The Islamic University of Gaza

Faculty of Commerce

Business Administration Department

A Proposed Framework for Overcoming Barriers Influencing Academics' Decision of Participation in European Research & Development Projects

Case Study: Islamic University of Gaza

نموذج مقترح للتغلب على المعوقات التي تؤثر في قرار مشاركة الأكاديميين في المشاريع البحثية التنموية الأوروبية

دراسة حالة: الجامعة الإسلامية

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يقول الله تعالى في كتابه العزيز:

(قَالُواْ سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيم)

صدق الله العظيم

سورة البقرة – الآية 32

DEDICATION

To my parents whose limitless love and encouragement helped me throughout my life, they motivated me to continue my education.

My appreciation must go to my lovely husband whose prayers helped and supported me to carry out this work.

To my beloved four sisters Nana, Heba, Soha, & Abeer. Special thanks are due to Heba and Soha for their support and taking care of my young daughters throughout the period of my study.

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To my sweethearts daughters Hala & Nada

Researcher

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All praise to Allah, the one to whom all dignity, honor, and glory are due, the unique with perfect attributes, who begets not, nor is he begotten. He has no equal but he is the Almighty Omnipotent. Peace and blessing of Allah be upon all the prophets and messengers, especially Mohammed, the last prophet and on all who follow him in righteousness until the Day of Judgment.

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ABSTRACT

This study aimed to identify the barriers that influence Islamic University of Gaza, IUG, academics' decision of participation in European Funded R &D cooperative projects in regards to 1) organizational context of IUG, 2) personal and occupational characteristics and 3) the European funded programmes context.

To fulfill the aim of the study, the researcher followed the descriptive analytical approach. She used a questionnaire and semi-structured interviews as a data collection tools. The study population was (294) academics in eight faculties at IUG. Five Interviews were conducted and (174) questionnaires were recollected out of (294) questionnaires distributed. The collected questionnaires were analyzed by SPSS program for statistical analysis.

Most of the obtained results from the interviews supported the results obtained from statistical analysis of the questionnaire. The study results revealed that the organizational context of IUG namely institutional support, university policies & recognition/ rewards don't effectively encourage academics' participation in European funded R&D cooperative projects. On the other hand, the personal characteristics & abilities of IUG academics indicated that they are enthusiastic and willing to participate in these projects but they lack the training and the directions. Moreover, the respondents agreed on the high requirements of the European funded programmes proposals preparation. In addition. they agreed on the effect of the political situation of the target country on the funding decisions of European programmes.

Multiple regression analysis indicated that the significantly effecting factors on IUG academic's decision of participation in the European funded R&D cooperative projects are: 1-Rewards & recognition 2- IUG institutional support 3- IUG policies regarding participation in European funded R&D projects, 4- IUG academics Personal characteristics & Abilities, 5-proposals preparation Requirements for European funded project, 6-evaluation & funding decisions.

The study proposed framework to overcome barriers that influence IUG academic decision of participation in those projects. The framework proposed more enhancements in the organizational support, IUG academics personal abilities and rewards & recognition system. In addition, it emphasized linking participation with IUG policies and regulations in regards to tenure, promotion decisions and academics performance evaluation criteria.

ملخص الدراسة

هدفت هذه الدراسة إلى تحديد المعوقات التي تؤثر في قرار مشاركة الأكاديميين في الجامعة الإسلامية في المشاريع البحثية التنموية المشتركة و الممولة من اوروبيا. حيث تمت دراسة المعلوقات من خلال ثلاثة متغيرات رئيسة وهي أولا معوقات متعلقة بالنظامالإدار ي في الجامعة الإسلامية من حيث الخدمات، التسهيلات و الحوافز و الأنظمة والقوانين، وثانيا معوقات متعلقة بالمهارات و القدرات الفردية و السمات الوظيفية له و ثالثا معوقات متعلقة بالمشاريع البحثية التنموية المشتركة ذاتها : اهدافها ونتائجها و تعبئة الطلبات و النماذج ومتطلباتها و آلية تقييمها.

أستخدمت الباحثة كلا من الإستبانة و المقابلات شبه المنظمة كأدوات لجمع المعلومات من مجتمع الدراسة الذي يتكون من 294 أكاديمي من 8 كليات مختلفة في الجامعة الإسلامية.تم عقد 5 مقابلات مع 3 أكاديميين من الإدارة العليا في الجامعة المختصين بادارة هذه المشاريع و 2 من الأكاديمين الذين شاركوا في إعداد و إدارة مشاريع نجحت في الحصول على تمويل الاتحاد الأوروبي مسبقا، وقد تم تجميع 174 إستبانة. حيث تم تحيليلها باستخدام برنامج التحليل الإحصائي (SPSS).

كانت نتائج التحليل الإحصائي مدعمة لآراء الأكاديميين و أعضاء الإدارة العليا التي عبروا عنها خلال المقابلات، حيث بينت نتائج التحليل أن النظام الإداري في الجامعة الإسلامية من حيث الخدمات، التسهيلات و الحوافز و الأنظمة والقوانين لا يدعم بالشكل الكافي مشاركة الأكاديميين في المشاريع البحثية التنموية المشتركة الممولة من أوروبيا، كما تبين ايضا أن الأكاديميين متحمسين و لديهم رغبة في المشاركة في المشاريع ولكن ينقصهم التدريب و التوجيه، بينما بينت النتائج بأن تعبئة الطلبات و النماذج وتحقيق شروط المشاركة في المشاريع المشتركة تتميز بالصعوبة و تحتاج إلى بذل مجهودات كبيرة، ونتائج تقييم المشاريع المقدمة لبرامج التمويل الأوروبية تتأثر بالوضع السياسي في المنطقة.

وقد أوضح تحليل الإنحدار الخطي أن قرار مشاركة الأكاديميين في المشاريع البحثية التنموية الممولة من الاتحاد الأوروبي يتأثر بستة عوامل فرعية وهي 1 مستوى الخدمات و التسهيلات المقدمة من الجامعة و2 أنظمة الحوافز و3 إرتباط الأنظمة والقوانين بالمشاركة في تلك المشاريع، كما يتأثر 4 بمدى توفر المهارات و القدرات الفردية التي تؤهله للمشاركة في هذه المشاريع، وأتضح تأثير 5 متطلبات تعبئة الطلبات و النماذج للمشاريع و 6 التقييم المتبع للمشاريع المقدمة وقرارات التمويل، وبلغت القدرة التفسيرية لنموذج الانحدار 76.4%.

وقد خرجت الدراسة بتطوير نموذج مقترح بهدف التغلب على المعوقات التي تؤثر في قرار مشاركة الأكاديميين في المشاريع البحثية التنموية المشتركة أوروبية التمويل، حيث يرتكز النموذج على تطبيق خطوات تكاملية من تحسين الخدمات و التسهيلات المقدمة للأكاديميين وتطوير قدراتهم بما يتناسب مع المشاركة في تلك المشاريع و المصادر المالية الجامعة، بجانب صياغة سياسات خاصة بالمشاركة في تلك المشاريع و ربط المشاركة بأنظمة الجامعة الخاصة بالترقيات و التثبيت و تقييم الأداء.

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1.1 Introduction

The importance of research and development (R&D) which is one of the higher education institutions products as main contributors to sustainable growth in highly industrialized economies is undisputed among economists and especially in the context of the modern knowledge based economies. Internationalization and globalization of education, socio-economic changes, and the rise of knowledge-based societies impact the Higher Education Institutions (HEIs) governance, management and financial structure (Frølich, Schmidt, & Rosa, 2010). Every HEI tries to be the leading and the most prestigious institute nationally, regionally and internationally. If any university seeks distinguished and gaining favorable place among peers it must enhance its participation in externally funded R&D projects (Ylijoki, 2003; Boyer & Cockriel, 1998).. As defined in the Frascati Manual (OECD 2002), 'Research and experimental Development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge to devise new applications'.

Nowadays there is high competition between HEIs in all round the world for resources. This competition leads to more concentration on the two important factors that control the academic process(Marsh & Hattie, 2002):

1. Research richness.
2. Teaching quality.

On the other hand, all over the world higher education institutions are facing massive challenges in the 21 century due to significantly increased number of students. This increase is not matched with expansion in the human and financial resources (Coaldrake & Stedman, 1999). More specifically higher education systems at developing countries are suffering from boor expenditures and allocated money to support academic research and development (Sanyal & Varghese, 2007; Boeren, 2004). Thus higher education institutions must secure fund from external resources to support its role in research and community services (Gonzales, 2009; Gallagher and Daniel, 1989; Donaldson, 1991; Goldfarb, Marschke, &Smith, 2009).

In early eighteens, developed countries in Europe and the European Union have funded many initiatives based on international cooperation to help developing countries to empower their manpower, the tertiary education and training capacity as well as the research. These initiatives took the shape of projects. Examples of these programmes are FPs, TEMPUS, ERASMUS MUNDUS, NUFU, ENERECA etc.. (Boeren, 2004).

Appealing the world wide changes development assistance policies have moved from a project to a programme approach, where limited number of sectors are identified to receive more fund, and from a paternalistic perspective to a demand-driven approach emphasizing the need for local ownership and responsibility.

A report prepared by European communities about the impact of universities participation in EU programme, it was found that participation has the impact of enhancing the content of academic programme curriculum. Moreover 80% of participant in the programme has reported that participation gave a substantial boost to their career opportunities (European_Communities, 2008). Whereas Garcia & Sanz-Menéndez investigate the research quality as a source of funding for the research institute; they emphasized on the role that research quality and richness plays in gaining funding for research (García & Sanz-Menéndez, 2005). In another study that assessed the sixth framework programme (FP6) as one of European funded R&D programmes, the study found that FP6 has great effect on researchers by encouraging them to apply competitive proposals for funding (Expert Group, 2009). Moreover, FP6 enhance and promote the knowledge transfer with developing countries and built capacities in the field of poverty reduction and health.

Such a positive impact stimulates HEIs to participate in funded cooperative R&D projects to achieve their goals and enhance their reputation among other HEIs. This stimulation is reflected over their staff, management, systems & policies.

In spite of the above mentioned benefits, there are several barriers, especially those related to coordinating, managing and controlling the activities of the different parties involved, which could inhibit universities in developing countries from active participation in these programme which will be discussed during this study.

1.2 Problem statement

According to IUG annual reports on the period 1990-2012 the number of R & D cooperative projects acknowledge for funding that IUG academics participated in are only eight: 4 by faculty of Science and 4 by faculty of engineering (IUG presidency, 1990-2011).

In an interview conducted with former Vice President for External Relations and IT in the period of (2008-2011) at IUG, Rustom (2011) stated that: "Taking into consideration for the academics number and their qualification; I can say that participation in externally funded R&D collaborative projects is very weak and almost zero". This is not only Rustom opinion; in other interviews conducted separately with Assistant to Vice President for

External Relations for the period of (2009-2012) and Assistant to Vice President for Scientific Research Affairs for the period of (2011-2012) they share Rustom the same view that IUG academic participation in externally funded projects preparation is extremely weak and is not more than 12 during the last 20 years (Al-Masri, 2011) & (Migdad, 2011). Thus there is consensus among university seniors that IUG is facing a problem with participation in externally funded R&D projects. Here comes the main question of this study:

What are the barriers that influence IUG academics' decision of participation in European R & D cooperative projects?

1.2.1 Sub-questions

1. To what extent does the organizational context of IUG support the academics' participation in European R & D cooperative projects?
2. To what extent does the R & D cooperative projects context encourage the academics' participation in these projects?
3. To what extent do the academics personal and occupational characteristics encourage their participation in European R &D cooperative projects?
4. To what extent does the academics' decision of participation in European R & D cooperative projects is influenced by their personal and occupational characteristics, R & D cooperative projects context, and the organizational context of the IUG?

1.2.2 Objectives

The objectives of this study will be:

1. Assessing IUG academics Participation in European R & D Cooperative projects.
2. Specifying the major factors that prevent academics' participation in European cooperative projects.
3. Determining the extent to which selected factors (academics personality and occupational characteristics, R&D cooperative projects context & organizational context of the IUG) serve as barriers to IUG academics' participation in European R & D cooperative projects.
4. Developing a framework to activate IUG academics participation in European R & D projects.

