the strategic human resources plan. For example, if employees are needed with specific knowledge, skills, and abilities (KSA) for positions which need to be filled now or in the future, internships may serve an important role in not only short term human resources planning, but in longer-term strategic planning for the organization. By

projecting workforce needs, internships can be developed in these areas to meet future organizational needs. Without advance planning to address future skills needed in the workforce, it is challenging to meet organizational goals if required KSAs are not available. The need for strategic planning is clearly addressed by the Baldrige Criteria (NIST, 2013). Two views of strategic planning should include short-term and long-term horizons; action plans should be developed and deployed to enable the organization to meet necessary goals and objectives. Through internships, employers may benefit twofold; not only do they have students to develop organizational specific KSAs; employers may also be able to screen the interns for potential full-time employment upon completion of the internship. This approach may offer distinct advantages related to the reduction of recruitment costs, assessing abilities and interest in working at the organization, determining culture fit and the ability to work with others as well as assessing job competencies.

Questions to be asked relative to internships and strategic planning may include the following: Are internships considered in both are long and short-term strategies? Do we have key strategic objectives developed relative to future human resource needs, training and development, necessary to meet business goals and organizational sustainability? Have we developed action plans to address internships, and have they been implemented? Are resources appropriately allocated with workforce plans and performance measures to support internships? Are internships developing KSAs necessary to meet organizational goals now and in the future?

Customer Focus

There is often confusion that develops as a result of trying to determine who the customer is; some situations—such as internships—usually have multiple constituencies that must be served, frequently referred to as stakeholders in the Baldrige Criteria. For internships, there are numerous stakeholders who may be defined at different times as customers depending on the perspective. For example, a stakeholder could be the employer who offers the internship; and another stakeholder could be viewed as the student who is looking for the right organization to complete an internship. The college or university may also be a stakeholder, and the employee who eventually hires the student after graduation is also a stakeholder. This means that there are multiple customer or stakeholder perspectives that should be engaged in determining value, performance level and outcomes as described by the Malcolm Baldrige Criteria (NIST, 2013) while balancing the various needs of stakeholders (Moghaddam, 2011; NIST, 2013). For the internship itself, this would suggest feedback is necessary from the various stakeholder groups and those involved such as, but not limited to, the on-site supervisor of the internship, the student, and the faculty member managing the internship.

In the Criteria (NIST, 2013), customer engagement is included in this category; this includes, but is not limited to, identifying customer and market requirements, providing information and support for customers, market segmentation and how data is used to identify opportunities, market product offerings, and focus on the customer. This also includes building customer relationships and complaint management. For the organization, efforts in this area may include defining the types of internships and different areas of KSAs needed by the organization,

working with colleges and universities to identify potential candidates, and providing information on the structure and content of internships offered. By developing close relationships with colleges and universities, organizations may influence curriculum and program development, profile and select appropriate individuals for the work and the culture of the organization, and provide feedback to other stakeholders for purposes of improvement and innovation.

Questions the organization may use to determine readiness could include: Have all potential customers related to student interns been identified, and are there approaches in place to obtain performance feedback? Have internship responsibilities been designed to enhance intern satisfaction and engagement? Is there a mechanism through which dissatisfaction and complaints can be received, managed, and addressed? Are processes in place to support and further develop relationships with all stakeholders who impact student internships? Is appropriate support available for interns to assist them in professional development and personal development? Is the internship work challenging yet appropriate for the capabilities of the individual?

Measurement, Analysis, and Knowledge Management

Measurement, analysis, and knowledge management relative to internships may include the individual intern as well as tracking multiple interns over time periods. For example, interns should be evaluated by the on-site supervisor and provided ongoing performance feedback so they have the opportunity to improve performance and make changes as needed. Providing midterm feedback is a positive influence on internship behavior and serves as a basis of comparison for results at the end of the internship; providing midterm feedback and a final feedback allows corrections at midcourse and provides the basis for comparison at the end of the internship (McDonough, Rodriguez, & Prior-Miller, 2004). Both the internship supervisor for the organization and the faculty member should determine appropriate forms of measurement and use these (such as midterm feedback and evaluation as well as final feedback and evaluation) As a final evaluation, determining the difference between midterm and final can provide a clearer picture of student capabilities as well as effectiveness of the chosen measures; a midterm evaluation also allows for feedback which could improve or enhance performance before the final evaluation. Employees working with the intern may also provide input to assist the internship supervisor as needed and may provide insight into the overall fit with organizational culture, work habits, and effective working relationships established with other employees. As always, all feedback must be documented.

Appropriate questions for employers hosting interns may include the following: Have we provided an orientation? Are processes in place to monitor and assess the progress of the intern? Do these processes enable us to use the information we gather to improve our internship program and processes, and to share this information with the academic supervisor? Do these approaches include a way to assess internship satisfaction and engagement as well as dissatisfaction? What organizational support is available for the intern? Are our evaluations effective in contributing to the professional development of the intern? Is the intern used effectively or only assigned to menial tasks? Is the supervision of the internship providing support and direction? Are we

working appropriately with the college or university to build relationships and enhance the experience for the student and to assist our organization in meeting its goals?

Knowledge management would include, at a minimum, retaining organizational knowledge learned from hosting internships in terms of needed skills and competencies, effective processes, appropriate policies and procedures, and using this information to improve the program. Human resources must be current with all levels of legal requirements and be in compliance with college and university requirements; this can be facilitated in part with assistance from the postsecondary institution. Knowledge about processes, policies, procedures and other requirements should be maintained and updated regularly with the assistance of human resources and shared with all employees, not just those involved directly with the internships. As part of a well-informed workforce, all employees should understand the value of internships the organizational goals related to internships as well as how they fit into the strategic plan.

Relevant questions for the hosting organization can include: Are we collecting and analyzing information about what our organization needs? Are we reviewing past records of internships for performance, skills and competencies to determine if changes or improvements are appropriate for the work we assigned and the internship position? Are we providing accurate information to the college or university and the intern to further develop the intern, the curriculum, and the student's program? Finally, organizations should always assess their own evaluation processes and how they handle knowledge management to make sure these are effective to help the organization meet its goals and provide a satisfying internship experience.

Workforce Focus

The focus of this category is on assessing workforce capability, determining capacity needs and developing an environment for the workforce that supports high performance. In addition, how the organization manages, engages and develops the workforce can reach full potential when it is in alignment with the overall mission, strategy and action plans. How the workforce is organized to accomplish organizational goals, how employees are prepared for change management (e. g., continuity, workforce reductions) as well as the workforce environment, policies and benefits are considered in this category. For organizations, this includes recruiting, hiring, placing and retaining the workforce; assessing workforce capability and capacity including skills, competencies and staffing levels. This also may include the capacity of the workforce for change, the workplace environment, policies, and benefits. Internships are an opportunity for organizations to select students for internship positions who may become future employees. The ability to observe skill development and competencies may be extremely beneficial in terms of cost savings for recruiting and finding employees who are appropriate match for the culture, with the necessary commitment and attitude to contribute to a high-performance organization. Employees who are well matched with organizations also may reduce the potential of turnover.

Questions organizations may need to ask would include the following: How can we effectively support and provide a good working environment for the interns as well as other employees? How can we use internships to meet our recruiting, hiring and placement needs, and how can we

reduce retention concerns and at the same time bring in diverse ideas and cultures who work well with our customers?

The second area related to workforce focus is workforce engagement, which includes such areas as workforce satisfaction, organizational culture, performance management and how workforce engagement is determined relative to retention, absenteeism, safety and productivity. Workforce and leader development would include learning systems not only for core competencies, long and short-term goals, and organizational performance which includes a customer focus, but also ethics knowledge transfer and attainment of new knowledge necessary for the job. Measures of effectiveness could assist in determining effectiveness of policies and practices.

The organization would need to address questions such as: How do we transfer knowledge to new workforce members and reinforce new knowledge and skills on the job? How can we determine the level of engagement, intern and workforce satisfaction? How do we foster a culture that includes open communication and high performance work? How do we correlate this information with our business results? Do our learning systems support our strategic plans, ethical businesses practices, customer focus, and learning and development needs for both short-term and long-term plans?

Work Systems

How organizations design, manage, and improve work systems and processes should also include the internships; this would include delivering value to the customer, contributing to sustainability, and achieving organizational goals. The internship program itself should be the result of thoughtful design that will contribute value not only to the intern but to the organization as well. Sustainability would be relevant to the internship program in terms of sustainability for the program itself, such as how effective the program is for the organization and how it is managed, as well as contributing to the sustainability of the organization. As such, the importance of internships to an organization becomes clearer as the program takes on importance as an element of the strategic plan related to areas such as organizational goals, recruitment, and retention. Design concepts should include the potential for innovation and change as well as identifying core competencies; the selection of processes to work within the system could include both the internal and external processes. Design concepts must also include work system requirements, which would include input from all stakeholders involved in the internship process as appropriate. Implementing the system would include management and methods of improvement to deliver value, success and sustainability. Cost control would also be an element, as some programs and processes may not support organizational sustainability. Implementation is most effective when relevant areas of the workforce are involved, supervision is trained, affective and appropriate, and on-going review and improvement are part of the system design.

Questions the organization could ask would include the following: Have all stakeholders provided input to appropriate internship work responsibilities and design? Are the responsibilities assigned to the intern achievable but challenging? Is the focus on education, not

simply job functions that need to be accomplished? Have methods been developed or adopted to determine the effectiveness of the internship process, and do we have a system in place to support continuous improvement of the program? Have cost control and sustainability been considered? Are the managers and supervisors who will be working with the interns prepared, trained, and appropriate, and is a mentor or supervisor specifically assigned to the intern? Is the work we have assigned to the intern appropriately supporting learning and personal development and aligned with organizational goals as well as the intern's goals?

Results

This category examines performance outcomes and improvements. Key performance and process effectiveness should be summarized to provide results; these results should include information that directly serves the customers, informs strategy, and supports operations. Results should relate directly to key measures, which are indicators for the accomplishment of organizational strategy, action plans, and goals including strengthening core organizational competencies. The stakeholders who can benefit from these results would include the student completing the internship, as this is an indication of performance and capability; the college or university because this is an indication of program success, alignment with the appropriate skills and competencies, and curriculum preparation; the organization itself, as a potential future employer for the intern, customers and any other stakeholders who deal with products and services provided by the organization. Questions the organization may ask to assess readiness could include: How do we know we are measuring the right information? Can we provide indirect measures as well as direct measures? Do our performance, process effectiveness, and efficiency results help us attain our strategies, objectives, and goals? Do our interns derive satisfaction, and gain knowledge and competencies from the internship? Do we share this information with our stakeholders to support innovation and continuous improvement? Do we use this information to support our strategic planning, customer focus, measurement, analysis and knowledge management, workforce focus, and operations focus?

DISCUSSION AND IMPLICATIONS

Research has already confirmed the improved marketability of students who have completed internships and positive student perceptions about internships (Gault et al, 2010), and realized significant advantages in terms of obtaining full-time job offers and higher pay. Improvements may be realized by business but academia and business must be willing to work more closely to make improvements in internships. Outdated research (e. g., Brooks & Greene, 1998), while still relevant, needs to be made more current, as recent information on skills and competencies needed in organizations is critical to prepare students to be collaborators and contributors.

In addition, student perceptions have changed (Cannon & Arnold, 1998; Rothman, 2007) and have likely evolved further since this research is not current. Students now see internships as a way to become more competitive in the job market instead of simply being simply an extension

of an educational program as in years past (Cannon & Arnold, 1998; Knouse et al., 1999). It is especially important to look at current student perceptions, as the economic downturn in the US, which began in approximately 2008, has negatively impacted jobs. Providing a broader review of the organization, as suggested by Rothman (2007) when students are exposed not only to the organization but to business and industry, may become a critical factor in preparing students for future leadership positions. This broader approach to business and leadership may be realized by application of the Baldrige Framework (NIST, 2013).

Many possible implications may exist for organizations that are considering establishing or refining internship programs. An example is provided by Degraeveld (2011) for internships for small businesses; internship programs may assist in overcoming a lack of resources in terms of structure and process, people and skills; internships may help in overcoming a lack of critical capabilities including people management, adapting to change, and knowing how to develop strategy as well as to implement action plans and avoiding groupthink by bringing in the fresh perspective of an intern. The small business may benefit in decision-making with the assistance of the intern by questioning standard managerial and strategic practices, which can enable a change in strategy as well as management practices.

Organizations providing an investment in time and effort to improve internship outcomes may realize short-term benefits (e. g., additional help, teamwork, fresh ideas) and long-term benefits (e. g., recruiting, retention, new talent, organizational reputation). However, mutually beneficial outcomes and efforts on internships may be wasted unless learning goals are specified and then assessed for goal accomplishment by the organizational supervisor (Verney et al., 2009).

Lord et al. (2011) connect satisfaction research to internships, saying that the hosting organization should be careful and not create dissatisfaction with interns because a dissatisfied intern may complain to the college or university and thus jeopardize the relationship with the hosting organization. Dissatisfaction could occur when an intern is satisfied with their role or task but also when they are dissatisfied with the firm, or satisfied with the firm and dissatisfied with the role or task. Intern job satisfaction plays an important role not only for the intern's career, but also for the reputation of the hosting organization as well as the future of the organization's relationship with the college or university (Lord et al., 2011). In the long term, dissatisfied interns could contribute to a negative perception of an organization's reputation thereby reducing the number of students who may be interested in internships or it could reduce the quality of interns attracted to the program. Students who have positive experiences may generate goodwill on campus and through the college or university.

The need for practical application of concepts is also clear. Templeton, Updyke, and Bennett (2012), after evaluation of research results, found that although students could discuss theory, they failed to demonstrate their understanding of the application of such concepts to the workplace and that students had limited understanding of workplace social issues. This speaks to the need for experience in the work environment to understand culture, relationships, and how to work effectively with others; these can be discussed in classrooms but are not likely realized without immersion in a business context. This also emphasizes again the need for more focus on social integration as Herzog (2010) proposes. Engaging student interns through mentorship, working relationships and other demonstrations of interpersonal engagement could help students

understand and further develop their ability to interact effectively and participate in social construction through conversation, observation, symbols and dialectics. Without the interaction with others in a business context, the internship structure and processes cannot be effective.