1.3 Hypothesizes

1.3.1 First main hypothesis:

IUG Academic personal & occupational characteristics, European-funded R&D cooperative projects context & the Organizational context at IUG affect academics' decision of participation in European-funded R&D cooperative projects at α= 0.05."

Under this hypothesis nine sub-hypothesizes are included:

H1-1:"IUG academics personal characteristics & abilities affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-2: "IUG Academics Occupational characteristics affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-3: IUG institutional support affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-4: IUG policies affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-5: IUG rewards/ recognition affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-6: European-funding programmes nature affect the decision of participation in European funded R&D projects at α= 0.05."

H1-7: European-funding programmes time table affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-8: Proposals preparation requirements of European-funded projects affect the decision of participation in European-funded R&D projects at α= 0.05."

H1-9: Evaluation and funding decisions of European -funded projects affect the decision of participation in European-funded R&D projects at α= 0.05."

1.3.2 Second Main Hypothesis:

There are significant differences among respondents for barriers that influence academics' decision of participation in European-funded cooperative R & D Projects due to personal and occupational attributes (rank, tenure/ non tenure, discipline, non-professional

work, age, gender, educational degree, marital status, English/foreign languages proficiency & experience).

1.4 Variables & Conceptual framework

1.4.1 Variables:

Independent variables:

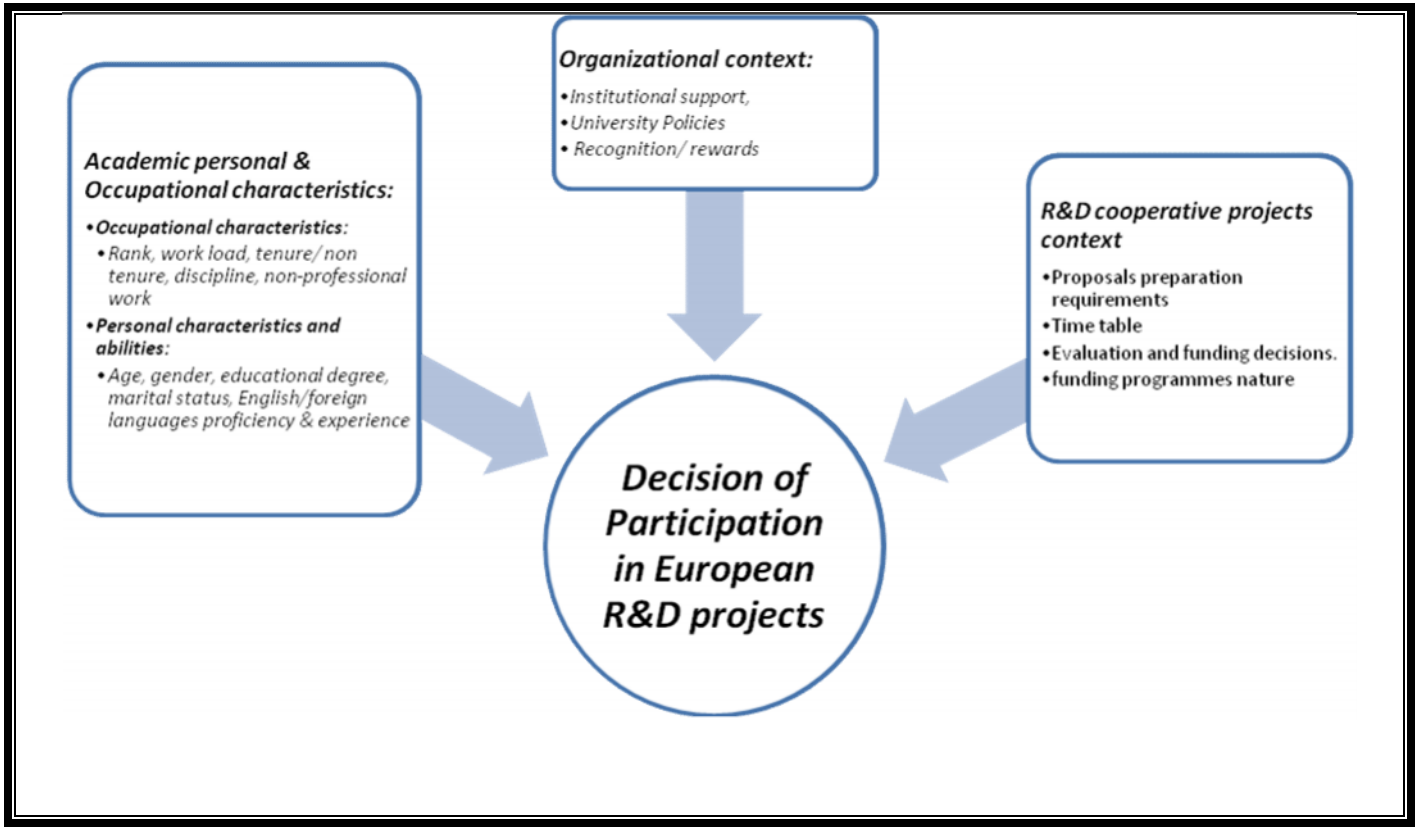
1. Organizational context which includes: institutional support, university policies& recognition/ rewards
2. Academic personality& occupational characteristics:
    - Occupational characteristics which includes: rank, work load, tenure/ non tenure, discipline, non-professional work
    - Personal characteristics& abilities which includes: age, gender, educational degree, marital status, English/foreign languages proficiency & experience
3. R&D cooperative projects context which includes: proposals preparation requirements, time table, evaluation and funding decisions & funding programmes nature.

Dependent variables: Decision of participation in European-funded R&D projects

1.4.2 Conceptual framework:

The conceptual framework of this study outlined in Figure 1.5.1 is based on several sources summarized in Table 1.5-1 below.

Figure 1.4-1: Conceptual framework of the study



Source: see Table 1.4-1: Summary of Conceptual Frameworks sources

Table 1.4-1: Summary of Conceptual Frameworks sources

	Independent variable	Sources
1.	Academic personal & Occupational characteristics:	(Bartlett, 2005), (Boyer P., 2005), (Gallaher & Daniel, 1989), (Boyer & Cockriel, 2001), (Kleinfelder, Price, && Dake, 2003), (Monahan, 1992), (Al-Furaih & Al-Shayji, 2005), (Sharobeam & Howard, 2002), (Sterner, 1999), (Walden & Bryan, 2010), (Onyefulu & Ogunrinade, 2005).
2.	Organizational context	(Bartlett, 2005), (Boyer & Cockriel, 2001), (Monahan, 1992), (Al-Furaih & Al-Shayji, 2005), (Boyer & Cockriel, 1998), (Sharobeam & Howard, 2002)**,** (Gallaher & Daniel, 1989).
3.	R&D cooperative projects context	(Monahan, 1992), (Al-Furaih & Al-Shayji, 2005), (Ogunrinade, 2005).

1.5 Significance of the Study

This study is unique in several ways.

1. As far as the researcher knows, this study is the 1st to be conducted in regards to the European funded R &D cooperative projects participation in the Palestinian, Arabic and developing countries HEIs. It will assess the influencing barriers of the academics decision of participation in these projects.
2. The study resultant barriers along with European universities models for managing and activating academics participation in R&D projects will be deployed to develop a framework to enhance academics participation in European funded R&D cooperative projects.
3. The developed framework assists not only IUG but also all Palestinian HEIs to enhance their academic participation in the European funded R&D cooperative projects
4. The study comes before the launching of the new R&D European funding programmes (HORIZON 2020 and ERASMUS for All) taking into account that the European is considered as the world leader in R&D fund (Rearch & Innovation , 2013; European Commission, 2011)

1.6 Setting Boundaries:

The researcher will study the barriers that influence IUG academics decision of participation in European R&D cooperative projects in the period from 2002-2012. The study will investigate the participation specifically in European funded R&D cooperative projects that have total budget more than $ 50,000. As they have similar properties, requirements and objectives (Boeren, 2012).

Chapter Two: Literature Review

CHAPTER OUTLINE

2.1 Introduction

In this chapter, the researcher will present detailed information from the literature about the European funded R&D cooperative programmes in regards to its definition, categories, activities, benefits, cooperation barriers and grant writing as main activity to participate in these projects. Then, traditional academic roles will be presented then compared to the Boyers domains of scholarship activities. The following section will describe decision making process along with its traits and barriers as a human behaviour. The remained sections will be about the IUG and its practices with the European funded cooperative projects. More specifically, the discussion will concentrate on IUG strategic plan, IUG R&D management bodies, history of IUG policies & activities and finally presenting IUG European funding profile.

2.2 European Funded R&D Cooperative Programmes

In the following sections, the literature review will discuss the European funded R&D cooperative programmes definition, current and future European funded projects, categories, characteristics, benefits, impact, cooperation barriers and activities

2.2.1 What are the European Funded R&D Cooperative projects?

Boeren (2004) defined cooperative R&D funding programmes as a type of cooperation initiatives between southern and northern HEIs created by donor who is interested in strengthening southern HEIs and looks for northern HEIs to assist him in this role. The philosophy of the cooperation was that:

1. Cooperation between institutions in the north and the south is a good instrument for capacity building and facilitates the achievement of broader objectives of the donor.
2. The networking activities allow multiple interactions and transfer of knowledge between the partnership members.
3. Cooperation creates the incentive for learning and information dissemination between different parties (Barber et al, 2006).
4. The cooperation in one project can lead to a broader sustainable cooperation network between partners if the benefits were fair enough for them.
5. The balance equation of offer and demand between partners' potentials is useful for the achievement of scientific objectives which requires synergies or complementarities between partners (Albors & Hidalgo, 2006; Lee & Bozeman, 2005; Geschwind & Eriksson, 2008; Arshadi & George, 2008).

Pohoryles (2002) defined research & development networks/partnerships as "formalized or informal patterns of transaction between research institutions and/or researchers that enable, facilitate, or manage the production and/or application of scientific knowledge".

Funding sources identifies in Appendix A created many funding programmes to achieve their goals. In the following section the major current and future European funding programmes will be listed.

2.2.2 Current European Funded Programmes

There are several programmes currently have call for participation; below some of the most known programmes are presented.

- ***TEMPUS Programme***

Trans-European Mobility Programme for University Studies (TEMPUS) programme is one of European programmes targeting nieghbourhood countries. TEMPUS supports the modernisation of higher education and creates an area of co-operation in countries surrounding the EU. TEMPUS was established in 1990, in 2002 Occupied Palestinian territtories has been eligible for fund with other Mediternean countries. TEMPUS programme projects consortiums must contain 4 countries at least to be funded. TEMPUS programme support two types of cooperative projects as following:

1. Joint Projects: in these projects the partnerships between higher education institutions in the European and partner countriesis developed to reform curriculum of higehr education programmes, governance reform and higher education institutions as well as reforming higher education relation with society in the partner countries institutions.
2. Structural Measures: to develop and reform higher education institutions and systems in partner countries; to enhance their quality and relevance, and to increase convergence with European developments (TEMPUS, 2012) , (McCabe, Ruffio, & Heinämäki, 2011).

The partnership composition for each type of TEMPUS programme projects could be:

1. National projects: in this type the project is targeting one neighporing country such that the partnership composition containes at least 3 different HEIs from 3 dierent European countries plus 3 HEIs from the targeted country. The project theme is

selected according to the national priority setten from the HE ministry of the targeted country.

2. Regional projects: in this type the project is targeting a specific region instead of one country. Such that the tempus programme has already defined different countries included in each region. The project theme is selected according to the regional priority setten from the HE ministries of the targeted region (TEMPUS, 2012).

- ***Framework Programme (FPs)***

The primary goal of the Framework Programme (FP) for Research is to strengthen the scientific and technological basis for European industry and to foster its international competitiveness, in addition to supporting all research efforts which are considered necessary for other European policies. European research frameworks constituted from a series begun in STD1 1880 till FP7 2007-2013 (Roediger-Schluga & Barber, 2007).

"The Seventh Framework Programme (FP7) bundles all research-related European initiatives together under a common roof playing a crucial role in reaching the goals of growth, competitiveness and employment; along with a new Competitiveness and Innovation Framework Programme (CIP), Education and Training programmes, and Structural and Cohesion Funds for regional convergence and competitiveness. It is also a key pillar for the European Research Area (ERA)."

FP7 has been working in the period from 2007 and will last till the end of 2013, it has major four categories: Cooperation, Ideas, People and Capacities, each of these categories has its own objectives and thematic areas (European Commission: Cordis: FP7: Understand FP7, 2011)

FP7 projects consortiums could contain institutions from two countries or more; this depends on the call category and objective.

- ***NORHED Programme***

Norwegian Programme for Capacity Building in Higher Education and Research for Development (NORHED) is the new programme funded by Norwegian Agency for Development Cooperation (Norad). This programme is replacing NUFA programme the previous research funding programme. NORHED aims at building capacities for higher education and scietific research in low and middle income countries (LMICs) for societal development and poverty reduction. The programme is runing for the period from 201 3 till 2020. Projects funded under NORHED programme can :

1. Multilateral: in this type of the projects partnerships consist of HEIs from different LIMICs plus the norwegian HEIs. Such that, the partnership show sound justification for the cooperation under a common need. The partnership equation will be: south-south-norwegian cooperation.
2. Bilateral: in this type of projects partnerships consist of HEIs from one LMIC and Norwegian HEIs.

NORHED programme fund projects within six thematic fields which are: Education and training, Health, Natural resource management, climate change and environment, Democratic and economic governance, Humanities, culture, media and communication , and finally Capacity development in South Sudan. Ligibility of targeting countries from the LMICs for each thematic field was identified according to the national and regional priorities for the LMICs (NORHED, 2013) .

- ***ENPI CBC***

European Neighbourhood & Partnership Instrument for Cross Boarder Cooperation ENPI CBC is one of multilateral programmes supported from the EU. It aims at reinforcing cooperation between the European from one side the 14 partners placed at the shores of the Mediterranean sea from the second side by addressing common challenges for the area. ENPI CBC is running for the period of 4 years from 2009 till 2013 (ENPI CBCMED, 2012).

It supports two types of projects:

1. Strategic projects: this type of the projects address common challenge for the concerned participating countries responding to the needs of them. The partnerships must contain at least 4 partners of which at least 1 European Mediterranean Country and 1 Mediterranean Partner Country.
2. Standard projects:this type of the projects, the challenge is raised from local actors of the participting territory organized in cross-border partnerships. The partnerships must contain at least 3 partners including at least 1 European Mediterranean Country and 1 Mediterranean Partner Country .

2.2.3 Future European Funded Programmes

In this section, the incoming programmes that will be launched by the beginning of 2014 are be presented. These programme mainly funded from the european union. They are very big programmes targeting cooperation with all counntries.

- ***ERASMUS For All***

This is the new EU financial instrument that will replace 10 existing programmes:

1. International higher education programmes: Erasmus Mundus,Tempus, Alfa, Edulink, and Bilatera Programmes
2. Youth in Action Programme
3. Lifelong Learning Programme: Grundtvig, Erasmus, Leonardo and Comenius

This programme will be organized on three actions:

1. Learning mobility of individuals: the projects funded under this action will support both credit mobility of the students and degree mobility for the students EU-non EU in both directions. Moreover, a new theme has been created to support EU students with master degree loans.
2. Cooperation for innovation: this action will support projects that raise HEIs capacity to modernise, projects that concentrate on biulding strategic partnerships with business, projects that support ENP universities for capaciy biulding through curriculum developemnt, teaching methods, improve universities governance and integrated mobility for student and staff.
3. Policy support: this action will support projects that promote higher education modernisation agenda and bologna process. In addition, to support projects that tackle the issues of implementation of EU transperancy tools and EU wide network. More importantly, this action will support and promote policy dialogue with third countries (EACEA, 2013) .

- ***HORIZON 2020***

Horizon 2020 is the new financial instrument for the European to fund innovation and research with the aim of securing the european global compitivness. This programme will run from 2014 till 2020 and designed to support the creation of new growth and jobs in europe.

The programme will combine all research and innovation funding provided through the Framework Programme for Research & Technical (FPs), Compititivness & Innovation Framework Programme (CIP) & finally the European Instituite of Innovation and Technology (EIT).

Horizon2020 will address societal challenges by helping to bridge the gap between research and the market. In addition, Horizon2020 will be opened for international

participation with specific actions designed to support prioritized strategic fields with key partner countries. Horizon2020 will containe three majore themes which are

1. Excellent Science: within this theme Horizon 2020 will support researchers and research teams with world-class research infrastructure and give them the opportunity to carry out frontier research of the highest quality.
2. Compititive Industries: within this theme Horizon 2020 will support the development of technology with high emphasize to innovative SMEs
3. Better Society: within this theme Horizon 2020 will address major concerns of the overall world in different scientific fields such as health, climat actions, eneregy etc. (EC, 2013).

It is worth mentioning that international cooperation is one of the most dimenssions of HORIZON 2020 programme differentiated by countries/ regions. For developing countries more emphasis will be given for supporting development policy by building partnerships contributing to sustainable development. In addition, partnerships will directed to address most relevant challenges to the developing country needs and societal challenges such as poverty-related diseases, energy and food security, biodiversity) (Claxton, 2012).

2.2.4 European Funded R&D Cooperation Programmes Categories

Boeren (2012) categorized R&D cooperation programmes either by number of countries involved or the objectives of the funding programme as in the following sections

2.2.4.1 Categorizing According to Number of Countries Involved

The cooperation programmes can be categorized into two types according to the number of countries involved in the project:

1. Multilateral projects: The project consortium must include number of higher education partners from more than two countries from north and south countries.
2. Bilateral projects: The project consortium includes partners from two countries, one or more from north countries and one or more from developing countries.

From the previously listed European funding programmes it’s noted that TEMPUS, FP7, ENPI CBC, HORIZON2020 and ERASMUS for All fund multilateral projects. Whereas NORHED, DIES, NICHE initiative programmes fund bilateral projects.

Bilateral and Multilateral cooperation programmes are governed by strategies commonly agreed on by the donors’ community, such as the Millennium Development

Goals and the Poverty Reduction Strategy Papers. But in bilateral programmes, donor governments have impact on programmes themes, priorities or regions by including specific accents which serve more suitable to its strategies (Boeren, 2012; Directorate-General for Education and Culture , 2003; Finch, 2003)

2.2.4.2 Categorizing According to The Main Objective

The most common objectives of HE cooperation programmes within the framework of development cooperation are :

1. Capacity building (teaching, research and outreach);
2. Organisational and/or institutional development;
3. Research collaboration;
4. Networking between Southern and Northern partners.

These objectives tend to overlap. In many HE cooperation programmes, two or three of the specific objectives are combined. Capacity building may well form part of institutional strengthening, while capacity building and institutional strengthening may have to be in place on the Southern side before research collaboration between partners can begin (Boeren, 2012; Boeren, 2004).

Examples of programmes aimed at the institutional development of Southern institutions (Palestine) and teaching capacity building through HE cooperation are the European programmes (TEMPUS), the German (DIES programme), the Austrian programme (Appear), (TEMPUS, 2012; Exchange and co-operation , 2012). Whereas the European programme :FP7. Norwegian-funded NORHED programme, the Danish-funded ENRECA programme, and the Belgian-funded VLIR Own Initiatives Programme are examples of research collaboration programmes and research capacity building (Hydén, 2010). Moreover, both Tempus, APPEAR programmes are intended to create partnerships with third countries that will last for other programmes.

2.2.5 European R&D Coooperative Programmes Characteristics

European R&D cooperative programmes have many common charactristics as following:

1. Open to the world: all programme projects have maximum and minimum a located budget for all countries: European member states or the donor original country, associated countries and developing countries.
2. Promote international cooperation: specific measures are set for international cooperation

3. Transnational collaboration: the projects include minimum 3 countries for multilateral projects and two countries for bilateral projects.
4. Multiannual programmes; a programme run for a several years then it is replaced by another programme with different/ wider objective and size (Department for Business, Innovation and Skills, 2011).
5. Consortium are selected via call for proposals.
6. Strategic objectives - programme oriented
7. Programmes projects must have grant holder organization and sometimes refere to as Coordinator who is responsible for receiving grant from European and distribute it on the project activities (Wittig, 2011; EACEA, 2012; OEAD, 2011; Gonzales, 2009; Forrester & Sunar, 2011).

2.2.6 Benefits of Cooperative European Funded R&D Projects

The partnerships and networks in the European funded R&D projects benefit both sides of the relation: European institution/s in one side and the developing country institution/s on the other side. The obtained benefits from the cooperation under R&D funded projects for the two sides can be detailed in the following points (Boeren, 2004; Roediger-Schluga & Dachs, 2006).

2.2.6.1 Benefits for the Southern Institutions

1. Academic staff development and capacity building.
2. Knowledge access, academic networks, up dated information and state-of-the-art equipment and facilities;
3. New curricula development and empowerment of existing ones, enhancement of research activities as well as strengthening the institutional performance in general.
4. Salaries for working staff in the projects
5. Home institutions can benefit from indirect costs indicated in the project budget to sustain the participation in funded research activities.

2.2.6.2 Benefits for the Northern Institutions

1. Their students benefits from internships and fieldwork
2. Access to research grounds and data;
3. PhD and Master’s degree studies candidates;
4. Recognition of their role in social activities.
5. Salaries for working staff in the projects
6. Home institutions can benefit from indirect costs indicated in the project budget to sustain the participation in funded research activities.

Despite the high benefits of cooperation between HEIs in the south and the north but cooperation is not an easy task as will be detailed in the following section.

2.2.7 Cooperation Difficulties between HEIs

Constituting the project consortium is not an easy task and requires lot of time and efforts. The project coordinators (grant holder) sit criteria for his project partners search (Okubo & Zitt, 2004). The main affecting factors in partner search criteria are prior collaboration and integration between different parties. This could be the reason for FPs European programmes for R&D consortiums to be sustainable and durable where the participating parties achieved remarkable understanding and bridged the gaps between each other (Nokkala, 2007; Barber et al, 2006; Pohoryles, 2002).

On another hand, cooperation between universities has several difficulties, which make project coordination little bit difficult and discouraging for any university, some of these difficulties and problems are as following:

1. Lack of trust between project different parties
2. Lack of prior communication and different cultural backgrounds.
3. Different ability for learning new skills
4. Project complexity.
5. Required partnership size and geographical position.
6. Available resources and prior experiences in cooperation projects.

(Nokkala, 2007; Powell et al 1996; Roediger-Schluga & Dachs, 2006)

2.2.8 Impact of European R&D Projects on Participated HEIs

HEIs participation in the Funded R&D cooperative projects has several impacts on the participating institutions as following.

1. Changing in universities funding structure due to the increase dependence on external funding (Ylijoki, 2003).
2. Reshaping the universities mission, vision and policies in regards to the scientific research and its expectations to enhance academics participation in funded R & D cooperative projects (Ylijoki, 2003).
3. The institutional autonomy of the HEIs has been altered as the funding programmes are diverse in their requirements and conditions which force the HEIs to adapt accordingly (Benner & Sandstrom, 2000; Frølich, Schmidt, & Rosa, 2010)
4. Elaborating the perspective of universities responsibilities from focusing only in teaching and research quality to the good use of their resources besides teaching and

research quality. "Universities must also be business-like in the way that they use their financial, physical and human resources. This responsibility is increased because they employ considerable public funds" (Expert Group report chaired by Sabine Herlitschka, 2008).

2.2.9 External Funding Activities

External funding activities include grant writing and submission by the project coordinator, proposals evaluations by the donor evaluators, negotiation and selections by the assessors, grant agreement preparation by the donor and project coordinator, project implementation and execution by the project team works (Gonzales, 2009).

2.2.9.1 Grant Writing

McMillin (2004) reported that becoming a complete scholar is traditionally identified as behaviour associated with preparing proposals, participating in research projects, and disseminating research results. Churchman (1981) has described grant-writing process as effective means of enhancing professionalism within academia. He mentioned that the requirements of grant applications development are adherence to strict guidelines. These requirements refine the academics skills to achieve professionalism (Churchman & Hellweg, 1981). Furthermore, Burgoon(1988) indicated in his article that the reasons for seeking fund is far beyond financial gain, he described the process of applying for external fund as "both a means to, and a by-product of, scholarly excellence" (p. 256). He indicated that grant writing has three major benefits for academics as it:

1. Support writers with useful and instructive lessons.
2. Empower theoretical knowledge of researchers in their scientific discipline.
3. Strengthen the students' capabilities by giving them the opportunity to engage in a practical research experience under faculty supervision, which will result in enhancing of undergraduate and postgraduate studies.