FUTURE RESEARCH

Many potential opportunities to study internships can be developed through schools of business to assist organizations in developing programs for students. As determined by the dates on research supporting this paper, more current information is needed. Students expect to be more competitive by engaging in internships; it is clear perceptions have changed and remain dynamic, thus creating a need for ongoing research. Job responsibilities and expectations are constantly changing, and globalization may have an impact on all aspects of the business world. However, research is recommended as a beginning step to determine the different types of structures currently in organizations that support internships and internship programs. Updates to some of research as cited in this paper would be in order as well as further exploration into the numerous processes involved in organizational internships and internship programs. Longitudinal studies—which may track student careers, expectations, and opportunities which result from internships—may provide a more realistic perspective of the benefits derived from these programs. Research is also suggested to determine information about the relationships between colleges and universities and organizations who host internships related to multiple aspects such as placement, elements of relationships, data from interns hired as employees, and longitudinal information on the careers of interns who became employees.

CONCLUSION

Organizations need well-prepared business graduates, and colleges of business who strive to improve the quality and competitiveness of their graduates. While efforts to improve internships by further refining structure and processes can help, this is not enough. Engaged and involved student interns who are brought into internship positions by organizations interested in enhancing their educational experience can help create this engagement and motivate student interns with rewarding work experiences. Organizations must include key measures that align with organizational goals for these interns so feedback can be obtained, analyzed and used for improvements in internship programs. At the same time, the goal alignment of internship programs for the organization may assist in developing future employees, recruiting, and assisting in strategic planning for future recruiting needs. Measures of success for the organization and the student intern should include student performance and student satisfaction, and the organization should provide feedback to the student interns relative to skills and abilities demonstrated in the workplace. If organizations are working with schools of business to accommodate interns, methods of improving student preparation should be considered as part of continuous improvement.

Organizations may miss opportunities to reduce hiring costs and improve the reputation of the organization (as well as job satisfaction), and also miss the chance to engage employees in active support of the internships and internship programs. One of the key aspects of developing business students and future business leaders may be provided through on-the-job learning and application of ELT and different aspects of social construction; establishing good working relationships with student interns can improve job satisfaction, motivation, and engagement with the organization. The intern can also benefit the organization itself. Most importantly, perhaps, is the need for business students to apply learned concepts in a business context as identified by Templeton, et al. (2012). To do this, host organizations may need more focus on developing social learning and interaction in the work environment so future business leaders know when, how, and why concepts are applied, as well as appropriate applications. As the goal is to provide interns with an enhanced educational experience by exposure to business, this comprehensive work experience can provide an introduction to the business and practices, the context and the environment of the business world as well as the business itself and overall better preparation for future leaders.

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CONSUMER PURCHASE-RELATED FACTORS AND SATISFACTION WITH SERVICES IN THE INTERNATIONAL AIRLINE INDUSTRY

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ABSTRACT

As competition in the international airline industry intensifies, increasing consumer satisfaction with services becomes crucial to airlines' survival. While its importance in marketing is never questioned, customer satisfaction has rightly been described as "a complex and elusive phenomenon" (Peterson & Wilson, 1992, p. 68). This paper examines the level of consumer satisfaction with the different individual elementary services customarily provided by airlines on an international flight, and determines how this is influenced by consumer purchase-related factors. Four purchase-related factors are examined, namely: (i) reasons for travel, (ii) frequency of travel, (iii) class of flight, and (iv) type of airline used. Findings show that while reasons for travel and frequency of travel had no significant influence; class of flight and type of airline used tend to influence the level of consumer satisfaction with services in the international airline industry. Managerial implications of these finding and directions for future research are given.

INTRODUCTION

Consumer satisfaction has long been recognized as the core of the marketing concept (Hempel & Rosenberg, 1976). While its importance in marketing is never questioned, customer satisfaction has rightly been described as "a complex and elusive phenomenon" (Peterson & Wilson, 1992, p. 68). Peterson and Wilson (1992) further emphasized: "To be able to interpret and effectively utilize customer satisfaction ratings, it is necessary to understand what determines them as well as know what variables and/or factors relate to them" (p. 61). Several marketing phenomena have been shown in the literature to be impacted by purchase situations. For example: purchase situations were reported to influence industrial buyer's purchase decision (Lau, Goh, & Phua, 1999); they were found to influence consumer's choice of wine (Morey, Sparks & Wilkins, 2002); and have been demonstrated to influence communication behavior of salesperson towards customers (Reid, Pullins, & Plank, 2002). Purchase situations have been linked to deep consumer emotions (Yi & Baumgartner, 2004), which include such things as satisfaction and/or dissatisfaction. It would thus be of keen interest to determine if and how purchase situations affect the level of consumer satisfaction in the airline industry, an industry that has become the hallmark of the modern economy.

Specifically, this paper examines the following questions: (i) Which purchase situations influence consumers' satisfaction with services in the airline industry? (ii) To what extent do these purchase situations influence satisfaction? and (iii) Given a purchase situation, what marketing strategies could management adopt to enhance consumer satisfaction with services in the airline industry?

LITERATURE REVIEW

Several authors have examined the impact of purchase situations on consumers' attitude and behavior, but this was mainly with tangible products rather than with services (as is done in this paper). For example, using the multinomial logit model involving a sample of Generation Y alcohol consumers in a city in Northern Italy, Agnoli, Begalli, and Capitulo (2011) found that four consumption situations—at bars or pubs, at discos, at home and at restaurants or pizzerias—had significant impact on their perception of functions of, and their choice of, alcoholic beverages. In their own survey of 147 wine buyers using structured self-administered questionnaires in a central city retail location in Australia, Hirche and Bruwer (2014) found that purchase situations significantly influenced how much buyers would spend. They reported that “wine buyers would spend on average over \$15 more per unit when the wine is not bought for their personal consumption (e.g. gift)” (p. 318) Their level of involvement with the wine purchase was also found to vary with purchase or consumption situations.

In a study of 122 Greek producers of industrial goods, Leonidou (2005) found that their customers used significantly different influence strategies in their negotiations depending on the purchase situations—straight re-buy, modified re-buy, or new task. The author therefore suggested that industrial goods sellers treat customers differently in each buying situation. In their experimental study of purchase situations and impulse buying behavior, Wu and Huan (2010) reported, “respondents with high time pressure (limited time) or low economic pressure (larger budget) are significantly more likely to engage in impulse buying behavior” (p. 3530). Objects used for the study were souvenirs, not services as is done in this paper. In addition to not treating services, all these studies did not link purchase situations to customer satisfaction, as important as this concept is for marketing success. The current paper makes this connection.

Whereas authors are unanimous in saying that the consumer determines his or her level of satisfaction/dissatisfaction through a process of comparison, they do not agree when it comes to *the basis* on which the consumer makes this comparison. Different bases of comparison have been proposed in the literature. Long before now, Howard and Sheth (1969) proposed that satisfaction is the degree of agreement found between the actual consequences or, more accurately, their perception by the consumer of the purchase and the likely impact expected at the time of purchase. The consumer is satisfied if the results are greater than or equal to what he expected. Otherwise, he will be dissatisfied.

In their analysis of the consumer decision process, Engel, Blackwell, and Kollat (1978) define *satisfaction* as the finding that the chosen alternative is consistent with prior beliefs of consumers on this alternative. To these authors, satisfaction is the outcome of an internal process where the

individual assesses the chosen alternative. Olivier (1981), for his part, defines *satisfaction* as the evaluation of the "surprise" on the process of acquisition and consumption of a product. It is the psychological state of the consumer—the result of a comparison between expectations about the product and feelings experienced after the purchase and consumption of the product. According to Oliver (1981), the duration of this "surprise" is very short and it is incorporated into the "attitudinal" structure of the consumer.

As noted also by Anderson (1973), there is no definition of satisfaction that is universally accepted in the literature. Smart (1982), in a review of research that deals with consumer satisfaction, notes that a set of general definitions makes the operationalization and measurement of the concept extremely difficult. Day (1977), Oliver (1977), and Smith and Houston (1983) are of the opinion that the level of satisfaction is the result of a subjective comparison made between consumer expectations and product performance on its salient dimensions. In the case where consumer expectations are confirmed, or exceeded, the consumer is satisfied. If the results are to the contrary, he will be dissatisfied.

Swan and Trawick (1979) divide consumer expectations into two types. These are (i) desired expectation, i.e., the level of product performance desired by the consumer, and (ii) the predicted expectation, i.e., the level of product performance expected by the consumer. These authors argue, then, that when the performance is equal to the desired expectation, substantial satisfaction results, and that satisfaction is very high if the performance exceeds the expectations you wanted. By contrast, when performance equals the expectation predicted, it results in indifference, while an inferior performance to the expectation predicted results in consumer dissatisfaction.

The notion of desired expectation proposed by Swan and Trawick (1979) seems interesting. Confirmation of expectations per se does not seem sufficient to analyze consumer satisfaction. We need to know if the expectation is simply the predicted or the desired one. In agreement with Swan and Trawick—it is not logical for a consumer to be very satisfied if a product is predicted to be of poor performance, and it was. This is not a desired expectation.

LaTour and Peat (1980) studied the consumer's experience with another brand of product/service. The experience of other persons concerned with the brand was proposed by Fisk and Coney (1981). Swan and Martin (1980), and Woodruff, Cadotte and Jenkins (1983) proposed that the consumer's previous experience with the same product should be the basis for comparison. Morris (1977) proposed the social and cultural values of the consumer. The motive for the consumer for which he uses the product/service was proposed by McGuire (1974), while Swan and Trawick (1981) proposed the desired level of performance as a basis for comparison.

Other bases for comparing the performance of a product/service developed in the literature include the best alternative (Cadotte, Woodruff, & Jenkins, 1987); values or personal needs of consumers (Westbrook & Reilly, 1983); and profits from the transaction by the consumer vis-à-vis those derived by another appropriate person—such as the seller or a friend (Swan & Mercer, 1981).

From all these proposals, one point stands out: satisfaction does not depend only on the expected performance of a product or service, a form of standard or norm plays a crucial role as well (Woodruff, Cadotte, & Jenkins 1983). The nature of this standard is a field for continuous research in view of the place occupied by the concept of satisfaction in marketing. There is thus a persistent need to determine factors that influence consumer satisfaction in particular industries such as the airline industry—which is the focus of this paper. To this end, 20 individual elementary services offered in the airline industry on international flights have been retained in this paper for study. Four purchase situations are also proposed to influence the level of consumer satisfaction with those services. These purchase situations include:

1. Reason for travel
2. Frequency of travel
3. Class of travel
4. Type of airline used

To examine this proposition, the following hypotheses have been formulated and tested:

H1. Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry depending on the reason for which the passenger travels.

H2. Significant differences exist in the levels satisfaction with the 20 retained elementary services in the airline industry depending on the frequency of travel by air of the passenger.

H3. Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry depending on the class in which the passenger travels.

H4. Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry depending on the type of airline used by the passenger.

METHODOLOGY

In order to carry out this research, a list of services that make up the typical service offering in the airline industry was first drawn up. The basic service for this part of the tertiary sector of the economy is to airlift passengers from one location to another. However, in addition to this basic service, several other peripheral services are included in the service offering. Based on a review of the literature on the subject, as well as personal interviews with the executives of several airlines, a total of 20 elementary services often offered by companies in the industry were identified. These include the core service (i.e. the flight itself), and other facilitating and enhancing supplementary services usually offered on an international flight by airlines. Not included were such ad hoc services that may be offered by the airlines in cases of emergency, as well as general airport services, immigration control services, car rental services, etc., over which the airlines have little or no control.

The 20 elementary services that are retained are as follows:

1. Distribution of printed materials for general information
2. Ticket sales
3. Reservation services
4. Check-in
5. Luggage services
6. Information service by the airline at the airport
7. The flight itself (air lift)
8. Communication of the flight's progress to the passengers
9. Demonstration of the life jacket
10. Distribution of newspapers aboard
11. Provision of music aboard
12. Movie showings aboard
13. Food (or refreshment) services aboard
14. Provision of non-alcoholic beverages aboard
15. Provision of alcoholic beverages aboard
16. Off-tax sales aboard
17. Toilet facilities aboard
18. Bar service aboard
19. Gift-giving to passengers
20. Communication of weather condition and the time at destination (meteorological service).

Data for this study was collected by means of structured questionnaires distributed at an international airport. The respondents were adult passengers (18 years and above) on an international flight of about 6-7 hours non-stop duration. This flight was of long enough duration to have all the 20 services listed above offered to the passengers. Questionnaires were administered to the passengers as they waited for their luggage in the arrival hall of the airport. A total of 271 questionnaires were completed by the respondents. Of these, however, 10 were unusable and were thus discarded. Hence, a net total of 261 questionnaires were analyzed.

The questionnaire asked for the level of satisfaction with each service consumed out of the 20 elementary services retained. Respondents indicated their level of satisfaction by circling one percentage value on an eleven-point scale that went from 0% (not at all satisfied) to 100% (completely satisfied). Before the data analysis, these percentages were rescaled into numbers, going from 0 to 10. Finally, the questionnaire asked for the purchase situations of the customer, which include reason for travel, frequency of travel, class of flight, and type of airline used.

Respondents were asked the following questions: "In which class did you fly?" "Which airline did you travel with?" "For what reason did you travel?" and "How many times did you travel by air in the last 12 months?" In view of the exploratory nature of this study, the research hypotheses were tested at the 0.1 level of significance.

RESULTS

Respondents indicated their level of satisfaction with each of the 20 retained elementary services. To do this, respondents used an 11-point scale ranging from 0 (very dissatisfied) to 10 (completely satisfied). From the responses, the average scores across all respondents for each of the 20 elementary services were calculated. Table 1 shows the distribution of these scores in descending order. This distribution helps determine the place of an elementary service compared to others regarding the level of consumer satisfaction. The fourth column of Table 1 shows the ranking of the 20 elementary services. The standard deviations of the satisfaction scores are given in the third column of the Table.