On the other hand, grant writing is not an easy task and difficult in several ways:

1. The requirements of grant writing is a very time consuming task, requires high efforts from academics, and the likelihood of success on the first try is not common Ylijoki (2003, 315).
2. Grant writing for R&D projects is much different from academic writing for publications (Porter, 2007; Henson, 2004).This difference makes writing grant proposal for faculty members so difficult and may induce them from applying to R&D grants (Porter, 2007).

Laudel (2006) indicated in his study that preparing grant proposal is one of research activities and requires time and resources. He cited the following affecting factors that affect the academics decision of participation in grant writing activities and the quality of the prepared proposal:

1. The working conditions at the universities and the availability of required resources.
2. The academic staff member experiences and abilities in fund-raising.

2.2.9.2 Proposals Evaluation

Proposals evaluation is the 2nd activity for R&D cooperative prgrammes excution. The evaluation process:

1. is coordinated and managemed by the donor.
2. follows assessment criteria, such that each criterion has a maximum score value. These criterum is prepared and published along with the call for proposals open
3. is performed by independent assessors.
4. has distinguished timetable published at the programme website or in the call documents (Gonzales, 2009).

It is worth mentioning that there is minimum score for proposals to be eligible for funding. Such that, after passing all evaluation steps and achieving the minimum score, the donor agency will have the final funding decision.

2.3 Traditional Academics Roles and Scholarship

The primary roles of higher education institutions cover three major axes: knowledge production, knowledge dissemination, and society engagement (Badat, 2009), Boyers (1990) has defined Scholars as academics who conduct research, publish, and then perhaps convey their knowledge to students or apply what they have learned". This basic traditional definition of scholarship activities is related only to basic research activities which are usually evaluated by publications of academic member (Boyer, 1990; Braxton et al., 2002).

Faculty promotions and tenure policies which depend on the traditional definition of scholarship activities failed to cover all rolls of academics. Therefore the academic member is facing conflicting obligations; he is motivated and stimulated to publish high number of articles without concentration on having fund for university services or applying other types of activities to achieve promotions and tenure requirements (Braxtonet al, 2002, 74; Gonzales, 2009). Boyer (1990) introduce model for scholarship that covers all academic roles from teaching to research activities as well as serving society and helping in finding solutions for its challenges as will be described in the next section.

2.4 Boyer's Domains of Scholarship

Boyers (1990) argued that academic work should be structured around model constituted from four types of scholarship which are: the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching. Braxton et al (2002) prove that the four domains of scholarship: discovery, integration, application and teaching adopted by Boyers (1990) have been institutionalized by all universities under the study.

Scholarship of Discovery

Scholarship of discovery is the most common definition of scholarship work which is known between academics as research; Boyers (1990,17) has defined discovery as producing knowledge for its sake by processing an investigation in any discipline that lead to contribution in that discipline. Barge & Shockly-Zalaback(2008) indicated in their study that academics were concentrated in technical rationality of their discovery not in its contextualized issues. But the increase in funding for basic research has shifted academic concentration of their discovery into more contextualized perspective that serves donor's needs (Slaughter & Rhoades, 1996).

Scholarship of Integration

Boyers (1990, 18) has described scholarship of integration as "making connections across the disciplines, placing the specialties in larger context, illuminating data in a revealing way, often educating non specialists too." Thus integration is very concern with interpreting conducted research not only in performing research(Aboelela, Merril, Carley, & Larson, 2007).Scholarship of integration and scholarship of discovery are related in conducting research but difference in the objective for doing research. Boyers (1990) in his book differentiate between "discovery" and "integration" that the scholarship of discovery answers the question "What is to be known, what is yet to be found?" whereas scholarship of integration answers the question, "What do the findings mean? Is it possible to interpret what's been discovered in ways that provide a larger, more comprehensive understanding?"

Scholarship of Application

According to Boyers (1990), scholarship of application can be described as connection between theories and practices. As scholarship of integration the scholarship of application "is the application of disciplinary knowledge and skill to help address important societal and institutional problems (Braxton, et al. 2002)."Scholarship of application differs from scholarship of integration in that integration requires combining knowledge from different

disciplines to address complex problems whereas application scholars collaborate with industries or funding agencies to combine resources and develop products or solutions.

In funding terms, the scholarship of application is described as, the process of creating research and then transitioning the university research and development to products that benefits human being (Ford et al. 2008, 58).

Commercialization activities is the main source for funding this type of research of application like applying for application research grants, starting up research and development companies and collaborating with industries (Arshadi and George, 2008; Ylijoki, 2003).

Scholarship of Teaching

Boyers (1990) described teaching as process of bridging between teacher's understanding and students learning. The teacher understanding occurs during discovery whereas students learning occur during instructions and the bridge is achieved where the scholarship of teaching occurs. From funding perspective scholarship of teaching is very important form of scholarships and donors have great concerns on it. Grants schemes sponsor performing pedagogical research and developing teacher preparation programs to overcome teaching deficiencies by faculty. Other funding schemes concentrate in developing curriculum and teaching methods to cope with the new technologies and country's needs (Gonzales, 2009). One great example of these European funding schemes is TEMPUS programme which target three major reforming areas: curriculum reform, government reform, and higher education and society. In the curriculum reform the participating institutions can work in new or existent curriculum development and capacity building for teachers according to the target country needs (TEMPUS, 2012).

2.5 Decision Making

Effective and efficient problem solving is a united goal of organizations as well as individuals, the quality of taken decisions is the key for obtaining the best solution of the problem under study.

2.5.1 Decision Making Process

Decision making process formally constituted from six basic steps, these steps would help the decision maker to generate the best and the most logical solution. Steps of the decision making process as Bazerman(1994) involved:

1. Identify and define the problem

2. Identify criteria and objective of the decision
3. Generate and evaluate group of alternative actions to solve the problem
4. Choose the preferred action
5. Implement or apply the chosen action
6. Evaluate the results of the application against setting criteria and follow up if necessary

The first step: Identify and define the problem

To make a decision for problem solving, the problem has to be identified and defined. The recognition of problem existence is not always is obvious, it's tricky and people tend to neglect the indicators of problems if this could make him responsible of the problem. Thus, the recognition of the problem existence is just the beginning of this stage (Greenberg & Baron, 2010). The decision maker has to dig deeper to find the real causes of the problem (Alamry and Alghalby,2007)

The second step: Identify criteria and objective of the decision

It's important to think about the objectives that we are trying to achieve by solving the problem. Thus the problem has to be thinking of in a way that gives description of possible solutions. The concept here is to maximize, satisfy and optimize.

Maximizing here is to identify the criteria of the solution that will achieve the highest benefits or lowest costs. That is to take the best decision. Where to satisfy is the set the criteria of the solution that will appeal to the current problem. This solution is adequate and acceptable but is not efficient. In contrast, if you optimize this means that you are identifying the criteria of the best ever solution that will serve different objectives of the current situation (Bateman & Snell, 2004).

The third step: Generate and evaluate group of alternative actions to solve the problem

During this step of the decision making process a group of alternative solutions to solve the previously identified problem will be generated. Decision-making experts call alternatives "the raw material of decision-making" (Dessler & Gary, 2004).

This step can be divided into two sub-steps as following:

- Alternatives generation
- Alternatives evaluation

Alternatives can be generated by several ways; following outlines of three of these methods:

1. Brainstorming: it's one of the solutions generation techniques that can be done individually or in group. This technique begins with precise definition of your problem for selected group. Then ask for suggestions from the group members without any discussion or criticize for any one of them. All suggestions however wide have to be recorded and considered. The group will review all suggestions after recording and analyze them to decide which one of them appeals to the problem with setting constraints(Saunders, Lewis, & Thornhill, 2003; Cooper, 2003; Dessler & Gary, 2004).
2. Discussion groups: in the technique a group of people who are directly involved in the decision making process held a meeting with the objective of generating alternative solutions to a well-defined problem. During the meeting the following points have to be considered:

- Group members should be comprehensive.
- Focuse on the problem and neglecting personalities
- Considere all genrated solutions and avoide any prejudgement on any one of them (Gruning & Kuhn, 2005; Alateia, 2003)

3. Surveys: it’sa technique where the problem and list of alternative solutions are presented to the respondents who were chosen according to the problem type. Each respondent will choose the most suitable solution that appeal to problem needs with the allocated constraints. Finally the solution which gains the maximum number of respondents will be chosen(Alamry and Alghalby, 2007).

After the generation of alternative solutions, these solutions have to be assessed according to the on going situation and constraints. In addition, the consecquencs for choosing specific alternative should be evaluated in accordance to financial and other performance measures (Adair, 2007). Moreover, the alternatives should be ranked according to their appropriatness to the problem for contengncies purposes (Alamry and Alghalby, 2007).

The Fourth step: Choose the preferred action

The next step after evaluating alternative solutions is to select the most suitable alternative for implementation according to the identified criteria and objectives setten in step 2.

The Fifth step: Implement or apply the chosen action

Once the alternative was chosen, it has to be implemented. Departments or people involved in the implementation process, must understand the reasons for choosing this specific alternative and related constrains. They must be committed to the implantation of this specific option and fulfil to its success. Therefore, its always recommended to involve those people in the decision making process to ensure their commitment and interest (Alamry and Alghalby, 2007).

The Sixth step: Evaluate the results of the application against setting criteria and follow up if necessary

The last step in decision making process is to evaluate the results of the applied action. Which means information has to be gathered to indicate how the applied decision works. The obtained information must be evaluated in accordance to the specified objectives and action plan setten by the managers before applying the decision. This follow up process will indicate the success or the failure of the applied solution (Bateman and Snell, 2004).

The indicators obtained of negative or positive feedback of the implementation process monitoring are very important for the management, if the feedback was positive this implies that the implementation process has to be continued & the solution has to be applied elsewhere in the organization. Whereas negative feedback will mean whether the implementation process still needs more resources or time or, the solution itself was not the most suitable one for the problem and the decision making process cycles back to the first stage (Champoux, 2010).

2.5.2 Traits of Decision Making

Many researchs have been conducted to identify how people natuarley make their decisions in their personnal, academic, profissional and social life; as people in general make their decisions without using sophisticated calculations. They only depend on their experience and affecting factors for each phase of the decision (Klein, 1998).

In their study the researchers Cannon-Bowers, Salas, & Pruitt (1996) classify the decision making traits into three categories as following:

1. Factors associated with the nature of the decission such as time and money pressure, possible consequences of the decision, goals and uncertiney related to the available information.

2. Factors associated with the decision maker himself as emotional factors, motivation, past experience and exhaustive information processing (Chu, 2001).
3. Environmental factors which study the effect of the surrounding invirnment in which the decision has to be made such as work demands, social influence.

2.5.3 Barriers to Decision-making

In spite of the rationality of the decision making cycle; people usually don't invoke this process. People can deal and process limited amount of information just like the computers; they may neglect or forget some very important information related to the problem. Thus the resultant decision will not be accurate 100% and some mistakes may happen. There are many factors that influence the personal decision making such as subjective Psychological biases, time pressure, social realities, Organizational structure, and degree of certainty. Social realities, organizational structure and degree of certaintyrelate to managers decision making which is not one of this study scope. Thus I will concentrate to the decision barriers that affect academic decision of participation in European funded R&D projects which are psychological biases and time pressure.

2.5.3.1 Psychological Biases

The first set of decision making barriers stem from the nature of the human being itself. These barriers are classified into two types: motivational biases and cognitive biases (Nemeth, 2012).

1. Motivational Biases:

   Previous works on dissonance refers to the importance of motivational biases in evaluating, interpreting and selecting of information, even after the decision has been made. The concept of motivational biases is that people tend to have consistency in their different cognitions, and if they are not, the brain will make them consistent. Moreover, researches show that people select or belief the information that matches their initial believes. If the received information wasn't clear, people will interpret it according to their beliefs. Thus, once the decision has been made, the people will be more and more convinced with its rationality and they will resist their opponents (Cooper J. M., 2007).

2. Cognitive Biases

   In this type of biases, there is concentration on the way we are thinking and the ways we are interpreting information. These biases are due to cognitive abilities of each

individual and are rules-of-thumb employed during the decision making process (Fendley, 2009).