As shown in Table 1, the service of demonstration of the use of lifejacket is in the first place with an average score of 7.68. In second place, comes the flight itself, which is here the core service. The average score for satisfaction with the flight is 7.43. Registration comes in third with an average score of 7.27. After these three services, the only other service to achieve an average score of 7 is the weather information service on board. The average score for this service is 7.09. All the other services have a mean score of less than 7. In fact, the gift services, printed materials, duty free sales, bar, newspapers, information on the ground, movies, and luggage, each have an average score below 6.

This analysis demonstrates a low level of satisfaction generally. The standard deviations of satisfaction scores range from 2.22 to 3.46, however, and show that consumers differ in their assessments of elementary services studied.

What impact purchase situation has on these differences in satisfaction is examined in this paper via the test of the four hypotheses stipulated above. Results of the test of these hypotheses are given and discussed below.

**TABLE 1. DISTRIBUTION OF SATISFACTION SCORES WITH THE 20
ELEMENTARY SERVICES**

SERVICES	MEAN SCORE	STANDARD DEVIATION	RANK
LIFE JACKET	7.68	2.22	1
ACTUAL FLIGHT	7.43	2.26	2
CHECK-IN	7.27	2.63	3
METEOROLOGY	7.09	2.59	4
PROGRESS OF FLIGHT	6.98	2.25	5
NON-ALCOHOLIC BEVERAGES	6.94	2.61	6
TOILET	6.64	2.59	7
MEALS	6.63	2.60	8
RESERVATION	6.62	2.79	9
TICKETS	6.58	2.68	10
ALCOHOLIC BEVERAGES	6.55	3.04	11
MUSIC	6.13	3.46	12
LUGGAGE	5.95	3.36	13
MOVIES	5.75	3.11	14
INFORMATION	5.64	3.13	15
NEWSAPAPER	5.57	3.33	16
BAR	5.41	3.10	17
DUTY FREE SALES	5.19	3.10	18
PRINTED MATERIALS	4.96	3.01	19
GIFTS	4.71	3.18	20

Result of the Test of Hypothesis H1

Hypothesis H1 states as follows:

“Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry, depending on the reason for which the passenger travels.”

The purposes of travel of our respondents are:

- (i) For business
- (ii) For tourism
- (iii) For personal reasons

Only seven people ticked "tourism" as the purpose of their trip. This leaves several empty cells making impossible the analysis envisaged. These seven respondents were thus combined with respondents in the category "personal reasons." Consequently, two categories of trip purpose were used in the analysis. These two categories are:

- (i) Business reasons
- (ii) Non-business reasons

The result of testing the Hypothesis H1 is reported in Table 2. As shown in column 6 of the table, none of the three tests of multivariate analysis of variance—Pillai, Hotelling, and Wilks—gives an F value which is significant at 0.1. According to this result, hypothesis H1 was rejected by the data from this research. The purpose of travel does not tend to determine the level of satisfaction with services in the airline industry.

TABLE 2. MULTIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS H1

NAME OF TEST	VALUE OF TEST	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIG. of F
PILLAI	0.10632	1.42762	20	240	0.110
HOTELLING	0.11897	1.42762	20	240	0.110
WILKS	0.89368	1.42762	20	240	0.110

Note:

APPROX. F = The value of F that roughly equals the value of the given test.

D.F. = Degree of Freedom.

Result of the Test of Hypothesis H2

Hypothesis H2 states as follows:

"Significant differences exist in the levels satisfaction with the 20 retained elementary services in the airline industry depending on the frequency of travel by air of the passenger."

To test this hypothesis, respondents were grouped into 4 categories of travelers, according to the frequency of air travel in the past 12 months. These four categories are:

CATEGORY 1 (once) Non-frequent flyers

CATEGORY 2 (from 2 to 5 times) Less-frequent flyers

CATEGORY 3 (from 6 to 12 times) Frequent flyers

CATEGORY 4 (more than 13 times) Very frequent flyers

The result of testing the hypothesis H2 is reported in Table 3. As shown in column 6 of the table, none of the three tests of multivariate analysis of variance—Pillai, Hotelling, and Wilks—gives an F value which is significant at 0.1. According to this result, hypothesis H2 was rejected by the data from this study. Thus, frequency of travel by air does not tend to determine the level of satisfaction with services in the airline industry.

TABLE 3. MULTIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS H2

NAME OF TEST	VALUE OF TEST	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIG. of F
PILLAI	0.25888	1.13331	60	720	0.235
HOTELLING	0.28807	1.13628	60	710	0.231
WILKS	0.76118	1.13482	60	710	0.233

Note:

APPROX. F = The value of F that roughly equals the value of the given test.

D.F. = Degree of Freedom.

Result of the Test of Hypothesis H3

Hypothesis H3 says as follows:

"Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry depending on the class in which the passenger travels."

The respondents have traveled in (i) the first class, (ii) the economy class, and (iii) the business class. The result of testing this hypothesis H3 is reported in Table 4. Each of the three tests of multivariate analysis of variance—Pillai, Hotelling, and Wilks—gives a value of F which is significant at 0.1 level. According to this result, hypothesis H3 is not rejected.

A univariate analysis of variance was subsequently performed to determine which elementary service(s) have contributed particularly to the substantial difference in the means vector. The result of this analysis is reported in Table 5. Columns 2, 3 and 4 of the table show the average scores of the three groups of respondents. The F values are in column 5, while the thresholds at which these values are significant are given in column 6.

TABLE 4. MULTIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS H3

NAME OF TEST	VALUE OF TEST	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIG. of F
PILLAI	0.21674	1.45848	40	480	0.034
HOTELLING	0.24324	1.44726	40	476	0.041
WILKS	0.79495	1.45288	40	478	0.040

Note:

APPROX. F = The value of F that roughly equals the value of the given test.

D.F. = Degree of Freedom.

TABLE 5. UNIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS H3

SERVICES	FIRST CLASS	BUSINESS CLASS	ECONOMY CLASS	F	SIG. of F
PRINTED MATERIALS	4.65	4.83	5.08	0.64	
TICKETS	7.07	6.79	6.62	0.51	
RESERVATION	7.14	7.05	6.49	1.52	
CHECK-IN	7.69	7.74	7.05	1.95	
LUGGAGE	6.69	5.89	5.85	0.80	
INFORMATION	5.97	6.41	5.44	2.82	0.061*
ACTUAL FLIGHT	7.59	7.72	7.30	0.85	
PROGRESS OF FLIGHT	6.79	7.24	6.93	0.54	
LIFE JACKET	7.00	8.45	7.54	5.39	0.005*
NEWSPAPERS	5.83	5.71	5.86	0.10	
MUSIC	4.97	6.78	6.06	3.60	0.029*
MOVIES	5.00	6.50	5.68	2.94	0.055*
MEALS	6.27	7.02	6.59	1.07	
NON-ALCOHOLIC BEVERAGES	6.76	7.59	6.76	2.44	0.089*
ALCOHOLIC BEVERAGES	6.76	7.07	6.59	0.84	
DUTY FREE SALES	4.03	5.24	5.22	3.96	0.020*
TOILET	6.24	7.19	6.53	1.84	
BAR	5.03	5.36	5.11	0.44	
GIFTS	5.10	5.22	4.80	1.73	
METEOROLOGY	6.97	7.12	7.10	0.04	

Note:

*Significant at 0.1 level

Empty cell denotes F is not significant

The table shows that the services of information, life jacket, music, movie, non-alcoholic beverages and duty free sales have a value of F, which with degrees of freedom of 2 and 258, is significant at 0.1 level. As shown in columns 2, 3 and 4 of the table, except for the information service, the first class passengers are less satisfied with the services listed than the passengers of other classes. This might be due to higher prices paid by these passengers on the same flight, hence they expected more.

Result of the Test of Hypothesis H4

Hypothesis H4 states as follows:

“Significant differences exist in the levels of satisfaction with the 20 retained elementary services in the airline industry depending on the type of airline used by the passenger.”

Two types of airlines have been used in this research: Company A (national flag bearer, government-owned in a developing country) and Company B (privately owned in a developed country). The result of testing hypothesis 4 is reported in Table 6. Column 6 of the table shows that each of the three tests of multivariate analysis of variance—Pillai, Hotelling, and Wilks—gives a value of F, which is significant at the 0.05 level. According to this result, hypothesis H4 is not rejected. Type of company used tends to affect the level of satisfaction with services in the airline industry.

TABLE 6. MULTIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS 4

NAME OF TEST	VALUE OF TEST	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIG. of F
PILLAI	0.40442	8.14838	20	240	0.000
HOTELLING	0.67903	8.14838	20	240	0.000
WILKS	0.59558	8.14838	20	240	0.000

Note:

APPROX. F = The value of F that roughly equals the value of the given test.

D.F. = Degree of Freedom.

As before, a univariate analysis of variance was subsequently performed to determine which elementary service(s) have contributed particularly to the significant difference in the means vector. The result of this analysis is reported in Table 7. Columns 2 and 3 of the table show the average scores of both groups of respondents. The F values are in column 4, while the thresholds at which these values are significant are given in column 5. The table shows that all 20 retained elementary services have a value of F which, with degrees of freedom of 1 and 259, is significant at 0.05. As shown in columns 2 and 3 of the table, respondents who traveled with Company B are more satisfied with all 20 services than respondents who traveled with Company A.

TABLE 7. UNIVARIATE ANALYSIS OF VARIANCE: RESULT OF TEST OF HYPOTHESIS H4

SERVICES	COMPANY A	COMPANY B	F	SIG. of F
PRINTED MATERIALS	4.18	5.79	40.69	0.000**
TICKETS	6.24	7.19	11.07	0.001**
RESERVATION	5.89	7.50	27.20	0.000**
CHECK-IN	6.27	8.30	45.26	0.000**
LUGGAGE	4.63	7.30	49.02	0.000**
INFORMATION	4.57	6.89	54.92	0.000**
ACTUAL FLIGHT	6.68	8.19	32.40	0.000**
PROGRESS OF FLIGHT	6.22	7.76	34.61	0.000**
LIFE JACKET	6.90	8.48	37.96	0.000**
NEWSPAPERS	5.44	6.21	8.42	0.004**
MUSIC	4.57	7.66	92.80	0.000**
MOVIES	4.63	6.97	49.57	0.000**
MEALS	5.67	7.63	43.43	0.000**
NON-ALCOHOLIC BEVERAGES	5.94	7.97	49.81	0.000**
ALCOHOLIC BEVERAGES	5.68	7.78	59.19	0.000**
DUTY FREE SALES	4.24	5.97	49.35	0.000**
TOILET	5.69	7.63	43.36	0.000**
BAR	4.46	5.87	39.98	0.000**
GIFTS	4.71	5.16	5.21	0.023**
METEOROLOGY	6.35	7.85	24.70	0.000**

Note:

**Significant at 0.05 level

Several factors may have contributed to the situation where Company A is consistently rated lower than Company B. These factors can be divided into two main types: (i) the subjective factors and (ii) objective factors.

Discussing subjective factors, Company B is older than Company A in the air transport industry. It is larger and better known worldwide than Company A. In fact, the central theme of advertising of Company B is "the preferred airline of the world!" Given these characteristics of Company B, passengers may believe subjectively that the airline's services are necessarily superior.

In addition, Company B is from a developed country, while Company A is from a developing country. There is a general belief that things made in developed countries are better than those made in a developing country. This belief could be transmitted to the field of air transport subjectively.

Finally, it is possible that the less desirable conditions of the airport at the destination in the developing country are incorrectly blamed on Company A by the passengers. On the other hand, passengers could have wrongly credited Company B for the proper functioning of the airport at point of origin in the developed country. The result of these misconceptions is to rate Company B better than Company A on satisfaction with their services.

Company B has developed a system to reward loyal customers. This is the "Executive Club" that gives customers free flights depending on the number of miles traveled. They also enjoy several preferential considerations. The sense of belonging created can influence consumers to give better grades to Company B.

With regard to objective factors, respondents' comments, collected from the last question of this research, show that Company A lacks good organization. There are too many cancellations at the last moment, diversion of flights, delays, and over-bookings. These disturbances hurt the quality of services and reduce satisfaction of the clients of the company.

Respondents also noted problems with the physical supports of the company. The planes are old, the cabins are not very clean, the movies are not high-end, goods for duty-free sales are not of great variety, and the sound is not very clear. There are also problems with the personnel on contact. Several of the respondents said that staff are not very polite, are uncooperative, and are irritable. This situation demonstrates a deficiency in the selection, training, and/or motivation of personnel.

Company B conducts opinion research among its clients. Company A does not. This is due to lack of funds (as was explained by the company officials during interviews). They went on to say that the company's debts are so much that research of opinions is not a priority. However, without such research, there is the possibility that services rendered do not match customers' tastes and/or needs. In contrast to Company B which is private, Company A is a government corporation, and it suffers from political intrusions as may be expected. For example, the government sets the fare and staff salaries.

DISCUSSION AND CONCLUSION

Class of travel was found to affect the level of satisfaction with airline services. First class passengers are less satisfied with several of the elementary services than passengers of other classes. Since they paid more for the flight, these first class passengers may have greater expectations. Hence, management needs a strategy of expectation management. Advertisements for first class flights should not overblow the number and quality of services in the first class. In fact, a strategy of under-promising and over-delivery will be a more viable option for airlines to enhance the level of satisfaction of first class travelers.