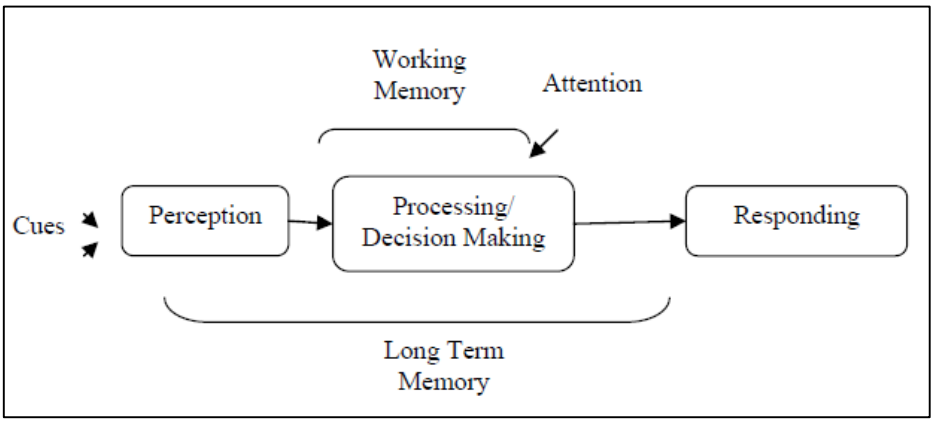


Figure 2.5-1:Information Processing Model.

To interpret the cognitive biases,Huey & Wickens (1993) model for information processing shown in Figure 2.5 1:Information Processing Model. Error! Reference source not found. At human brain will be used. In their model the information processing mainly is processed in three main stages. Which are perception, processing and responding? The information cognition at human brain is iterative function. That is, each decision has been taken will add knowledge for the long term memory that will be used in future decisions.

a. The Availability Bias:

This bias means that managers or individuals tend to take decisions based on available information or recent behaviors. This information may not present the full picture of the situation and, of course, cause the bias. For example, if one manager needs to know the graduates percentage of one faculty, and the required information takes time to be gathered. In this case the manager may depend on his memory to remember the percentage of graduates of some faculty other than the faculty under study. He will use this remembered information to take decision. Thus, the quality of the decision will depend on the accuracy percentage of the used information. In a ward, depending on available information only degrade the taken decisions (El-Shikhdeeb, 2008).

b. Illusion of Control

Decision makers tend to be overly optimistic and overestimating their level of control due to their long experiences. They believe that they can manage and adapt

their decision errors (Korte, 2003). They have the idea that they are immune from failure (Bateman & Snell, 2004).

c. The Representativeness Bias

Decision makers in this case tend to generalize decisions depending on the results of small sample or single event. The bias happens here when specific event happened the people tend to expect that the same event will happen again and again, thus they tend to have similar decisions. But in real life, when single event happens once this does not mean that it is representative and it will happen again (El-Shikhdeeb, 2008).

d. The Framing Bias

This bias happens when people tend to have different decisions for the same problem or case presented in different ways. That is, framing can exert an undue, irrational influence on people's decisions (Korte, 2003).

e. Adjustment and Anchoring

This bias suggests that people tend to make decisions depending on initial value they receive. Thus their decisions will be biased to the adjusted initial value which make either over or under estimation to the real situation (Gintis, 2009).

f. The Escalation of Commitment Bias

Some people hate to admit that they are wrong; these people when take decisions tend to support their previous decisions even the follow up information gave negative indicators of the performance. Moreover, the decision makers may rationalize the negative feedback as temporary condition. They have the ability to justify this negative feedback by all available means and information but to admit that they are wrong (Robbins, 2003). Escalating commitment is reflected in the popular adage, “If at first you don’t succeed, try, and try, again.”(Schermerhorn et al, 2002).

Depending on the decision making approach the decision makers adopt, they may be subject for all of these biases or some of them. Recent research on individual decision making show that decision makers tend to:

- Simplify the problems into simple construct
- Process the information according to their beliefs and preferences.

They generally interpret information and create decisions according to their past experiences. Their decisions most of the time support and preserve their initial beliefs and background (Korte, 2003).

2.5.3.2 Time Pressure

To make decision about any problem, time is required to collect, process, and analyse related information. In most of the situation, available time is one of the key players in decision making process. Thus, people are asked to take the good decisions within the available time. This short period of time to take decisions may defect the taken decisions. This is the case for academics when thy have to decide whether to participate in the European funded R&D projects or not according to available time till the call for proposals closed (Adair, 2007).

2.6 IUG & Funded R&D Cooperative Projects

2.6.1 Brief introduction about IUG

Islamic University of Gaza, IUG, is an academic institution that seeks improving its academic rank and the level of services. Through the use of comprehensive and strategic planning, IUG tries to keep pace with the developments that are applied in the field of higher education. IUG takes into consideration the Islamic morals and values and makes use of modern technology to serve the educational process.

IUG is a member of several international associations including Arab University Union, Islamic Universities League, Mediterranean Universities League and the International Union of Universities and has cooperation agreements with Arab and international universities.

Since its establishment in 1978, the number of IUG students increased gradually and due to its distinguished academic level, the number of admitted students in 2012 is 20,000 and the number of its faculties is 10 and they are: Medicine, Engineering, Nursing, Science, Commerce, Arts, Education, Usual E-Din (Religion Origins), Sharia and Law and Information Technology. These faculties include more than 45 departments to meet the varied needs of students. IUG cooperates with many universities and establishments in order to support its academic programs and developing them.

In addition to academic programs and scientific research, the university provides professional training and consultation services to the Palestinian community in the areas of information technology, environment, economy, industry, education and trade through the

Deanship of Community Service and Continuous Education, as well as other centres and various university units (Introducing IUG, 2012).

2.6.2 IUG Strategic plan 2011-2014

The strategic goals of IUG according to its strategic plan for the period 2011-2014 are (IUG, 2011):

1. Enhancing IUG academic programmes to cope with quality standards.
2. Upgrading, supporting and investing in scientific research to achieve the sustainable development.
3. Promoting IUG role in community development and services.
4. Reinforcing IUG technical and administrative performance.
5. Upgrading the university environment and the provided services for students and employees.
6. Strengthening university partnerships and cooperation with national, regional and international organizations.

2.6.3 IUG R&D Management Departments

This section outlines the important services provided by the two bodies that manage IUG participation in R & D international collaborative projects: External Relations & Scientific Research Affairs.

2.6.3.1 IUG External Relations

IUG External Relations was established in 2007 to promote excellent regional and international relations in a rapidly changing world by enhancing academic and research partnerships with different institutions.

Objectives:

1. Broadening and developing IUG relations with national, regional and international institutions
2. Promoting IUG participation in the International funded cooperative academic projects
3. Enhancing IUG graduates and academic staff skills and abilities

IUG External Relations offers variety of services that can be categorised under three main groups:

1. **Post graduates Scholarships services:**
    - Announcements and scholarships news
    - Nominations and candidates selections
    - Follow up with scholars
    - Scholarships candidates preparation programmes
    - Students and scholars services
2. **International R &D cooperative projects services:**
    - Announcements of international R &D projects open calls.
    - Organizing Workshops targeting concerned faculties of the open calls.
    - Supporting interested faculties' members with required resources (i.e.).
    - Technical and administrative support for those involved in open calls applications writing finding national and international higher education institution partners, budget preparation & singing official documents
    - Maintain a database for all proposals and awards for the IUG
3. **International memberships and agreements:**
    - Managing and following up activation of IUG memberships and agreements
    - Updating the list of IUG memberships and agreements.
    - Announcements of important news of IUG over international memberships. (External Relations, 2012) & (External Relations, External Relations Annual plan, 2012).

2.6.3.2 Scientific Research Affairs

IUG Scientific Research Affairs was established in 1981 to promote and enhance research capacity at IUG in various scientific research fields (Scientific Research Affairs, 2012).

Objectives:

1. Supporting the scientific research and supervising on publishing to faculty members from inside and outside the university.
2. Providing financial support for scientific research from inside and outside homeland.
3. Enlightening the Palestinian society with various issues through holding conferences, seminars, study days and lectures.
4. Directing Scientific Research to serve community to take the results of scientific research from the decision makers.
5. To integrate modern science and technology in Palestinian culture.

Services:

Grants and Prizes

1. IUG research grant.
2. IUG prize for scietific research.
3. IUG prize for students' scientific research.
4. IUG research groups grant

Administrative Services

1. Support academic staff to attend scientific conference.
2. Promotion decisions.
3. Sabbatical leave arrangements for academic staff.

Publication Services

1. IUG academic / scietific journal.

Below each one of these services is explained

1. **IUG research grant.**

The grant aims at promoting scientific research distinguish and enhancement at IUG through individual work or team work. The grant competition is an internal competition, announced annually to fund scientific research projects in one of the scientific fields identified as priority for the Palestinian community and the world.

The grant budget can cover:

- Consumables
- Questionnaires design, collection and analysis
- Researchers assistants
- Books, softewere, researches and manuscripts
- Stationary and administrative costs (maximum 20% of the project proposed budget)
- Research publication

2. **IUG prize for scietific research.**

This prize is one of IUG Scientific Research Affairs provided services. It is an annual prize competition, delivered to best conducted researches at IUG by IUG academics under three categories:

- Islamic studies
- Humanities
- Natural sciences, engineering and health

Such that, there is one winner for each category and the prize value $ 1500 in addition to delivering him honor certificate.

3. **IUG prize for students' scientific research.**

This is an annual prize initiated to support and encourage IUG students to conduct distinguished researches that can contribute to the community prosperity. The prize is delivered to the students as following:

- Two prizes for each department at IUG for the bachelor researches level. Such that the 1st winner research get $ 300 and the 2nd winner research get $ 200.
- One prize for each department at IUG for Master thesis level equals $ 500.

4. **IUG research groups grant**

One of the recent and important initiatives for scientific research affairs is the creation of new grant for scientific research groups. The grant aims at promoting scientific research distinguish and enhancement at IUG with concentration on establishing the working group culture between researchers.

The grant competition is an internal competition, announced annually with maximum budget for each acknowledge project for funding equals $ 6000.

The project idea must serve the society by finding solution for prioritized critical Palestinian problem (Scientific Research Affairs, 2012).

This initiative is financed by IUG main resources. It is not aligned with the other funded R&D cooperative programmes funding opportunities.

Promotion Decisions

The scientific research affairs is the responsible body at IUG to make the promotion decisions for IUG academics. Every interested academic member fills in an application form to be submitted to the scientific research affairs. The promotion criteria concentrate on the following scientific production (IUG Research Affairs, 2012):

- Published original researches on peer-reviewed academic journals or periodicals
- Published original researches on conference proceedings

- Published original researches on recognized books
- Refereed scientific books
- Refereed translated books
- Monographs
- Patents

Conference attendance support

One of IUG services provided for academics is to support interested ones to attend one conference per year. The financial support is conditioned by submitting the conference invitation letter and the conference research abstract. After nominating the interested academic member from his department and deanery and submitting mentioned documents, he will get the financial support.

2.6.4 History of IUG Policies and Activities Regarding Funded R&D Cooperative Projects

In 2004 IUG presidency found that there is a need for a centralized unit to manage the funded projects (European R&D or any externally funded projects) at IUG. Thus, the university created a separate committee for managing these projects to maximize the benefits obtained and regulate the financial issues related to these projects. The committee prepared financial regime to govern the externally funded project. This committee stopped working since 2006 till 2012 where IUG presidency has decided to reactivate the Externally-Funded projects Committee work (IUG presidency, 2012).

The committee contains eight members from administrative affairs, academic affairs, scientific research affairs, external relations, deanery of planning and development, deanery of community services and continuous education, resource development centre, and finally the concerned faculty dean. The mission of this committee is to:

- Study the proposed projects from different faculties and unit at IUG.
- Update the financial regime prepared by the committee in 2005 so that different. departments and units must follow when preparing project proposals for funding.
- link the project presenters and the university presidency.

2.6.5 IUG European Funding Profile

During the period prior 2007 there was no available statistics regarding the number of proposals activities carried out by selected faculties academics or even total number of IUG academics activities in this regard. All available statistics are within the time period 2008-

2012 since the establishment of External Relations Affairs at IUG where it begins to trace European funded R&D projects activities carried by IUG academics (External Relations Affairs,2008- 2012). But the researcher found that the first participation of IUG in the European funded R&D projects was in 2000 the year at which IUG had been awarded the project" Policy Guidelines for Wastewater Management in the Gaza Strip" (Schiessler, Eldridge, & Röben, 2007).

As indicated in

Figure 2.6-1: proposals activities in the period of 2008-2012 of selected **faculties**; the overall participation of the faculties during the period of the (2008-2012) is very week. Al-Masri (2011) indicated that the academics in most of the projects are not involved in proposals development they were invited by the project leaders to participate as a partner. It's noted that Faculty of Engineering has the highest rate of participation which could be due to their wide relations with other universities in Europe because most of them graduated from Europe and USA (External Relations Affairs,2008- 2012).

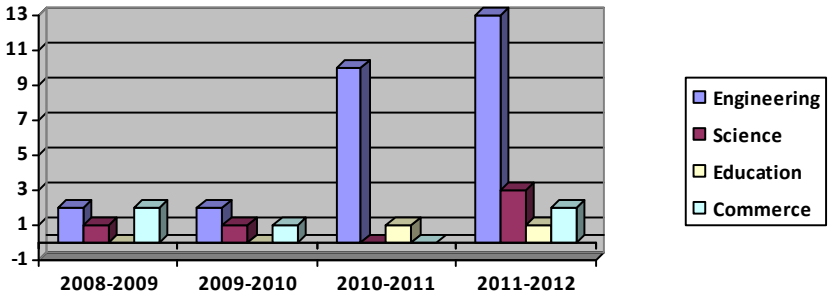


Figure 2.6-1: proposals activities in the period of 2008-2012 of selected faculties

IUG academics have been awarded 8 European funded R&D cooperative projects during the period from 2000 to 2012. The participant academics were from two faculties: Engineering and science as shown in Table 2.6-1: IUG European Funded awarded projects, The eight projects have been coordinated by three academics who have the motive and the relations with European universities.

Table 2.6-1: IUG European Funded awarded projects

	Project title	Period	Programme	Concerned faculty
1.	Joint MSc in Software Engineering (JMScSE)	2012-2014	TEMPUS	Engineering
2.	Strengthening University-Enterprise linkages in Palestine (STEP)	2012-2014	TEMPUS	Science
3.	LifeLong Learning in Palestine Project (LLLP)	2011-2013	TEMPUS	Engineering
4.	Climate Induced Changes on the Hydrology of Mediterranean Basins (CLIMB) (CLIMB project, 2010).	2009-2013	FP7	Science
5.	Mediterranean Virtual University (MVU)	2004 -2006	EUMEDIS	Engineering
6.	Sustainable water management in Mediterranean coastal aquifers: recharge assessment and modelling issues (SWIMED) (SWIMED, 2005; SWIMED, 2008).	2003 – 2006	FP5	Science
7.	Open Distance Inter-University Synergies between Europe, Africa and Middle East (ODISEAME) (RESTALL, 2008; The Observatory on Borderless Higher Education, 2005; EUMEDIS - information and communication technologies, 2009)	2002-2005	EUMEDIS	Engineering
8.	Policy Guidelines for Wastewater Management in the Gaza Strip (Environment - LIFE: Funding: LIFE III:Components: Third-countries, 2012)	2000-2002	LIFE-TCY	Science

2.7 Conclusion

The literature review indicated that the funding programmes can be classified in two different ways 1- according to the number of countries involved in the project consortium

and 2- according to the main objective. It was clarified that participation in bilateral projects is much easier, as the applicants will constitute project consortium from two countries, whereas participation in multilateral projects requires creation of consortium from more than two countries and coordination with the partners which numbers sometimes approach 20.

The literature listed several benefits of participation in the R&D funded projects at the institutional dimension and individual level. Achieving these benefits depends on many different determinants and one of the most important ones is the selection of suitable consortium members. Such that there will be synergies between partners and dedication to achieve the project goal. Otherwise, the applicant will work on behalf of the partners which causes high pressure on the project applicant and badly affect the project outcomes.

Moreover, the literature of the European R&D programmes indicated that 2013 is a critical year as most of EU programmes will be replaced by other programmes – ERASMUS for All, HORIZON 2020, that will last for the next seven years. Thus, it will be the chance for the HEIs in developing countries to prepare for these programmes.

On the other hand, it was shown that participation in funded R&D projects activities is not an easy task for academics and in one hand requires high efforts from academics and in the second hand requires support from the home institutions. This is derived from the fact that participation in these projects is an individual decision which is influenced by three main factors: factors associated by the nature of the decision, the decision maker himself and the environmental factors; thus when we study the barriers that influence IUG academics decision of participation in European funded R&D cooperative projects, the three factors have to be considered.

Al though, it was seen that IUG has a limited participation in the European R&D cooperative projects, the literature indicated that IUG strategies support the participation in European funded R&D cooperative projects and they are tied to the participation in these projects. In addition, there is separate unit to supports academics to participate in these projects which is the External Relations Affairs. Moreover, the scientific research affairs at IUG different services to support scientific research participation of IUG academics such as competitive grants and prizes. It is worth mentioning that IUG initiatives to support scientific research excellence are not tied to the academic participation in the funded projects and constitute a burden on its budget. This contradict with the fact that participation in the funded projects can support the institutions budgets.

Chapter Three: Previous Studies

CHAPTER OUTLINE

3.1 Introduction

3.2 Affecting Barriers and Motivators on Academics Participation in R&D projects.

3.3 Framework to Enhance academics Participation in R&D Cooperative projects.

3.4 Commentary on the Previous Studies.

3.5 Conclusion

3.1 Introduction

The following sections will demonstrate the previous studies conducted in the field of academics participation in R & D cooperative projects. The studies were categorized according to the current study conceptual framework affecting barriers on academic decision of participation in the R&D cooperative projects and proposed framework to overcome these barriers of academic. Then, commentary on the previous studies is detailed.

3.2 Affecting Barriers and Motivators on Academics Participation in R&D projects

1) <u>Walden & Bryan (2010)</u>

"Tenured and Non-Tenured College of Education Faculty Motivators and Barriers in Grant Writing: A Public University in the south"

The purpose of this study was to identify the faculty members of education perception of motivations to write a grant proposal. Then comparing their opinions with others academics at Research I institutions and then identifying the differences between tenured and non-tenured faculty member's opinions.

The study was carried out on 131 faculty member and the data collecting method was online survey. Only 30 academic members filled in the survey. The results of the study identified the following motivators as perceived by faculty members:

1. Personnel support such as graduate assistants and clerical help when preparing proposals & when proposals are funded;
2. More flexibility in how time is allocated;
3. Opportunity to probe or research new information;
4. Having travel money available to attend conferences;
5. Assistance in grant proposal preparation;
6. Building professional reputation as a capable researcher.

Both tenured and non-tenured faculty members identify the lack of significant support in preparing the grant proposal as a major barrier. In addition, they perceived the university culture not encouraging for proposal writing. In contrast, the study showed difference between tenured and non-tenured faculty members in perceiving the heavy teaching load as a barrier.

2) Porter (2007)

"Why Academics Have Hard Time Writing Good Grant Proposals"

In this paper the writer identifies the problems that face academics who have several publications in writing wining proposals for grant funding. These problems result in the fail of having the proposal funded. The writer argues that there are contrast perspectives between academic writing and grant writing they differ in concentration, orientation, language and finally the tone.

As a result, the paper presents the following strategies to bridge the gap between academics perspectives of writing and grant writing:

1. Attending workshops for grant writing techniques.
2. Reading wining grant proposals
3. Give your proposal to a seasoned grant writer to review it and polish its perspectives.
4. Constructing a team from senior investigators with key expertise in the proposed field. The mission of this team is to review the proposal before deadline is due.

Moreover, the grant office at any institute must provide the academic with writing tips to show them the bad written work in contrast to the well written ones.

3) Al-Furaih & Al-Shayji (2005)

"Obstacles Encountered by Faculty Members at Non-Science Colleges at Kuwait University in Sponsored Projects of Scientific Research"

The study aims at identifying the most important obstacles facing sponsored research at Kuwait University. A questionnaire consisting of 29 items was designed to solicit the opinions of members of staff at the non-science colleges with regard to three types of problems, namely administrative, technical and personal. These colleges included are Education, Social Sciences, Administrative sciences, law, Sharia and Islamic Studies, and Arts.-

Results of the study indicated that the major obstacles were related to the grant application and submission process which consumes time and reduce their incentives to apply for funding. The second type of obstacles was technical, lack of qualified research assistants. The final type of obstacles refers to the heavy teaching load and lots of administrative duties.

4) Onyefulu and Ogunrinade (2005)

"Kick-starting Research in Newly Emergent Universities: Why Faculty Do Not Apply for Research Development 'Seed' Funding at the University of Technology, Jamaica"

This study investigate the reasons that hinder academic staff at University of Technology, (UTech) Jamaica from applying for the university initiative of offering seed money for performing research activities. The sample the study consisted of 223 full-time academic staff at the five faculties at UTech. Both questionnaire and interviews were used as research tools.

The results of the study reveal that many reasons given for not applying for the fund including no available time to write the research proposal or conduct the study (46.9%), difficulties of having the fund from the university (22.8%), the lack of information in the proposal form and the boring application process (19.6%) and 7.5% of the respondents fear of being rejected.

5) Bartlett (2005)

"Analysis of Grant Activity of Computer and Information Science Faculty: Exploring Productivity"

This study aims at investigating the grant productivity of computer and information sciences faculty using the National Study of Postsecondary Faculty 1999 (NSOPF-99) data. The study sample consisted from 176 faculty members from 960 institutions.

The study found that only 26% of the participating academics had funded research. Experienced professors are more likely to have research grants than junior ones. In addition, identifying grant seeking as primary function for the faculty increases the opportunity of the researchers to participate in grant seeking activities. Findings from this study will help in developing a model explaining grant seeking productivity.

6) Boyer (2005).

"How Do Junior Faculty Compete for Research Dollars? Implications for Women"

This research is sought to determine factors that motivate and/or imped female junior faculty at a Midwestern Research I university in their grant activities compared with their male counterparts. The survey was sent to 205 junior members of the faculty from all disciplines excluding faculty of education as too many studies have been done on this faculty.

The results show that heavy teaching loads and lack of knowledge of funding sources as major hindering factors for both women and men. Whereas the most barriers with significant gender difference were inadequate technical support to submit grants on time, many tasks for student advising and committee assignment. In regards to the motivations, both male and female rank consideration of securing fund in tenure and promotions decisions and building a scientific reputation as the highest motivation factors.

7) Bonaccorsi & Daraio (2003)

"Age effects in scientific productivity: The case of the Italian National Research Council (CNR)"

This study analyse the effect of age structure of researchers on their scientific productivity at the Italian National Research Council.

The study dataset was constructed from integration of CNR three reports concerning research activities during the year 1997.

These reports contain all information about researchers and institutes who are engaged in the CNR till 2003. The study shows that the scientific productivity declines by the age of the researcher of the institute. This result indicates that creating a research climate within the institute will become more difficult as time goes on; thus the institute will not be able to attract and recruit younger and talented researchers.

8) Kleinfelder, Price and Dake (2003)

"Grant Writing: Practice and Preparation of University Health Educators"

The study surveyed health education faculties in USA to identify their perception of incentives and barriers to grant writing. A random sample of 500 faculties was selected from 970 health faculty education members.

The study shows that majority of health education faculties participated in grant writing activities. They reported the high importance of getting grants for promotion and tenure. In contrast, the respondents cited heavy teaching load, administrative and committees' assignment as major barriers for engagement in grant writing activities. Moreover, 28% claimed that they are not adequately prepared to participate in grant writing activities. The surveyed faculties suggested increase time release for grant writing activities and technical support as two steps the university can perform to increase proportion of its faculty participation in grant writing activities.

9) Sharobean & Howard, (2002)

"Teaching Demands versus Research Productivity"

This study aims at investigating whether faculty members in predominantly under-graduate institutions (PUI) have time, resources and support to conduct productive research or not. This study took mathematics and natural sciences faculties as a sample from different 127 universities.

The study indicated that academics at PUI are fully loaded in spite of having a teaching assistant. They found that teaching assistant role lies only on helping labs work not in lectures. Moreover the study indicated that the personal motive is the only factor that encourages academics to benefit from weekends and summer to conduct their research.

In regards to institutional support, the study found that academics encountered little administrative support for travel and logistics, lack of external funding and finally lack of research facilities.