Type of airline used also was found to affect level of satisfaction with airline services. In fact, more elementary services are affected by airline used than any other buying situation explored in this study. Respondents who traveled with the public-owned national flag bearer Company A

were less satisfied with several of the 20 elementary services than those who traveled with Company B. A strategy of limited service offering is hereby suggested to management. Government-owned national flag bearer airlines, especially in developing countries (e.g. Africa and Latin America), could limit their services to the core service and facilitating peripheral services such as tickets, reservations, and check-in. In turn, the airlines could pass on the reduction in cost to the customers by way of lowering prices. This limited offering and value-pricing strategy may be attractive to the more value-conscious market segments and enhance their level of satisfaction with the airline services. In practical terms, one does not have to do everything that everyone is doing to succeed in the marketplace. The more important thing is to know your target markets and satisfy their needs.

The result of the test of hypotheses in this paper found that while reasons for travel and frequency of travel had no influence, class of flight and type of airline used tend to influence the level of consumer satisfaction with services in the international airline industry. Managerial implications of these findings and directions for future research are given.

Some limitations of this paper should be borne in mind by readers. This study was based on a flight of 6-7 hours duration and so results may differ for other durations. Future studies should retest the hypotheses of this research with several different flight durations. Also, prices may vary even for passengers in the same class, depending on where they bought their ticket and under what program. Future studies should have larger samples and make this distinction of differential same-class prices in their analysis. Such future studies could even include seat that passengers traveled in even in the same class. Hence aisle, middle, and window seats could be included as independent purchase situation variables to see their impact on satisfaction. Some passengers may prefer aisle seats for safety, while others prefer window seats for view and privacy. Impact of type of seats could therefore be an interesting variable to study. Implications could be far reaching, such as airlines charging more or less for seat locations.

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PSYCHOLOGICAL CAPITAL, ADAPTABILITY, COPING WITH CHANGE, AND EMPLOYEE ENGAGEMENT IN A MULTINATIONAL COMPANY

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ABSTRACT

The Global Financial Crisis (GFC) affected many organizations across the world. There are numerous studies that have examined the financial impacts on organizations and employees but few that have investigated the human capabilities and qualities of employees who survived the crisis. The current study examined the relationships among Psychological Capital (PsyCap: involving self-efficacy, optimism, hope and resilience), individual and organizational adaptability in handling change, and employee engagement after the GFC of 2009, in a multinational organization with headquarters in Europe. The sample totaled 183 employees from across Europe, the US, and Asia. The Psychological Capital Questionnaire, the Utrecht Work Engagement Scale, the Coping with Organizational Change scale, and a specially developed self-assessment scale assessing perceived personal and company adaptation. PsyCap significantly predicted coping with organizational change, the adaptation demonstrated in handling the GFC, and the engagement levels of the employees in each region. The similarities in the models across each region suggest that organizational managers and HR will find value in understanding and using Psychological Capital in their recruitment, selection and employee enhancement programs.

INTRODUCTION AND OVERVIEW

The 2009 Global Financial Crisis (GFC) affected many organizations but little has been written about the qualities of the personnel associated with surviving the crisis, and very little about differences in the qualities of individuals across different regions of the world in one multinational organization. The personal qualities of people make a difference—as was suggested by Luthans, Luthans, and Luthans (2004) in their studies of psychological capital in the US context. This paper examines how Psychological Capital (PsyCap; involving measuring self-efficacy, optimism, hope, and resilience as personal qualities of individuals) relates to individual and organizational adaptability and employee engagement during and shortly after the GFC—in a multinational industrial company operating across Europe, Asia and the United States.

Individual adaptability: Background research and importance in organizations

Individual adaptation and flexibility in handling change has long been seen to underpin organizational adaptability and success. For example, the Australian Government Public Service Commission publication “Strengthening the performance framework” (Blackman, Buick, O’Donnell, O’Flynn, & West, 2013) identifies adaptability development as a key requirement in the human resources management of employees of the organization (e.g., themes 4, 6 and 7 on adaptability, pragmatism and competencies in managing change and performance, p. 4).

Organizations survive and thrive when they can respond effectively to changing circumstances, as faced in many government and private sector companies and organizations around the world. There have been several research papers on adaptability and its correlates over the last two decades, with the references being mostly to resilience and responsiveness of employees, or to creativity and innovation in the face of change and need.

More recently attention on such qualities in individual and organizational adaptability has been addressed through research and reports from numerous authors: for example, by Miller (2015) on individual adaptation involved in professionals in the library and information technology system interactions; by Parent (2006) on individual adaptation in the changing workplace; by O’Connell, McNeely, and Hall (2008) on “Unpacking personal adaptability at work” (indicating adaptability as a key competence for career success able to be developed further under managerial support); and by some 20 or more authors in Chan’s (2014) edited book on *Individual adaptability to changes at work: New directions in research* covering a variety of topics from organizational adaptability to assessment and management of adaptability. These references provide information indicating the focus now being given to individual adaptability at work, though earlier research had also given attention to relevant areas such as resilience at work and competency development that enabled adaptable responses to occur in coping with change.

Despite the literature on resilience, adaptability, and the need to develop these qualities through HR processes in organizations, there has been only limited reference to precursor characteristics such as the psychological capital qualities that can predict individual adaptability in organizational change and related employee engagement. This current paper addresses how psychological capital qualities (hope, optimism, self-efficacy, and resilience) are related to self-perceived adaptability, to coping with organizational change, and to employee engagement in a multinational firm that faced considerable changes and survived the GFC.

We next discuss employee engagement and its measurement, coping with organizational change and its measurement, and finally how we assessed individual adaptability—and then we examine psychological capital and its measurement and indicate findings that show how the psychological capital qualities predicted adaptability, coping with change, and employee engagement in the multinational organization that faced and dealt with the 2009 Global Financial Crisis.

Employee engagement: Background research and importance in organizations

There is considerable research and consultancy on engagement around the world. For example, research and consultancies have been reported in the US (e.g., Lockwood, 2007—Report; US Office of Personnel Management 2010—Report); in Australia (the Australian Public Service Commission report of 2011); and in the Scottish Public Service (the Report by DTZ Consulting and Research Group, 2007). Engagement is seen to predict performance. This is evident in the titles of papers and reports such as the following: “Engaging for success: Enhancing performance through employee engagement” (MacLeod & Clarke, 2009); “Driving success through performance excellence and employee engagement” (Kenexa Research Institute Report, 2009); “Employee engagement: The key to improving performance” (Markos & Sridevi, 2010); “Employee engagement: Maximizing human performance” (Haid & Sims of Right Management, 2009); “Old wine in new bottles? Engagement and the bottom line” (Holwerda, 2007—in the 2007 Paris Spring Sponsor Meeting of CAHRS—Centre for Advanced Human Resource Studies—see other papers prepared for the conference also in Dicke, Holwerda, & Kontakos (2007); and many more dealing with associated topics such as well-being and engagement (cf., Robertson, Birch, & Cooper, 2012).

The importance of engagement and performance as integral concerns of organizations including multinational organizations is without question. Many of these articles, white papers, and journal articles also emphasize the role of management in bringing about improved performance through developing internal organizational culture that increases engagement and ability to handle change (adaptability). However, some reports refer to “gaps in the research” including the need to know how to go about recruiting staff who have the potential to show higher levels of engagement and resilience and adaptability, and whether the costs would be exorbitant (cf., DTZ Consulting—Report, 2007).

The current research aimed to show how an assessment of psychological capital made at the recruitment stage or during early stages of employment in organizations could predict engagement and also adaptability and coping with change, during and after the GFC. First, however, assessing engagement is discussed, and then assessing adaptability and coping with change.

Assessing and predicting engagement

Engagement involves positive feelings, motivational drive and commitment, and a sense of fulfillment at work (e.g., Hallberg & Schaufeli, 2006; Schaufeli, Salanova, Gonzales-Roma, & Bakker, 2001) and is related to many different variables associated with well-being—for example energy, satisfaction, and enthusiasm, and it is also associated with higher levels of work performance (e.g., Bakker & Demerouti, 2014; Demerouti, Bakker, Janssen, & Schaufeli, 2001; Gruman & Saks, 2011; MacLeod & Clarke, 2009; Padmakumar & Prabhakar, 2011; Robertson, Birch, & Cooper, 2012; Salanova, Agut, & Peiró, 2008; Schaufeli, Taris, & Van Rhenen, 2003; Wiley, 2012). One well-known engagement survey is the Utrecht Work Engagement Scale:

Schaufeli and Bakker and colleagues have researched extensively using this scale. This questionnaire was used as part of our study examining engagement, self-perceived performance, and psychological capital (see the Method section for a description of the materials).

Assessing and predicting individual and organizational adaptability and coping with organizational change

Performance is assessable in many different ways—emphasizing overall organizational outcomes (e.g., Buick, et al., 2014) and adaptability is central. As Blackman et al. (2012) indicated in their progress report on developing high performance: “encouraging an emphasis on adaptability, competences, dynamic capabilities and management capacity at the organizational level, as well as capabilities and competencies at the work group and individual level, will provide an enabling environment which will enhance high performance at all levels” (p. 4). Individual adaptability, coping with change, and engagement in the work of the organization are areas directly related to such contribution to performance.

Most reported studies identify employee output (usually linked to attributes related to engagement) as a key criterion in performance; others report absenteeism figures in relation to employee well-being. Still others emphasize the importance of individual adaptability and coping resources. In the current study we used self-estimates of employee engagement (using the Utrecht Work Engagement Scale), a coping with organizational change questionnaire (using the Judge, Thoresen, Pucik, & Westbourne 1999 scale), and a specially developed 4-item scale on the employees’ adaptation to the economic crisis (GFC) and its effects (see the Method section for more details on the scales).

Psychological capital as predictor of engagement, adaptability and coping

Much of the work on employee engagement, adaptability and handling change has reflected attention to procedures that develop or predict engagement and adaptability. Some of the suggested organizational procedures include attention to the recruitment phase (e.g., DTZ Consulting and Research, 2007, Report); others give attention to both recruitment and development (such as the work of Luthans and colleagues over a decade or more on psychological capital qualities that can be assessed and developed). It is to the nature of “psychological capital” that we now turn as a central part of this paper.

The need to enhance employee effectiveness in order to improve organizational competitiveness has been identified by Luthans, Youssef, and Avolio (2007). In effect they argued for “a new balance” in how human resources are used in organizations via the introduction of a broad conceptualization of psychological capital (PsyCap). PsyCap is seen as state-like rather than trait-like—inferring qualities that can be improved rather than traits or personality factors that are more stable.

PsyCap is assessed by the Psychological Capital Questionnaire (PCQ) and defines an individual's positive state of development related to four major facets: self-efficacy/confidence, optimism, hope, and resilience. The integration of the four facets into PsyCap is new and innovative (over the past decade or so) and follows Luthans' (2002) positive organizational behavior approach, which sprang from positive psychology concepts and emphasized individual strengths (cf., Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2007). Strengthening positive psychological capacities was seen as increasing individuals' overall effectiveness in the workplace, and it was argued that the four facets could each be developed further through appropriate training and exposure (Luthans, Youssef, et al., 2007). Scores on the PCQ (assessing PsyCap) combining elements already found to predict performance were expected in turn to predict such success. Research has indeed shown their hypotheses to be supported. For example, PsyCap has been shown to be associated with higher levels of employee well-being (Avey et al., 2010); and presentee-ism and lower absenteeism (Avey et al., 2006).

However, most studies have been western and US-based and the relationships with engagement, performance, adaptability, and coping with change across different multicultural borders have not been examined in detail. The current study addressed this gap while also setting out to identify the relationships of PsyCap to Engagement, Adaptability and Coping with Change—in an organization operating across three major international regions. More detail on the make-up and structure of PsyCap follows.

Self-efficacy, hope, optimism and resilience: PsyCap's four facets

Self-efficacy is about personal confidence in being able to perform as needed. It has been found to be related directly to workplace productivity (Bandura & Locke, 2003; Stajkovic & Luthans, 1998b).

Hope is about agency thinking (the capacity to set clearly defined, realistic and challenging goals) and pathway thinking (the capacity to create alternatives, and adopt already set goals). Goal-directed hope aids productivity (Luthans, Luthans et al., 2004; Snyder & Lopez, 2007), perhaps because setting flexible goals and alternatives keeps the mind and “eyes” targeted on performance outcomes (cf., Kontakos, 2007; Luthans et al., 2005; Luthans, Van Wyk et al., 2004; Youssef & Luthans, 2007).

Optimism is about viewing the world positively and anticipating dealing successfully with different events—also associated in organizational research with positive performance outcomes (Jensen et al., 2007; Medlin & Green, 2009).

Resilience is about “the ability to bounce back quickly” in adverse situations. Resilience has been researched more in clinical and personal contexts (cf., Celinski & Gow 2011; Crowther & Hicks, 2011) but recently several authors (e.g., Luthans, Youssef et al., 2007; Richardson, 2002) have linked resilience directly to performance. Of course HR literature has long recognized the ability to bounce back as an important personal variable.

PsyCap Summary

The four-facet underlying structure of PsyCap can be seen to relate to employee performance. Therefore, the integrated total PsyCap score would be expected also to predict employee performance by whatever measures are used—in our current study these measures are engagement, individual adaptability, and coping with change. In support of these propositions PsyCap has been found, in three American studies, to account for 25% or more of the variance explained in relation to employee performance and employee engagement.

Cross-cultural international research using PsyCap, at the time of our study, was limited—the main study then identified was one using a Chinese sample where PsyCap predicted performance—though one facet was not used in that study (Luthans et al., 2005). Our study set out to identify how psychological capital was related to engagement, performance, and perceived adaptation to changes associated with the GFC in a multinational company with European, Asian and US bases, and to examine whether there were differences in the three cultural groups on the full PsyCap model.

Cultural Differences, Engagement, and Adaptability

The sustained rise of multinational business in emerging economies requires a clear understanding of cultural differences. It sometimes appears to be assumed that transplanting executives and business strategies from one area to another will yield similar results from the same methods. In regard to PsyCap it could be assumed that if it worked in the US studies (as the evidence indicates) then it would also work in other cultures. But PsyCap is itself an emerging concept (a crystallization and integration of known effective facets) and thus its relevance across cultures needs to be demonstrated.