10) Taylor (2001)

"The Impact of Performance Indicators on the Work of University Academics: Evidence from Australian Universities"

This study investigates the effect of the application of performance indicators on the teaching and research activities of academics on Australian universities.

A survey was conducted over a study population consisted from 152 university academics from four representative Australian universities. The population members were drawn from different disciplines including arts, humanities, science and professional studies.

The study reveals that pressure is increasing to more focus on the activities measured by the teaching and research performance indicators. This indeed forces academics to change their approaches in teaching and research. In research, the trend is to seek external research grants and maximize the number of publications from it. With high emphasis on the number of publications, many academics reported that they are using the strategy of writing shorter. In addition, the results indicates that as the performance indicators gives high score for research Quantum (external research income, publications count, and higher degree research completions) the academics are giving the research quantum a priority over teaching activities.

11) Boyer & Cockriel (2001).

"Grant performance of junior faculty across disciplines: Motivators and barriers."

This study evaluates the factors that hinder and encourage engagement of junior faculty in grant writing activities. The study sample constituted from 205 junior faculties from all disciplines except faculty of education.

The results indicate that heavy teaching load, administrative tasks and lack of technical support by the university are major barriers. In addition, lack of experience and training in grant writing and proposals development hinders them from active participation in these activities. Whereas the respondents identify both tenure decisions and having new knowledge motivates them to participate in grant writing activities.

12) Sterner (1999)

"Faculty Attitudes toward Involvement in Grant-Related Activities at a Predominantly Undergraduate Institution (PUI)"

This study identifies the issues that influence faculty involvement in sponsored projects at Bradley University (BU), a predominantly undergraduate institution in Peoria, Illinois. Faculty attitudes toward grant-related activities as well as incentives and barriers to faculty participation in such activities are described. The study population consisted from 250 tenured/tenure-track faculty at Bradley University. The survey instrument, a researcher-developed questionnaire was administered to all study population, and follow-up with interviews with selected faculty from each of the institution's five colleges. Only 181 fill in the questionnaire.

The study reveals that there is a paradox between what university administration says about research/teaching balance and what in real the university law dictates in regards to tenure and promotions. The university is giving high focus in research production of its faculty members without decreasing teaching loads. In addition, the results show that university support in terms of release time and release from committee assignments are two important incentives for faculty members to engage in sponsored project activities and grant writing. Whereas, the results reveal that too heavy teaching and advising loads and too many committee or administrative load are significant barriers for the academics to be involved in sponsored projects preparing or activities.

13) Geuna, (1998)

"Determinants of University Participation in European Funded R &D Cooperative Projects"

This study aims at investigating the determinants that affect universities participations in collaborative R&D projects funded by EU.

The study population was the universities located in European countries in 1992. The study indicated that the probability for a university to participate in the cooperative R&D projects funded by European is directly affected by the research productivity of the institutions. Whereas the number of times a university apply for these projects is affected by research productivity, university size, scientific field and finally differences among different countries.

14) Boyer & Cockriel (1998).

"Factors Influencing Grant Writing: Perceptions of Tenured and Non-tenured Faculty"

This study investigates the factors that stimulate and hinder academics in applying for grants from the perception of tenured and non-tenured ones. More specifically by identifying factors affecting successful grant writing and clarifying factors hindering academics from grant writing. The study population consisted from 246 academics from college of education faculty at Association of American Universities (AAU) institutions in the United States; 191 were tenured academics while 55 were non-tenured ones.

The results of this study shoes that grant writing is more important for non-tenured than for tenured academics. The non-tenured academics gave consideration of wining grants in tenure and promotions decisions, building academic reputation and strong commitment from the college senior a significant important as motivators. In contrast they gave lack of training in grant writing, lack of training in budget development and lack of knowledge of funding sources as most effective obstacles for developing a grant proposal.

15) Monahan & Fortune (1995).

"**Using Institutional Variables to Predict Success in the Acquisition of Sponsored Projects"**

The aim of this study is to conduct a nationally representative survey of colleges and universities to:

1. Determine the nature and frequency of the institutional financial and administrative support provided to faculty members to activate their participation in funded projects.
2. Identify the extent to which selected institutional policies and practices are encouraging faculty members to participate in sponsored projects activities;
3. Determine the extent to which selected training and other services in the development of sponsored projects are provided by colleges and universities;
4. Determine whether institutionally financial, administrative and policies has direct relation on the percentage of successfully funded proposals and the value of these proposals in terms of dollars.

The Study population included 466 colleges and universities from all 50 states and the District of Columbia.

The study found that all institutions involved in the study provided support to academic staff to participate in the sponsored projects activities. This support is provided in different types like training, policies and practices rather than financial and institutional resources (i.e. release time) support. Moreover there was small but significant relation between the institutional support with its resources (release time or decreasing load etc.) and the acquisition of percentage of successfully funded proposals and the value of these proposals in terms of dollars.

16) <u>Stahler & Tash (1992)</u>

"Success in External Funding at the Fastest Growing Research Universities: Contributory Factors and Impediments"

The study aims at identifying the factors that helps and hinders the increasing of the external funding for R &D projects at the fastest growing research universities.

The exploratory study was carried on 30 universities using survey questionnaire send to the research chief at each university. The response rate achieved was 60%.

According to the results, setting research as high priority by university decision makers was given the heist priority as a factor that encourage participation in R & D projects. Moreover, time release for grant related activities and consideration of grant activities in promotions/ tenure decision were the policies that encourage the academic staff in pursuing research grants.

17) Monahan (1992)

"Obstacles and motivators for faculty involvement in grant seeking and grant writing activities in New Jersey's state college system"

This study investigates the barriers and motivators that control the faculty participation in grant seeking activities in the eight campuses of New Jersey State College. The study sample constituted from 260 faculties working at the eight campuses of the College from these 136 responded.

The study shows that only 20% of the respondents have engaged in sponsored projects writing activities. They recognize release time (time consumed in teaching and administrative loads) as high motivator to give them time to participate in sponsored projects preparation activities.

In addition, those who participated in sponsored projects activities gave the recognition of their work in the college publications and extra technical assistance as motivators for continue participation in these projects. For those who didn't participated in grant seeking activities they reported that the heavy teaching load, committees work and other scholarly activities are a major barriers that hinder their participation in sponsored projects seeking activities. jounior faculties reported that they get less technical assistant than seniors gaine.

18) Gallaher & Daniel(1989)

"Barriers to Faculty Involvement in Grant-Related Activities"

The study aims at identifying the factors that hamper college of education faculty members' at large public university from applying for R & D projects funding. The researchers used two tools of research: Initial questionnaire that investigates the extent to which the academic members involved in grant related activities was completed by 54 faculty members, and then they apply structured interview with 15 faculty members.

The study reveals that academics gave high priority of participation in R & D grant activities. In addition they identify: lack of time, lack of information about funding sources, past experience in writing un-succeed grant proposals, and lack of a clearly defined system of rewards for those who obtain external funding as major barriers that hinder them from involvements in grants activities.

3.3 Framework to Enhance Academics Participation in R&D Cooperative Projects

1) <u>Hartmann (2011)</u>

"Case Study: Applying the Theory of Planned Behaviour as Interventions to Increase Sponsored Project Proposal Submissions from Liberal Arts Faculty"

This case study has the goal of identifying the extent to which applying the theory of Planned Behaviour affects academic staff at The University of Alaska Fairbanks (UAF) to increase their participation in sponsored R &D projects.

In this case study the office of research administration concentrate on three main axes:

1. Changing attitudes toward the behaviour of participation in sponsored R & D projects by using public and private rewards.
2. Changing the perception of subjective norm toward more emphasis on the value of participation in the sponsored R & D projects.
3. Changing the research perception of his ability and capability for participation in sponsored R & D projects.

The result of these applying these axes over 10 years (200-2010) is an increase in the average number of submitted proposals per year. Thus, this case study shed light on the importance of understanding the intentional behaviour of academic staff for research fund raising and achieving scientific research mission.

2) <u>Gonzales (2009).</u>

"External Funding and Tenure at Texas State University-San Marcos"

This study investigates to what extent do the departments' tenure and promotion policies encourage new academics to participate in grant related activities at Texas State University-San Marcos. The researcher use content analysis tool to analyse seven colleges and forty one departments' policies.

The study analysis indicated that the applied policies encourage academics to be engaged in grant related activities. Both teaching and getting grants for R & D projects were the most effective factors in tenure and promotion policies whereas proposal submission were not given high priority in the tenure and promotion policies.

3) Balaji, Knisely & Blazyk (2007)

"Internal Grant Competitions: A New Opportunity for Research Officers to Build Institutional Funding Portfolios"

This case study describes the Ohio University College of Osteopathic Medicine procedures to activate and encourage researchers to prepare proposals for the National Institutes of Health (NIH) grant. During 2005 The College used novel approach by launching an internal competitive grant system that simulates the requirements of NIH grant. Researchers competed for $ 20,000 awards by submitting NIH proposal for internal selection panel before officially launching the NIH call for proposals.

The applied internal grant programme resulted in 50% increase in the quantity and quality of the submitted proposals for NIH grant. In addition, this initiative has enhanced the researchers' capacity for competing in external grants.

4) Cole (2006)

"Researcher Behaviour that Leads to Success in Obtaining Grant Funding: A Model for Success"

This study examines the model that enhances percentage of funded proposals prepared by university academics and factors that motivates academics to write grant proposals.

Population was 286 full-time faculty located at comprehensive and master's degree universities in Texas and California. The participant's disciplines were Biological sciences, mathematics, physical science, and computer science. The study intend to answer the following questions: (a) What are the behaviors that contribute to success in competing for federal funding? (b) Can the conceptual model be used across disciplines? (c) What factors encourage faculty to pursue federal funding?

The results indicate that the significant variables that influence the success in getting grant proposals and its dollar's value are as following:

For dollar value of awards:

1. Training courses and workshops conducted to train academics in proposals writing and fundraising skills
2. Association meetings held to prepare for the proposals
3. Number of submitted proposals
4. Team size that works on preparing the proposal

For number of awards, the

1. Consortium members skills and competencies
2. Number of submitted proposals
3. The number of officer positions held by the Principal investigator in professional organizations
4. Reduced teaching load.

5) Porter (2004)

"Off the Launching Pad: Stimulating Proposal Development by Junior Faculty"

This study aims to shed the light on Virginia Tech University approaches led by the grants office to stimulate junior academics to participate in grants programmes. The study identifies grants office methodology to clarify the terms of sponsored research and finally to build the collegiality between junior academics and their experienced colleagues.

The results show that the grant office approach mainly concentrates on the junior faculty needs of:

1. Advancement and promotion.
2. Training.
3. Collegiality with experienced academics.

Grants office organizes a series of sequential workshops targeted to younger faculty, taking care of two important issues in organizing these workshops:

1. Workshops timing: shoes the time where the faculty members or free and concentrated not a t the beginning of the semester or in final exams period
2. Soliciting experienced faculties: to present them as a positive model and to demystify the entire process of sponsored projects proposals preparing and activities

3.4 Commentary on the Previous Studies

During this section, the researcher will comment on the previous studies by extracting cited motivations and barriers for participation R&D cooperative projects activities. Moreover the similarities and differences between the current study and previous studies will be highlighted.

3.4.1 Cited motivators and barriers for academics engagements in R&D cooperative projects:

According to the previous studies the following barriers and motivators are identified:

Barriers:

1. Lack of time due to Heavy teaching load and committee tasks (Boyer P., 2005; Gallaher & Daniel, 1989; Boyer & Cockriel, 2001; Kleinfelder, Price, && Dake, 2003; Monahan, 1992; Al-Furaih & Al-Shayji, 2005; Sharobeam & Howard, 2002; Sterner, 1999; Walden & Bryan, 2010; Onyefulu & Ogunrinade, 2005)
2. lack of knowledge of funding sources (Boyer P., 2005; Gallaher & Daniel, 1989; Boyer & Cockriel, 1998; Sharobeam & Howard, 2002).
3. Past experience in writing un-succeed grant proposals(Gallaher & Daniel, 1989; Ogunrinade, 2005).
4. lack of a clearly defined system of rewards for those who obtain external funding (Gallaher & Daniel, 1989).
5. Lack of experience and training in grant writing. (Boyer & Cockriel, 2001; Kleinfelder, Price, && Dake, 2003; Boyer & Cockriel, 1998; Balaji, Knisely, & Blazyk, 2007).
6. Lack of technical and administrative support from the university. (Boyer & Cockriel, 2001; Monahan, 1992; Al-Furaih & Al-Shayji, 2005; Boyer & Cockriel, 1998; Sharobeam & Howard, 2002).
7. Grants applications requirements and characteristics. (Monahan, 1992; Al-Furaih & Al-Shayji, 2005; Ogunrinade, 2005).