Individualistic cultures (as in America and Europe) usually value individual independence, optimism and self-efficacy (Fischer & Chalmers, 2008; Lee & Seligman, 1997; Scholz et al., 2002) whereas collective cultures (e.g., Asia) usually value connection, order, and hierarchy (cf., Triandis, 1995).

It was hypothesized that the American and European cultures would emphasize self-efficacy and optimism (facets of PsyCap) though some research has indicated no difference: for example, Asian Americans and Chinese scored no differently on optimism when compared to Caucasian Americans and Canadians (Chang, 1996; Ji et al., 2004). There are few studies on hope and resilience in the workplace across cultures. The current study examined in part how the *total PsyCap* scores differed across the three regions. The main emphasis was on the relationships between psychological capital and, in turn, employee engagement and (in a further analysis) adaptability.

In summary (regarding the hypotheses), if psychological capital is a precursor to engagement and adaptability at work then it follows that PsyCap scores would predict employee engagement and

adaptability and do so across each of the three cultural regions of the company. These issues were addressed in the study reported here.

METHOD

Participants

More than 200 employees were initially involved from the multinational organization that produces cables and conductors for different industries and markets, with companies in Europe, America, and Asia. Data screening led to 183 individuals being included in the analyses. Prospective participants needed to be reasonably competent in English. (That is, they needed to be a native English speaker, or to have completed secondary education with a major in English, or to have participated in an English training course/program, or to have worked, studied, or lived in an English speaking country.) This English language approach was seen as preliminary to any subsequent studies that could use local language questionnaires.

Of the 183 participants, 55 were American, 69 European, and 59 Asian employees (30:38:32% respectively); the male:female ratio was 134:49 (73:27% respectively); and the main age ranges were 30-39 years (31%) and 40-49 years (28%). These figures matched closely the demographics in the total organization. Half of the employees sampled were in management positions (50.8%), enabling analyses regarding position held (management vs. non-management).

Materials

The Demographic Questionnaire

This questionnaire gathered information on gender, age, country of origin, country where they were currently working, tenure, position held, and English language background.

The Psychological Capital Questionnaire

The Psychological Capital Questionnaire (PCQ; Luthans, Avolio et al., 2007) measures psychological capital (PsyCap) in adult employees (Luthans, Youssef et al., 2007) using 24 items in total across four facets: six items each come from existing, well-validated scales related to self-efficacy, hope, optimism, and resilience (see Luthans, Youssef et al., 2007 for details). Luthans, Norman et al. (2008) reported a four-factor structure paralleling the four facets. A six-point Likert response scale ranging from one (strongly disagree) to six (strongly agree) is used. Reported alpha coefficients range from .65 to .92 (facets and total PsyCap) while our study across

the three cultural groups yielded a range from .53 to .88 (the total score PsyCap coefficient was .87—PsyCap was of most interest in our study). For research construct purposes, Alpha coefficients from about .40 are often considered satisfactory (Boyle, 1991) and the coefficients for optimism (.63) and resilience (.53) were within this range.

Utrecht Work Engagement Scale

The Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2004) assesses three aspects of work engagement over 17 items: vigour (six items), dedication (five items), and absorption (six items). This three-factor structure has been confirmed in several countries (Seppälä et al., 2009; Schaufeli, Bakker, & Salanova, 2006), though in Japan a one-factor solution was found (Shimazu et al., 2008). A six-point Likert scale ranging from zero (*never*) to six (*always every day*) is used. Alpha coefficients ranging from .88 to .95 have been obtained in a variety of cultural working populations (cf., Shimazu et al., 2008).

Adaptation to the Economic Crisis 2009

Adaptation to the 2009 economic crisis was assessed using a four-item scale developed for the current study in order to assess employees' beliefs on how well they and the organization had handled the economic crisis of 2009. Items included: "How well do you think you personally have dealt with the economic crisis?" and "How positive are you that your company will succeed in the future?" All four items were rated on a 5-point scale, with higher scores indicating higher levels of adaptation to the economic crisis. The four items yielded an alpha coefficient of .63 in the present study.

Coping with Organizational Change

Coping with Organizational Change (CO; Judge, Thoresen, Pucik, & Welbourne, 1999) is a 12-item scale developed for use in working adult populations. Coping with organizational change is defined as an individual's adaptive ability (cognitive and behavioral ability) to deal effectively with the internal and external demands arising from organizational changes. Therefore, the CO attempts to consider both reactance to change (e.g., "When dramatic changes happen in this company, I feel I handle them with ease") and leading change (e.g., "I have been a leader of transformation efforts within this company"). All 12-items are rated on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). Overall, all individual item scores are summed together to create a total scale score, with higher scores indicating higher levels of coping with organizational changes.

Studies which have used the CO have demonstrated adequate internal consistency with reliability coefficients ranging from .70 to .77 for self-report (e.g., Bellou, 2008; Kumar & Kamalanabhan,

2005; Judge et al., 1999). The current study gave a Cronbach's alpha of .74. Concurrent validity of the CO is good: relating positively to the Change Specific Self-efficacy Scale ($r = .39, p < .01$) and the Commitment to Organizational Change Scale ($r = .62, p < .05$). We used the CO in our study as a measure of individual adaptability to change, along with the developed 4-item scale on how well respondents saw themselves and the organization handling the changes occasioned by the Global Financial Crisis.

RESULTS AND DISCUSSION

Data screening and assumption checking were carried out. Gender, age, or tenure did not influence the dependent variables (engagement and performance) but position held did; resulting in controlling for position held in the subsequent hierarchical regression analyses with PsyCap predicting Self-Perceived Performance and separately Engagement across the three cultural groups. In addition, a one-way between-groups analysis of variance (ANOVA) and a one-way between-group multivariate analysis of variance (MANOVA) were conducted to evaluate how Culture affected the core-factor PsyCap.

The results showed that PsyCap for the full sample was significantly positively correlated with Engagement ($r = .65, p < .001$), Coping with Organizational Change ($r = .57, p < .001$) and Adaptation to the Economic Crisis ($r = .52, p < .001$).

The hierarchical regressions (across each cultural group) were then conducted in turn in order to examine the extent to which PsyCap predicted (separately) Perceived Adaptation, Coping with Change and Engagement, with appropriate control measures implemented.

Hierarchical multiple regressions

Three hierarchical multiple regressions per cultural sample (American, $n = 53$; European, $n = 67$; Asian, $n = 58$) were conducted with Position as a control variable entered at Step one and PsyCap as the predictor entered at Step two of the regressions. As indicated above, the three criteria were addressed separately—engagement, coping with change, and individual and organizational adaptability. The bases (data means and standard deviations) for the regression equations for each of the three regions are shown in Table 1.

Considering the American sample, Position did not significantly contribute to the regression results. Holding a management position or another position was not found to significantly contribute towards Engagement ($F(1, 51) = 0.01, p = .967$) OrgChange ($F(1, 51) = 0.64, p = .426$), or for IndAdaptation to the Economic Crisis ($F(1, 51) = 2.30, p = .135$).

Addition of PsyCap in Step two significantly improved prediction over the use of Position alone explaining 40.3% (37.9% adjusted) of the variance as a whole for Engagement ($F(2, 50) = 16.85, p < .001$), 31.8% (29.1% adjusted) for OrgChange ($F(2, 50) = 11.66, p < .001$), and 38.9%

(36.4% adjusted) for IndAdaptation to the Economic Crisis ($F(2, 50) = 15.91, p < .001$). Once controlled for Position, PsyCap accounted for *an additional* 40.3% of the variance in Engagement, 30.6% in OrgChange, and 34.6% in IndAdaptation.

Table 1: Means (M) & Standard Deviations (SD) for Predictor and Criterion Variables

Variable	American sample		European sample		Asian sample	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Engagement	4.52	0.67	4.25	0.70	4.93	0.62
OrgChange	42.49	4.82	41.52	6.05	44.02	5.45
IndAdaptation	16.86	1.89	15.78	2.06	15.95	2.25
PsyCap	5.04	0.39	4.70	0.51	4.94	0.39

Note. OrgChange = coping with organisational change; IndAdaptation = adaptation to the economic crisis 2009; PsyCap = Positive Psychological Capital.

In contrast, the European sample revealed that the control factor Position had a greater impact on the regression results. Holding a management position compared to other positions significantly explained 13.1% (11.8% adjusted) of the variance in Engagement ($F(1, 64) = 9.89, p = .003$), 19% (17.8% adjusted) in OrgChange ($F(1, 64) = 12.29, p < .001$), and 16.6% (17.8% adjusted) in IndAdaptation to the economic crisis ($F(1, 64) = 15.63, p < .001$).

As in the American sample, the addition of PsyCap in Step two for the European sample significantly improved prediction over the use of Position alone, explaining 50.1% (48.5% adjusted) of the variance as a whole for Engagement ($F(2, 64) = 32.08, p < .001$), 39.3% (37.4% adjusted) for OrgChange ($F(2, 64) = 20.74, p < .001$), and 32.8% (30.7% adjusted) for IndAdaptation to the economic crisis ($F(2, 64) = 15.63, p < .001$). Once controlled for Position, PsyCap accounted for an additional 37% of the variance in Engagement, 20.3% in OrgChange, and 20.1 % in IndAdaptation.

In the Asian sample, more like the American sample, the control factor Position had a low impact on the regressions by significantly predicting only 7.6% (6% adjusted) of the variance in Engagement ($F(2, 56) = 4.62, p = .036$), whilst not significantly contributing to OrgChange ($F(2, 56) = 3.81, p = .056$) or to IndAdaptation to the Economic Crisis ($F(2, 56) = 3.87, p = .054$).

However, similar to both the American and the European samples, addition of PsyCap in Step two significantly improved prediction over the use of Position alone explaining 36.4% (34.1% adjusted) of the variance as a whole for Engagement ($F(2, 55) = 15.76, p < .001$), 32% (29.6% adjusted) for OrgChange ($F(2, 55) = 12.95$, and 14.1% (10.1% adjusted) for IndAdaption to the Economic Crisis ($F(2, 55) = 4.52, p = .015$). After controlling for Position, PsyCap accounted for

an additional 28.8% of the variance in Engagement, 25.7% in OrgChange, and 7.7% in IndAdaptation to the Economic Crisis.

Thus, across the three cultural groups, PsyCap was a substantial predictor of Engagement, Coping with Organizational Change, and Adaptation to the Economic Crisis in 2009. PsyCap accounted for the highest variance amongst the criteria in Engagement across all cultures followed by Adaptation to the Economic Crisis 2009 in the American sample and Coping with Organizational Change in the Asian sample. Overall, PsyCap also appeared to be a stronger predictor of the criterion variables in the two Western cultures compared to the Asian sample.

The impact of Position varied across the three cultures, but the impact of PsyCap was a consistent and substantial predictor of Engagement, Coping with Organizational Change, and Adaptation to the Economic Crisis, consistent with the hypotheses in regard to these criteria. Positive psychological capital (combining self-efficacy, hope, optimism, and resilience) was shown to be applicable across the cultural, national samples used in this multinational industrial corporation.

Hicks and Knies (2013), in an earlier examination of the data on culture, showed that culture impacted PsyCap, with 10% of the variance in PsyCap being explained by culture. There was no difference between the American sample and the Asian sample on PsyCap (item means of 5.04 and 4.93 respectively), though their mean scores were significantly higher than for the European sample (item means of 4.25).

The obtained differences and similarities in PsyCap and in its individual facets (Hicks & Knies, 2013) need further exploration, also given the several limitations of the study as outlined later in this paper. Nevertheless, the overall results suggest the potential value of the Psychological Capital Questionnaire in assessing qualities related to employee engagement and the ability to handle and adapt to organizational change. Practical evidence of the relationships has been indicated in the current study's results.

DISCUSSION AND SUMMARY

The results supported the hypotheses that were based largely on individual facet studies in the literature—with each of the four facets separately having been linked with organizational change, engagement, and performance at work, but not combined as Psychological Capital and examined in one multinational technology centered manufacturer and distributor across three different cultural groups.

The results have demonstrated that psychological capital as assessed by the 24-item questionnaire functions strongly in the three cultures and does so despite some of the limitations discussed below. The results from Luthans and colleagues in their earlier largely US and western studies (there are many: including as reported in Luthans, Youssef-Morgan, & Avolio, 2015; Luthans et al., 2007) are confirmed as having strong international and cross-cultural support from the findings reported in the current study. More international and multinational studies are

needed but the essential concept of psychological capital and its potential for organizational application the message is clear.

In terms of a “new balance” or new directions for management and CEOs of multinational and national organizations this simple measure of psychological capital appears capable of giving a quick guide to qualities that predict engagement, adaptability, coping with change, and performance.

A longitudinal study is needed but those individuals who survived the GFC crisis (as in the current sample) have shown there is a strong relationship between their self-efficacy, hope, optimism, and resilience (PsyCap) and their engagement, their ability to cope with organizational change, and their self-perceived adaptation. It would seem that the Psychological Capital Questionnaire is and will be a useful tool for organizations interested in identifying and improving the qualities of their employees in relation adaptation. This is important as, as indicated in the earlier pages, much recent research has been emphasizing individual adaptation and flexibility as significant qualities contributing to organizational performance (Blackman et al., 2013; Buick et al., 2015; Chan, 2014; Miller, 2015; O’Connell et al., 2008; Parent, 2006).

Not only is there evidence of the relationships between psychological capital and its significance in a time of change as was involved in the Global Financial Crisis and the current study, but also there is other evidence to support assertions of Luthans and his colleagues in their studies (e.g., Luthans et al., 2004; Luthans et al., 2007; Luthans et al., 2015) that psychological capital can be enhanced through special training programs that develop further the competencies associated directly with self-efficacy, hope, optimism, and resilience.

One such recent study supporting the view that the psychological capital attributes of self-efficacy, hope, optimism, and resilience are competency-like attributes that are trainable attributes is that of Russo and Stoykova (2015). Russo and Stoykova reported on the results of training programs in psychological capital in their replication and extension of earlier work, in a Bulgarian study that showed psychological capital could be enhanced through general and specialized delivery in training and development programs.

Our study has limitations and flaws. Specific cultural inventories were not used (as we were limited in the number of scales we could use if we wanted a reasonable rate of completed responses). We pooled employees in the regional groups as “cultural groups” (e.g., combined different countries in Europe or in Asia as ‘one culture’). We did not test in the local languages limiting respondents to English speakers (so the respondents we assessed were the more broadly educated employees of the multinational company). And, among other limitations in terms of general applicability of the findings, our participants were survivors from the GFC downturn of 2009. Future research could seek to adjust for these limitations.

Nevertheless, the short 24-item questionnaire seems able to assess personal strengths that provide psychological capital of importance to organizational success. PsyCap qualities (self-efficacy, hope, optimism and resilience) are valuable aspects of the human resources of organizations. Other attributes such as emotional intelligence (Jordan, 2008), critical thinking and analytical skills, and specific informational and situational process skills are also significant

predictors of individual and organizational performance. However, the addition of psychological capital to the HR decision making repertoire may well turn out to yield a competitive edge to organizations seeking 'a new balance' in the multinational world faced today.

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EFFECTS OF DEBT AND GDP ON THE UNEMPLOYMENT RATE: AN EMPIRICAL STUDY

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ABSTRACT

Debt and GDP and their effects on the unemployment rate are of fundamental importance to the economy of a country. In this study, the authors used time series analysis to investigate, in different countries, the empirical relationship between unemployment rate and percent debt and GDP. Also, the study examined the empirical relationship between debt and GDP in order to ascertain the true relationship between unemployment and debt. Results showed that GDP was negatively correlated with debt or deficit and with unemployment. On the other hand, debt or deficit was positively correlated with unemployment. It was concluded that the effect of debt or deficit on unemployment was largely a result of the GDP's negative effect on debt (deficit) and unemployment. Where possible, time series models were developed relating percent debt and GDP as independent variables to unemployment rate as the dependent variable. The models gave good fit to the observed data.

INTRODUCTION

Among all the economics variables that have an effect on unemployment, the most important is perhaps the GDP. It is known that GDP is negatively correlated with unemployment. When the economy is down, unemployment is up because of a slow-down in hiring and layoffs by industry. On the other hand, the effect of debt and deficit on the economy and unemployment is not as clear and is debatable. In general, liberal economists argue that debt and deficit spending in the form of economic stimulus by the government will help create jobs and reduce unemployment, which in turn would stimulate the economy. On the other side, conservative economists argue that austerity, by way of reducing debt and deficit, rather than borrowing and spending, would help the economy at the time of a recession. Excess debt may hurt the economy in the sense that it may reduce confidence of investors, especially foreign investors. Also, interest payment by a government on excessive debt may harm the economy and excess debt may lead to an economic policy of austerity, which can increase unemployment. For details on these economic concepts, the reader is referred to Krugman (2012).

It is known that GDP and unemployment are negatively correlated. This is referred to in the literature as Okun's law (Okun, 1962). The law gives a constant change in unemployment per unit change in GDP. What is called a law was in fact established empirically and no doubt is not

a constant, but could vary from country to country. In light of this, Burgen et al. (2012) suggest that Okun's law is essentially a simple rule of thumb that relates a change in the GDP to a change in the unemployment rate. It is useful to determine more accurately the relationship between GDP and unemployment rate in different economies. Also, it is important to determine the role of GDP on debt in studying the effect of debt on the unemployment rate.

Studies in the literature are mostly based on regression models. It is known that for time series data, where the errors could be highly auto correlated, regression may not be accurate and can be misleading in the sense that it gives a high R-square. It is more accurate to model time series data using time series modeling methodology, which accounts for the autocorrelation in the errors.

In this study, we investigate the relationship between GDP and unemployment and between unemployment and debt using time series methodology. We built time series models that relate unemployment to GDP and debt utilizing data from different countries. The countries chosen were Greece, Italy, Spain, Portugal, Ireland, England, France, Germany, and the USA. These countries have a mix of economies, from small to large, and some have their own central banks (United Kingdom and the USA) while the others do not (in the sense that they all have one central European bank). Also, these countries differ in their monetary and fiscal policies. For the European Union countries, the Maastricht Treaty of 1992 (The history of the European Union, 1990-1999) imposes control on government debt and government deficit. The ratio of government deficit to GDP must not exceed 3%. Also, government debt must not exceed 60% of the GDP. As pointed out by Nenovski and Stevanovska (2014), many of the member states, and in particular Greece, Portugal, Ireland, Spain, Cyprus, and Italy, fail to meet the Maastricht criteria. The Maastricht treaty, with regard to government spending and debt, is a matter of fiscal policy which may call for austerity measures at times of recessions or economic downturns.

REVIEW OF RELEVANT LITERATURE

There is agreement in the literature that there is a negative relationship between unemployment rate and the GDP. This relationship was in fact established empirically by Okun (1962). Although this negative relationship is robust and holds for different economies, its exact form is complicated and can vary over different economies or different phases of an economy over time (Burgen et al. 2012; Vojtovich, 2011; Khan et al., 2013; Andrei et. al., 2009). Kitov et. al. (2011) showed that unemployment rate since 1970 in different countries is highly linearly dependent on the logarithm of real GDP per capita with R-squares varying between 0.84 and 0.95.

Layard (1985) argued that cutting the budget or reducing the deficit reduced jobs. He presented empirical evidence for the US, UK, and the EEC over the years 1979 to 1984, supporting this argument. Koechlin (2011) makes the same argument that cutting spending to reduce the deficit, when the economy is stagnant, will increase unemployment. Sawtelle (2007) presented empirical evidence using regression analysis on data in the US between 1991 and 2001 showing that controlling for macro variables and considering unemployment by industrial sector is important when determining the relationship between GDP and unemployment. Nicola et. al. (2007) confirmed the negative relationship between GDP and unemployment for six European

countries, Canada and the US, based on the Okun's law concept. However, in variant with the Okun's regression equation, the authors used GDP as the dependent variable and unemployment as the independent variable. Aamir et. al. (2013), in an empirical study to verify Okun's law, using data from 1976 to 2010 in Pakistan, showed that an increase of 1% in unemployment reduced real GDP growth by 0.36 percentage points.

Aliabadi et. al. (2011), using a multiple regression model on macroeconomic data for the US from 1964-2010, showed that there was no association between change in unemployment rate and change in government spending after controlling for change in deficit, percentage change in GDP, and recession. As a result, authors argued for a cut in government spending to reduce debt and budget deficit.

Fedeli et. al. (2015), using a cointegration vector analysis on data from 22 OECD countries, showed that net lending of governments as a percentage of potential GDP and general government total receipts as a percentage of GDP, controlling for other variables, were positively related to the unemployment rate.

Vojtovich (2011), in an empirical study, concluded that the GDP growth before the recent economic crisis reduced the unemployment rate, but this relationship was not as clearly manifested after the crisis. This may point to other factors playing a role like industry confidence in the economy that could lead to a wait and see attitude before hiring again. Bethune (2013) developed a debt index based on the following equation:

$$\text{Debt Index} = \text{Deficit/Spending} + \text{Debt/GDP}$$

He showed for different countries that, in general, the debt index was negatively correlated with private investment and that the correlation was larger for the index than for any of its components. Also, the debt index was positively correlated with the unemployment rate. In a further study, Bethune (2014), using the Pearson correlation, showed that the debt index was positively correlated with the unemployment rate for most countries investigated. Also, using least square regression, he showed that the debt index as the independent variable had a considerable explanatory power on unemployment, as the dependent variable, for some countries, namely the US, Japan, the UK, and Spain.

Kooros (2008), using a step-wise multiple regression analysis on data from the Federal Reserve Bank of Saint Louis for the period 1950-2003, showed that GDP, discount rate, budget deficit, inflation, and hourly wage were related significantly to the unemployment rate. Unemployment was inversely related to GDP, discount rate, and inflation. However, unemployment was directly related to the wage rate.

Seccareccia (2013), analyzing the macroeconomic condition in Canada and the United States in the era after World War II, concluded that growing unemployment was due to government not stimulating demand through fiscal policies.

Leao (2013), using a mathematical argument, showed that below full employment and with fixed interest rate by the Central Bank, an increase in government spending may reduce the ratio of debt to GDP. The author attributed this to the argument that an increase in government spending will, through the Keynesian multiplier, increase the GDP proportionately more than it does the debt.

METHODS

Time Series Model

A time series model relating an output series y to k input series x_i ($i = 1, 2, \dots, k$) can be expressed in general as

$$y_t = \sum_i^k c(B)_i x_{it} + a_t \quad (1)$$

Here, $c(B) = \sum c_j B^j$, where B is the backshift operator, $Bx = x_{t-1}$.

The function $c(B)_i$ with its lags is determined from the cross correlations between x_{it} and y_t , ($i = 1, 2, \dots, k$), namely the significance at a given lag and the pattern of the cross correlations over lags (Wei, 2006).

The sample cross correlation between two time series y and x is expressed as follows:

$$r_{xy} = \frac{\sum_{t=1}^{n-k} (x_t - \bar{x})(y_{t+k} - \bar{y})}{n S_x S_y} \quad k \geq 0,$$

$$= \frac{\sum_{t=1-k}^n (x_t - \bar{x})(y_{t+k} - \bar{y})}{n S_x S_y} \quad k < 0,$$

where, S_x and S_y are the standard deviations for x and y , \bar{x} and \bar{y} are the sample means and n is the sample size.

Once $c(B)_i$ is identified, one can express a_t in Eq. (1) as

$$a_t = y_t - \sum_i^k c(B)_i x_{it} \quad (2)$$

and identify the appropriate time series model for Eq. (2). With a_t known, one can determine the final model in Eq. (1). The model in (1) implies that there is no feedback between y and x . Feedback is identified by significant cross correlations between y and x at negative lags. In this analysis there was no significance of the cross correlations at negative lags.

An alternative to the cross correlation function for identifying feedback between two time series is the Granger causality test (Granger, 1980; Eichler, 2012). To test the hypothesis that x does not Granger-cause y , one considers the auto-regression of y augmented by lagged values for x .

$$y_t = a_0 + a_1 y_{t-1} + a_2 y_{t-2} + \dots + a_n y_{t-n} + b_0 x_t + b_1 x_{t-1} + \dots + b_p x_{t-p} + e$$

The variable x does not Granger-cause y if none of the coefficients for x in the above regression is retained as being significant. Granger causality does not necessarily mean that x causes y. X may affect y because of a third common variable to both.

The Granger test is applicable to two series. A more general method to test for feedback is the vector auto-regression (VAR) for two or more time series. The variables are assumed to be stationary and all of the same order of integration.

As an example, the vector auto-regression for one lag, VAR(1), in the case of two variables may be written as:

$$\begin{aligned} y_{1,t} &= a_1 + b_{1,1} y_{1,t-1} + b_{1,2} y_{2,t-1} + e_{1,t} \\ y_{2,t} &= a_2 + b_{2,1} y_{1,t-1} + b_{2,2} y_{2,t-1} + e_{2,t} \end{aligned}$$

If $b_{1,2}$ and $b_{2,1}$ are significant, one can assert that there is feedback between y_1 and y_2 .

Data

Time series data on GDP, percent debt, and percent deficit were obtained from the database online using the link Gecodia.com. Percent deficit was analyzed as a positive quantity. Countries chosen were Greece (1977-2012), Italy (1981-2012), Spain (1981-2012), Portugal (1981-2012), Ireland (1981-2012), United Kingdom (1971-2011), France (1970-2011), Germany (1970-2011), and the US (1970-2011). GDP was in billions of Euros. For the UK it was in billions of GBP and the US in billions of dollars.

RESULTS OF THE TIME SERIES ANALYSIS

USA

The cross correlation between two series indicated that there was a negative significant correlation between GDP and unemployment rate (U) at lag 0 and lag 1 ($r_0 = -0.40$, $r_1 = -0.68$), a positive significant correlation between unemployment rate and percent debt (PDT) at lags 0 and 1 ($r_0 = 0.67$, $r_1 = 0.55$), and a negative significant correlation between GDP and percent debt at lags 0 and 1 ($r_0 = -0.63$, $r_1 = -.41$)

Based on the cross correlations above, the functional relationships using time series analysis for unemployment rate as the dependent variable and percent debt and GDP as the independent variables, used together and each alone, gave the following expressions:

$$U_t = U_{t-1} + 0.14 \text{ PDT}(1)_t - 0.046 \text{ PDT}(1)_{t-1} - 0.094 \text{ PDT}(1)_{t-2} - 0.002 \text{ GDP}(1)_t$$

$$- 0.0007 \text{ GDP } (1)_{t-1} + 0.0015 \text{ GDP } (1)_{t-2} + 0.0012 \text{ GDP } (1)_{t-3} + e_t, \quad (3)$$

$$\begin{aligned} \text{Where } \text{PDT } (1)_t &= 0.71 \text{ PDT}(1)_{t-1} \\ \text{and } \text{GDP } (1)_t &= 0.30 \text{ GDP } (1)_{t-1} \end{aligned}$$

The $\text{GDP } (1)_t$ and $\text{PDT}(1)_t$ equations are needed when predicting U_t from Equation (3). Here, $\text{PDT}(1)$ and $\text{GDP } (1)$ indicate first difference to make the series stationary.

$$U_t = U_{t-1} - 0.003 \text{ GDP}(1)_t - 0.0013 \text{ GDP}(1)_{t-1} + 0.0025 \text{ GDP}(1)_{t-2} + 0.0018 \text{ GDP}(1)_{t-3} + e_t \quad (4)$$

$$U_t = U_{t-1} + 0.244 \text{ PDT}(1)_t - 0.08 \text{ PDT}(1)_{t-1} - 0.164 \text{ PDT}(1)_{t-2} + e_t \quad (5)$$

It is seen from Eq. (3) that both percent debt and GDP have a significant effect on the unemployment rate. The relationship between unemployment and percent debt and GDP involves two lags and three lags, respectively.

Equation (4) showed that GDP has an effect on unemployment up to three lags, similar to Equation (3). Also, similar to Equation (3), the effect of percent deficit on unemployment rate involves two lags.

FRANCE

The cross correlation analysis showed that Percent debt was positively correlated with unemployment at lags 0, 1 and 2 ($r_0 = 0.25$, $r_1 = 0.25$, $r_2 = 0.24$). However, these correlations were not significant. GDP was negatively correlated to unemployment at lag 1 ($r_1 = -0.22$), but was not significant. On the other hand, percent debt was significantly negatively correlated with GDP at lags 0 and 1 ($r_0 = -0.39$, $r_1 = -0.56$).

Percent debt had no significant effect on unemployment in the presence of GDP. Hence, we present the functional relationships between unemployment rate (U) and GDP and unemployment rate and percent debt (PDT) separately.

$$U(1)_t = 0.866 U(1)_{t-1} - 0.096 \text{ GDP}(1)_{t-1} + 0.082 \text{ GDP}(1)_{t-2} + e_t \quad (6)$$

Also,

$$U(1)_t = 0.29 U(1)_{t-1} + 0.093 \text{ PDT}(1)_t - 0.026 \text{ PDT}(1)_{t-1} + e_t \quad (7)$$

where $\text{PDT}(1)_t = 0.59 \text{ PDT}(1)_{t-1}$

Germany

The cross correlation analysis revealed that unemployment rate was significantly negatively correlated with GDP at lags 0 and 1 ($r_0 = -0.49$, $r_1 = -0.31$) and significantly positively correlated with percent debt (PDT) at lag 0 ($r_0 = 0.45$). Also, GDP and percent debt were significantly negatively correlated at lag 0 ($r_0 = -0.49$).

The functional relationships between unemployment and GDP and percent debt, in combination (Eq. 8) and each separately (Eqs. 9 and 10), are as follows:

$$U(1)_t = 1.1 U(1)_{t-1} - 0.75 U(1)_{t-2} + 0.21 U(1)_{t-3} + 0.097 PDT(1)_t - 0.107 PDT(1)_{t-1} + 0.007 PDT(1)_{t-2} - .02 Pdf(1)_{t-3} - 0.025 GDP(1)_t + 0.011 GDP(1)_{t-1} + e_t - 0.46 e_{t-1} + 0.46 e_{t-2} \quad (8)$$

$$\text{where } PDT(1)_t = 0.24 PDT(1)_{t-1} \\ \text{and } GDP(1)_t = 0.27 GDP(1)_{t-1} - 0.50 GDP(1)_{t-2}$$

$$U(1)_t = 0.41 U(1)_{t-1} + 0.15 PDT(1)_t - 0.62 PDT(1)_{t-1} + e_t \quad (9)$$

$$U(1)_t = 0.33 U(1)_{t-1} + 0.32 U(1)_{t-2} - 0.028 GDP(1)_t - 0.042 GDP(1)_{t-1} + 0.048 GDP(1)_{t-2} + e_t + 0.42 e_{t-1} \quad (10)$$

Equation (8) shows that unemployment rate is a function of its lags and of GDP and percent debt and their own lags.

Equation (9) shows that unemployment rate is a function of its own lag and of PDT and its lag.

Also, Equation (10) shows that unemployment is a function of its own lags as well as the GDP and its lags.

United Kingdom

The cross correlation between series revealed that there was a significant positive correlation between unemployment rate and percent debt at lag 0 ($r_0 = 0.28$). Percent debt was significantly negatively correlated with GDP at lags 0 and 1 ($r_0 = -0.28$, $r_1 = -0.31$). Also, GDP and unemployment rate were significantly negatively correlated ($r_0 = -0.38$, $r_1 = -0.65$).

The time series analysis showed that percent debt had no significant effect on unemployment in the presence of GDP in the model. Hence, the relationships between unemployment rate and GDP and unemployment rate and percent debt are given by the following expressions:

$$U(1)_t = 0.936 U(1)_{t-1} - 1.06 U(1)_{t-2} + 0.57 U(1)_{t-3} + 0.076 PDT(1)_t - 0.05 PDT(1)_{t-1} + e_t - 0.29 e_{t-1} + 0.87 e_{t-2} \quad (11)$$

$$\text{where } PDT(1)_t = 0.52 PDT(1)_{t-1}$$

$$U(1)_t = 0.85 U(1)_{t-1} - 0.049 GDP(1)_t - 0.035 GDP(1)_{t-1} + 0.065 GDP(1)_{t-2} + e_t \quad (12)$$

$$\text{where } GDP(1)_t = 0.22GDP(1)_{t-1}$$

Equation (11) gives the relationship between unemployment and its own two lags as well as PDT and its own lags.

Equation (12) gives the relationship of unemployment to its own lag and to GDP and its lags.

Portugal

The cross correlation analysis indicated that there was a significant negative correlation between unemployment and GDP ($r_0 = -0.55$) and a significant positive correlation between unemployment rate and percent deficit ($r_0 = 0.47$). A negative correlation was shown between percent deficit and GDP ($r_0 = -0.47$). However, this was not significant—due, perhaps, to the small sample size. The time series analysis did not show any significant effect of GDP on unemployment. The effect was negative, but not significant. This may be due to the small sample size of 16. As a result, quarterly data was used to express unemployment rate as a function of GDP. The negative relationship was significant with the larger sample size. The functional relationship between unemployment rate and GDP and unemployment rate and percent deficit are given as:

$$U(1)_t = 0.54 U(1)_{t-1} - 0.31 GDP(1)_t - 0.163 GDP(1)_{t-1} + 0.18 GDP(1)_{t-2} + e_t \quad (13)$$

$$U(1)_t = 0.598 U(1)_{t-1} + 0.132 Pdef_t - 0.079 Pdef_{t-1} + e_t \quad (14)$$

For prediction purposes, $GDP(1)_t$ and $pdef(1)_t$ may be replaced by $0.21 GDP(1)_{t-1}$ and $0.066 pdef(1)_{t-1}$, respectively.

Spain

Cross correlation between series showed that there was a negative correlation between GDP and percent debt ($r_0 = -0.28$, $r_1 = -0.46$, $r_2 = -0.55$). Only r_2 was significant. Also, GDP was significantly negatively correlated with unemployment rate at lag 2 only ($r_2 = -0.83$). Percent debt was significantly positively correlated with unemployment rate ($r_0 = 0.4$). Because of the small sample size ($n=17$), quarterly data was used to determine the functional relationship between GDP and unemployment rate.

The following time series equations relate unemployment rate to GDP:

$$U(1)_t = 0.82 U(1)_{t-1} - 0.145 GDP(1)_t - 0.01 GDP(1)_{t-1} + 0.106 GDP(1)_{t-2} + e_t \quad (15)$$

Where for prediction purposes:

$$GDP(1)_t = 0.806 GDP(1)_{t-1} \quad (16)$$

It is seen from Equation (15) that unemployment relates to its own lag as well as to GDP and its lags.

Italy

GDP was significantly negatively correlated with percent debt ($r_0 = -0.43$) and with the unemployment rate ($r_0 = -0.44$). Percent debt was significantly positively correlated with unemployment rate ($r_0 = 0.67$).

Due to the relatively small sample size of 18, we were able to fit only the following models:

$$U(1)_t = 0.675 U(1)_{t-1} - 0.03 GDP(1)_t + 0.02 GDP(1)_{t-1} + e_t \quad (17)$$

$$U(1)_t = 0.5 U(1)_{t-1} + 0.063 PDT(1)_t - 0.031 PDT(1)_{t-1} + e_t \quad (18)$$

For prediction purposes, $PDT(1)_t$ and $GDP(1)_t$ can be replaced by $0.195 PDT(1)_{t-1}$ and $0.31 GDP(1)_{t-1}$.

It is seen for equations (17) and (18) that unemployment is related to its own lag and to GDP and PDT and their own lags. Although the models are based on a relatively small sample size, they do conform to expectation where unemployment is positively related to debt and negatively related to GDP. Also, the models fit the observed data rather well.

Greece

The cross correlation analysis between series showed that unemployment rate was significantly negatively correlated with GDP ($r_0 = -0.65$). However, there was no significant correlation between percent deficit and unemployment rate or percent deficit and GDP. The lack of a significant negative correlation between percent deficit and GDP could be due to the relatively small sample size of 18, or perhaps due to austerity measures. The time series model relating unemployment rate to percent deficit showed a positive effect of percent deficit on unemployment rate. However, this was not significant ($p=0.28$).

The time series model relating unemployment rate to GDP using quarterly data gave the following expression:

$$U(1)_t = 0.578 U(1)_{t-1} - 0.14 GDP(1)_t + 0.08 GDP(1)_{t-1} + e_t \quad (19)$$

For prediction purpose, $GDP(1)_t$ can be set to zero, which means that $GDP_t = GDP_{t-1}$. It is seen from equation (19) that unemployment relates to its own lag and to GDP and its lag.

Ireland

The cross correlation between GDP and unemployment rate was negative and significant at lags 1 and 2 ($r_1 = -0.62$, $r_2 = -0.5$) and that between percent deficit and unemployment was positive and significant at lag 1 ($r_1 = 0.43$). The correlation between GDP and percent deficit was negative and significant ($r_0 = -0.72$). Because of the small sample size, only quarterly data was used to develop a model. For this case, the time series equation relating GDP to unemployment rate is

$$U_t = -0.205 U_{t-1} - 0.30 \text{ GDP}(1)_t - 0.06 \text{ GDP}(1)_{t-1} + e_t \quad (20)$$

For prediction purpose, $\text{GDP}(1)_t = 0.29 \text{ GDP}(1)_{t-1} + 0.31 \text{ GDP}(1)_{t-2}$.

It is seen from the above equation that unemployment is related to its own lag and to GDP lags.

MODELS' FIT TO DATA

Table 1 presents for each country the R-square for a time series model with unemployment rate as the dependent variable and percent debt (or deficit) and/or GDP as independent variables. It is seen that all models presented above gave low residuals as a fraction of the total sum of squares of observed values. GDP alone in the model gave residual ratios less than 0.1 except for the US and Germany, which were 13 and 15 percent, respectively. Plots in Figures 1-9 are presented for observed and expected from the models. It is seen from the low residual ratios in Table 1 and the plots that there was good fit between models and observed data.

Table 1
RATIOS OF RESIDUAL SUM OF SQUARES TO TOTAL SUM OF SQUARES FOR
THE DIFFERENT TIME SERIES MODEL

Country	Independent Variables		
	(GDP, percent debt or deficit)	GDP	percent debt or deficit
USA	0.10	0.13	0.14
UK	----	0.04	0.38
France	----	0.06	0.09
Germany	0.09	0.15	0.06
Greece	----	0.06	----
Italy	----	0.07	0.05
Spain	----	0.01	-----
Portugal	----	0.02	0.15
Ireland	----	0.06	----

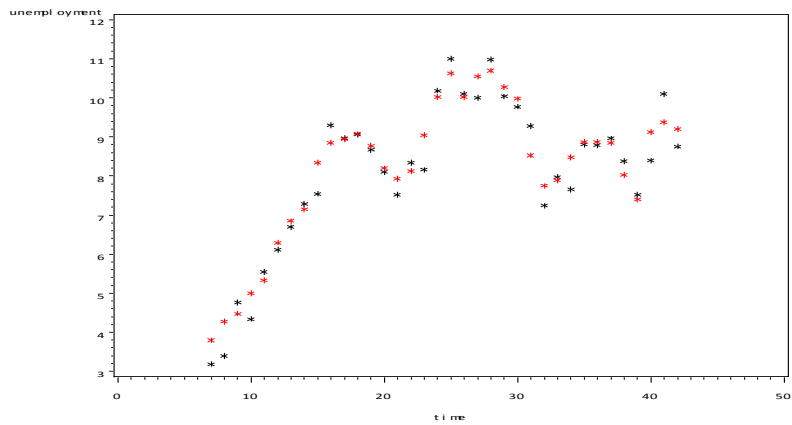


FIGURE 1. FRANCE. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN YEARS, STARTING IN 1977. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (6).

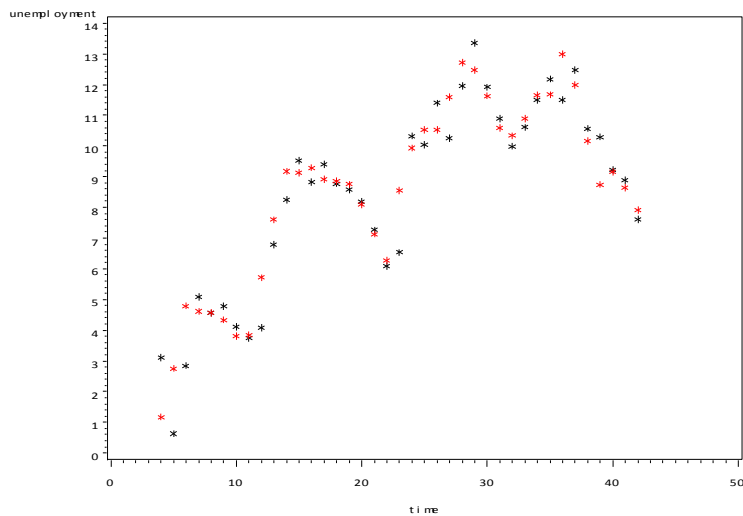


FIGURE 2. GERMANY. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN YEARS, STARTING IN 1974. EXPECTED VALUES ARE BASED ON THE GDP AND PERCENT DEBT MODEL IN EQ. (8).

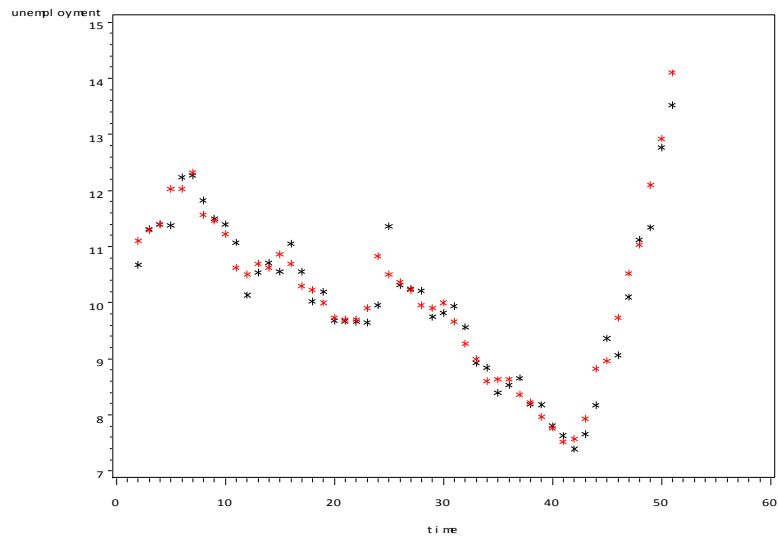


FIGURE 3. GREECE. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN QUARTERS, STARTING IN 1998. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (19).

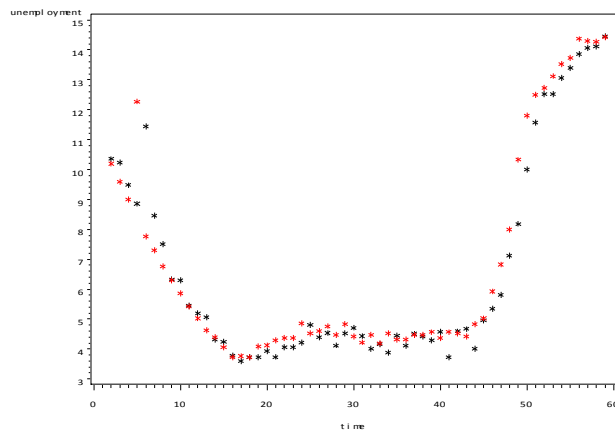


FIGURE 4. IRELAND. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN QUARTERS, STARTING IN 1997. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (20).

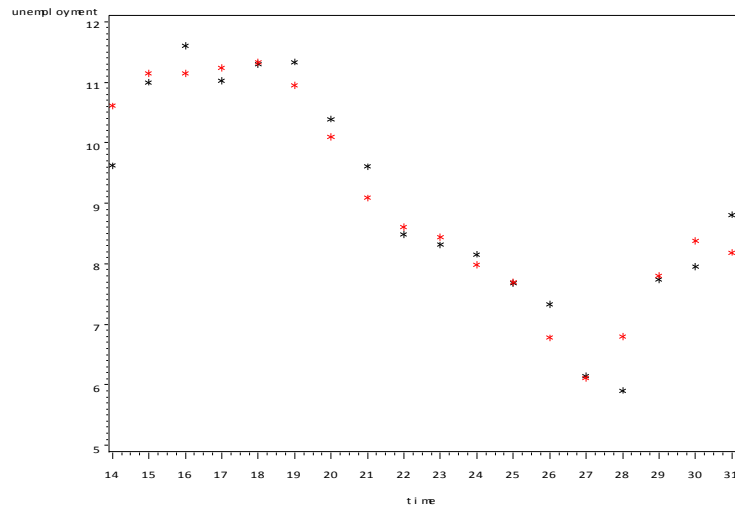


FIGURE 5. ITALY. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN YEARS, STARTING IN 1994. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (17).

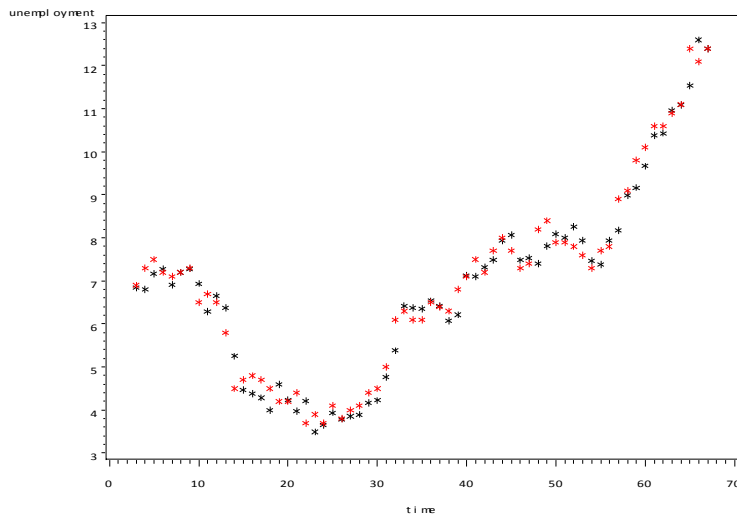


FIGURE 6. PORTUGAL. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN QUARTERS, STARTING IN 1995. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (13).

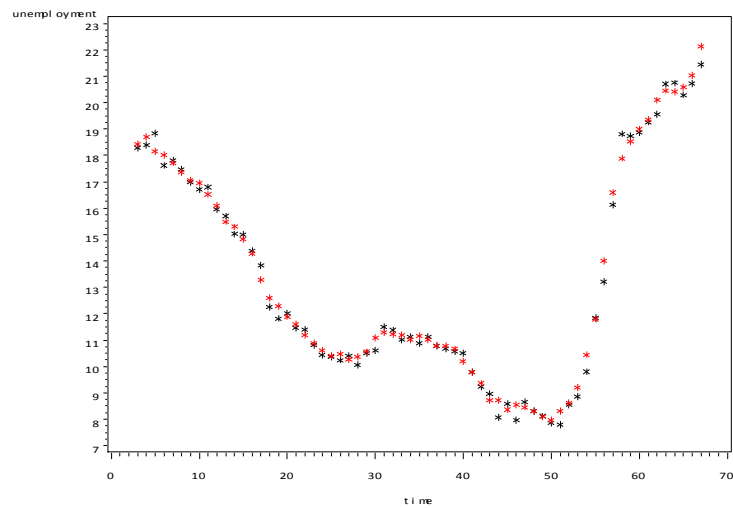


FIGURE 7. SPAIN. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN YEARS, STARTING IN 1983. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (15).

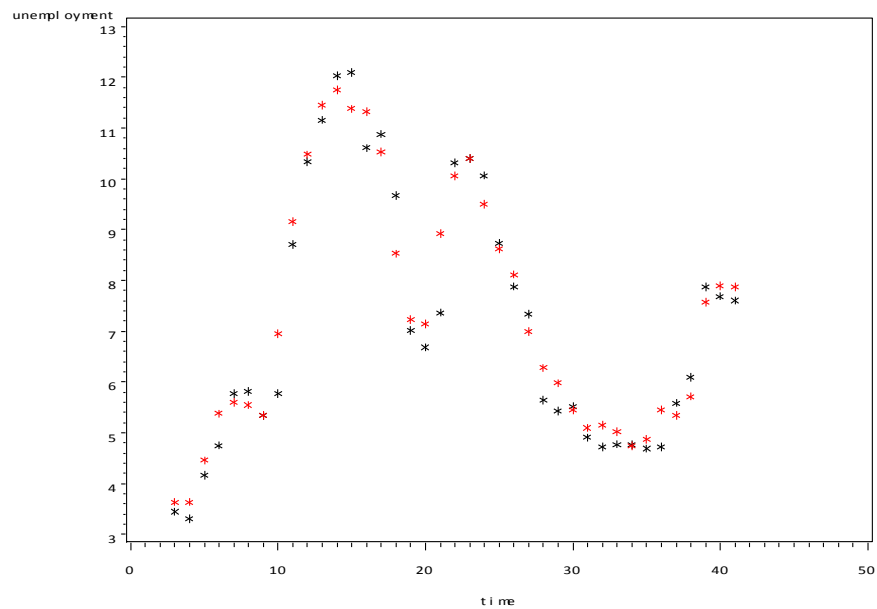


FIGURE 8. UK. PLOT OF EXPECTED AND OBSERVED (IN RED) UNEMPLOYMENT RATE OVER TIME IN YEARS, STARTING IN 1973. EXPECTED VALUES ARE BASED ON THE GDP MODEL IN EQ. (12).

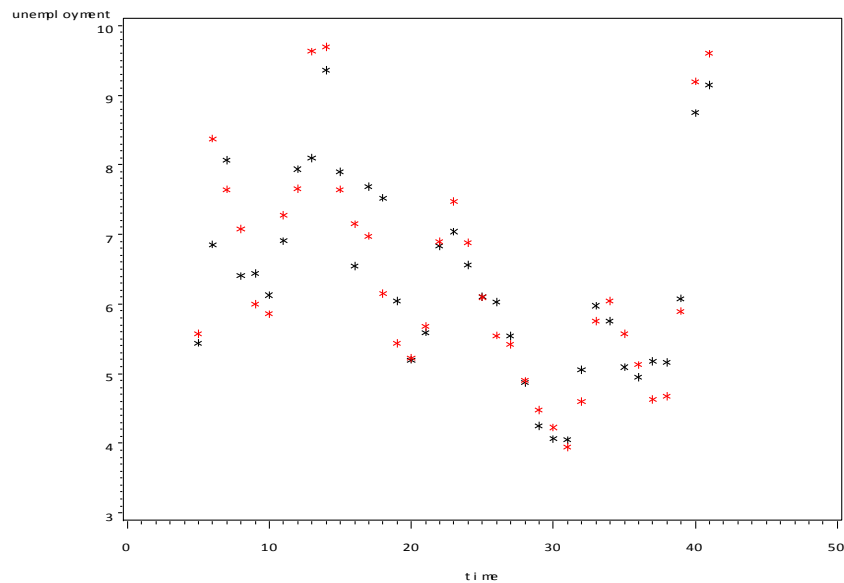


Figure 9. USA. Plot of expected and observed (in red) unemployment rate over time in years, starting in 1974. Expected values are based on the GDP model in Eq. (4).

DISCUSSION

Results of this investigation showed that GDP was negatively correlated with the unemployment rate and with the percent debt or percent deficit. Also, percent debt or percent deficit was positively correlated with the unemployment rate. It could be argued that the positive correlation between debt or deficit and unemployment is due to the fact that they are negatively correlated with GDP. As GDP decreases, unemployment increases and percent debt or percent deficit increases at the same time. In other words, the positive effect of debt or deficit on unemployment is due to GDP and not to a direct cause and effect. If deficit or debt were to have a negative effect on GDP, then one may argue that they will in turn directly contribute to higher unemployment. However, while GDP affects debt or deficit, there is no indication (except perhaps in the case of Germany and Spain) from the present study that the reverse is true. The cross correlation data did not show any significant correlation for negative lags, but only for positive lags. This is an indication that there was no feedback between debt or deficit and GDP.

Indications are that GDP affects deficit or debt, but debt or deficit does not affect the GDP. Debt may have an influence on the GDP in cases where the ratio of debt to GDP is so high that it causes an erosion of confidence on the part of investors and a strain on the economy as a result of interest payment on the debt. Also, high debt may lead to an economic policy of severe austerity, which can increase unemployment. In general, this does not seem to be the case. However, in the case of Germany and perhaps Spain, there may be evidence that debt has an effect on the economy and unemployment. The Granger test shows a significant feedback from pdebt to GDP ($p = 0.041$) in the sense that percent debt had an effect on the GDP. Also, the residual ratio for the model where debt is the only independent variable is lower than that for the

model where GDP is the independent variable. This result was confirmed by the analysis using a vector AR(1) Model. In this analysis $GDP(1)_{t-1}$ had a significant effect ($p=0.0151$) on $pdebt(1)_t$ and $pdebt(1)_{t-1}$ had a significant effect ($p=0.048$) on $GDP(1)_t$. The case for Spain was similar except that the feedback effect from $pdebt$ to $GDP(1)$ was significant at the 0.0558 level and in the vector AR(1) model, the effect of $Pdebt_{t-1}$ on $GDP(1)_t$ was significant at the 0.08 level. The evidence here is not as strong as that for Germany.

Germany may be a unique situation because of the re-unification between East and West Germany and the massive spending by the West German government for the building of the infrastructure and the economy of East Germany from the bottom up. This event could be the cause for the observed effect of debt on the GDP. The results for Spain may be explained by high debt coupled with severe austerity measures.

In two cases, France and the United Kingdom, debt had no significant effect on unemployment when GDP was present in the model. This argues for the fact that the effect of debt on unemployment is indirect and is due to the GDP effect on unemployment.

Greece did not show any significant correlation between percent deficit and GDP. This could be attributed to the severe austerity measures, which prevented borrowing, by the government in the face of a decrease in GDP. Also, there was no correlation between deficit and unemployment. While GDP and unemployment are negatively related, GDP and deficit as well as deficit and unemployment are not related.

In general, one may conclude from these results that the effect on unemployment is to a large extent due to GDP and that the contribution of deficit or debt to unemployment is less important. Debt or deficit coupled with austerity may have an effect on increasing unemployment.

It is also important to note from this study that the functional relationship between GDP and unemployment rate is more complex than that given by the regression equation of Okun (1962) and while there is a negative relationship between unemployment and GDP, the magnitude of this relationship is not a constant as stated in Okun's work, but could vary from one country to another. This is to be expected since the relationship due to Okun was empirically determined.

CONCLUSION

Time series data on unemployment rate, GDP, percent deficit or percent debt for nine countries was analyzed using time series cross correlation and time series modeling procedures. Results indicated that the unemployment rate was negatively related to GDP and positively related to percent debt or percent deficit. Of importance is the fact that GDP was found to be negatively related to percent debt or percent deficit. It was concluded that the effect of debt or deficit on unemployment was largely a result of the GDP effect on both, debt (deficit) and unemployment. Only in the case of Germany, and perhaps Spain, there may have been an effect of percent debt on the GDP and on the unemployment rate. This could be attributed to debt coupled with austerity.

Also, the negative relationship between GDP and unemployment is in accord with the literature and the earlier results of Okun (1962). However, the functional relation between GDP and unemployment is more complex than initially stated by Okun and is not a universal law as referred to, but can vary over different economies.

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