Motivators

1. Linking external funding activities to tenure/ promotions decisions. (Gonzales, 2009; Boyer & Cockriel, 2001; Kleinfelder, Price, && Dake, 2003; Boyer & Cockriel, 1998; Taylor, 2001; Porter, 2004; Walden & Bryan, 2010; Stahler & Tash, 1992).
2. Recognition of grants work in the college publications and building academic reputation. (Monahan, 1992; Boyer & Cockriel, 1998; Sharobeam & Howard, 2002; Monahan & Fortune, 1995; Porter, 2004; Walden & Bryan, 2010; Hartmann, 2011).
3. Time release for grant activities. (Monahan, 1992; Sterner, 1999; Monahan & Fortune, 1995; Porter, 2004; Walden & Bryan, 2010; Stahler & Tash, 1992).
4. Implementing internal grant programme in line with external fund programmes objectives and themes and their applications requirements. (Balaji, Knisely, & Blazyk, 2007).

3.4.2 Similarities and differences between the current research with previous studies

Current research has many similarities with previous studies regarding to the adopted barriers for engagement in grant writing activities; however this study has many differences with previous studies as following:

1. The conceptual frame work of the study has been resulted from integration between different barriers sited in the previous studies and that resulted from the interviews.
2. Two new barriers which are; 1- the evaluation and funding decisions & 2- the nature of these programmes – its objectives, thematic fields have been added to the influencing barriers on the academic decision of participation in European R&D cooperative projects.
3. Most of the previous studies targeted one –two faculties, but this study targeted all faculties concerned with European fund programmes- 8 IUG faculties-
4. This study is the first to categorize the barriers into three types: Organizational context, Academic personality & Occupational characteristics and R&D cooperative projects context; thus adopting richer framework for barriers that influence academics decision of participation in R&D projects.
5. The focus of this study has been on European funded projects not on general funding programmes as other studies.

It's worth mentioning that the barriers that influence academics decision of participation in R&D projects were selected according to inclusion criteria (human relations perspective) supported by previous studies, rather than selecting it subjectively, or relying on previous studies only. The practical nature of these barriers will be helpful for higher education management practitioners.

3.5 Conclusion

In this chapter previous studies on the academic participation in funded cooperation R&D projects have been presented.

The previous studies cited many different barriers, these barriers can be categorised into three types: barriers associated with the organizational context of the home university (provided support, policies and regulations, etc..), barriers associated with the personal and occupational characteristics of the academic member (age, rank, teaching and administrative loads, scientific field, etc..) and finally barriers associated with the funding programmes themselves (application requirements, evaluation criteria etc..).

On another hand, other previous studies cited various stimulation activities to overcome barriers influencing academics' decision of participation in the R&D cooperative projects. They identified specific unit at the university which is Grant Office as a responsible unit to manage and coordinate these activities. The stimulations activities in total depends on two main axes which are:

1. Reshaping and enhancing the organizational context in regards to provided support to the academics, regulations and policies to support and encourage academics to participate in these R&D cooperate projects
2. Developing the academics capacities and direct them to participate in R&D cooperative projects.

Chapter Four: Research Methodology

CHAPTER OUTLINE

4.1 Introduction

4.2 Research Methodology

4.3 Population, Sample, and Participants

4.4 Research Instrument

4.5 Study Applications Procedures

4.6 Study Participants and Response Rate

4.7 Validity & Reliability of the Questionnaire

4.8 Conclusion

4.1 Introduction

This chapter addresses the study methodology and detailed procedures . It includes the research design, population and sample, research Instrument, variables measurement, reliability and validity of the instrument, scoring techniques, data-gathering procedures, and the procedure of statistical analysis.

4.2 Research Methodology

This study follows the analytical descriptive approach, which is considered as the most used in business and social studies. Babbie (1989) define the descriptive research as the research that describes the characteristics or behaviours of specific group in numerical terms. The descriptive research does not answer the questions of when how or why the problem or the situation under study is happening. In another side, analytical approach detects the causes of a specific phenomenon and creates the causal relation between two variables.

4.2.1 Duration of the Study

The study has been conducted on the period of April – November 2012.

4.2.2 Place of the Study

The study was applied on the Islamic University academic staff members- Gaza campus.

4.2.3 Secondary Data

The researcher has used plenty of secondary data resources to justify the problem and gain maximum information regarding the European R&D cooperative projects. The used secondary included:

1. Scientific journals and academic magazines such as Research Management, and Research administration journals.
2. Thesis and dissertations accessed through the universities' libraries.
3. Text books and research papers.
4. Interviews
5. Internal documents such as reports, news from IUG different departments and specifically University presidency, External Relations Affairs, Scientific Research affairs and Deanery of Planning and Development

6. Internet articles and websites.

The researcher tried her best to obtain the mentioned data; but could not find any written in Arabic regarding the research topic.

4.2.4 Primary Data

The primary data are information collected through questionnaire survey and interviews.

1. **Survey**: Survey is defined as "investigation of the opinions, behaviour, etc. of a particular group of people, which is usually done by asking them questions"(Oxford Advance Learners Dictionary, 2007).
2. **Interviews**: interview is defined as “a purposeful discussion between two or more people”(Kahn & Cannell,1965). It is used to gather both reliable and valid data relative to the study objectives and help to answer the research questions.

4.3 Population &Sample

4.3.1 Study Population for the Questionnaire

Table 4.3-1: Excluded Categories from the study population

	Category	**Exclusion reasons**
1.	**Faculties and departments** • Department of Arabic Art • Faculty of Osoul Alldine • Faculty of Shariaa	Academics from these faculties and departments are not mainly targeted by majority of European R&D cooperative projects, Rustom(2011)
2.	**Educational Degree:** • Bachelor degree holder	Master degree is the minimum required educational degree for participants eligibility criteria in European Funded R&D cooperative projects
3.	**Work Contract:** • Part timers	They could not give real and accurate information as they work may for one semester,; thus they will not give good indicator of barriers of participation in European funded R&D cooperative projects.

The study population consists from academic staff members from 8 faculties at IUG which are faculty of Medicine, Nursing, Engineering, Science, Arts, Education, IT and Commerce. The study population excludes several categories from the academic staff at IUG as shown in Table 4.3-1: Excluded Categories from the study population: As a result the study population equals 294 (Deanery of Planning and Development, 2012)The study adopted 0.05 per cent level of uncertainty which is widely accepted by business and management researchers to estimate the population's characteristics to within plus or minus 5 per cent of its true value (Saunders et al., 2003).

4.3.2 Study Sample

For large population, Cochran (1963, p. 75) developed the Equation 4.3- 1 to yield a representative sample for proportions as following:

$$n_0 = \left\{\frac{Z}{2m}\right\}^2$$

Equation 4.3-1: Formula for Calculating a Sample for Proportions

Where:

Z: The abscissa of the normal curve that cuts off an area α at the tails (i.e. Z= 1.96 at α =0.05)

m: is the desired level of precision (i.e. 0.05)

According to equation 1, $n_0 = \left\{\frac{1.96}{2\times.05}\right\}^2 \cong 384$

Finite Population Correction for Proportions

Since the population of the study is relatively small then the sample size can be reduced slightly. The sample size (n_0) can be adjusted using the following formula (Israel, 2012):

$$n = \frac{n_0 \times N}{n_0 + N - 1}$$

Equation 4.3-2: Finite Population Correction for Proportions

Where n is the sample size and N is the population size.

Substituting with N= 294(Deanery of Planning and Development, 2012) and $n_0 = 384$(Equation 2), the sample size of the study (n) is:

$$\frac{384 \times 294}{384 + 294 - 1} \cong 167$$

Thus the representative sample of the study population equals 167 academic staff member at least.

The sample has been randomly selected from the eight faculties at IUG considering the representative rate of each faculty as shown in Table 4.3-2: Study Population and Sample.

Table 4.3-2: Study Population and Sample

Faculty	Population	Sample	%
Medicine	5	3	01.70
Nursing	9	5	03.06
Engineering	64	36	21.77
Science	81	47	27.55
Arts	44	24	14.96
Education	35	20	11.90
IT	13	7	04.42
Commerce	43	25	14.60
Total	**294**	**167**	**100**

Source: Deanery of Planning and Development, 2012

4.4 Research Instruments

The study was conducted using two research instruments: interviews and questionnaire. These two instrument were developed according to the IUG current situation, factors affecting human decision making and previous studies.

4.4.1 Questionnaire

Initially the questionnaire was developed in Arabic (Appendix B) to be distributed to the faculty members. Then the questionnaire has been translated into English for documentation purposes (Appendix C). A cover letter explaining the purpose of the questionnaire, the aim of the study and the privacy of information has been provided to the questionnaire in order to encourage more responses.

The questionnaire was composed of three main parts :

1. Part I: demographic information: personal and occupational characteristics encompasses 12 paragraphs, six for each one of them.
2. Part II: assessing the academic participation in European R&D cooperative projects including one paragraph.
3. Part III: includes 44 paragraphs grouped in 4 sections distributed as following:
    - Justifying how organizational context of IUG: Institutional support, University Policies& Recognition/ rewards encourage IUG academics to participate in European Funded R&D Cooperative projects and it contains 16 paragraphs.
    - Justifying how academic personality & occupational characteristics encourage IUG academics to participate in European Funded R&D Cooperative projects and it contains 8 paragraphs.
    - Justifying to what extent does R&D cooperative projects context: application requirements, time schedule, assessment criteria & funding programmes nature encourage IUG academics to participate in European Funded R&D Cooperative projects and it contains 11 paragraphs.
    - The last section is about the conjunction between decision making variable and the three independent variables, it contains 9 paragraphs.

The paragraphs were scaled from 1 to 10, where 1 indicates the highly disagreement scaling to 10 where it indicates the highly agreement to the paragraph content.

4.4.2 Interviews

The research used the interview as primary source of data beside the survey questionnaire. The interview was semi structured interview, consisting from three main questions. The interview questions were designed to achieve the study objectives. The interview questions were as following:

1. Throughout your experiences, how do you assesse IUG participation in European Funded R&D cooperative projects?
2. What are the most effective barriers that influence IUG academics decision of participation in European funded R&D cooperative projects in regards to:
    - The university context (institutional support, University policies and regulations, and finally, rewards and recognition system).
    - Personal & Occupational Characteristics at IUG
    - European funded R&D cooperative projects context(programmes nature and objectives, timetable for open calls and projects implementation period, proposals preparation requirements, and finally funding decisions)
    - Any other fields
3. What are your recommendations to overcome these barriers?

4.5 Study Application Procedures

The researcher performed the following main procedures for study application:

1. Developing initial interview questions and questionnaire for data collection and analysis
2. Evaluating the interview questions & the questionnaire by different experts in the study subject and questionnaire preparation process.
3. Modifying the interview questions & the questionnaire according to the experts' recommendations.
4. Requesting permission from academic quality unit to distribute the questionnaire to the academic staff at IUG.
5. Conducting pilot study to assess the questionnaire validity and reliability by distributing the questionnaire to 30 randomly selected members from the population.
6. Distributing the questionnaire to the study population to collect data for the study.
7. Conducting interviews and recording.
8. Analyzing the collected data and giving suggestions & recommendations.

4.6 Participants and Response Rate

4.6.1 Questionnaire

The researcher requested permission from academic quality unit to distribute the questionnaire to the academic staff at IUG. In addition, the External Relations Affairs at IUG offered help to the researcher to circulate the questionnaire via an e-mail with a cover letter to encourage the academics to fill in the questionnaire (Appendix D).

The online questionnaire was developed using Google Docs facility (Al-Mqadma, 2012). The questionnaire was distributed to 294 academic staff member by e-mail, but due to low response rate, the questionnaire was printed and redistributed as a hard copy to the study sample. It is worth mentioning that the faculty who have filled the questionnaire via online service would not fill it again in hard copy; thus there were no repeated responses.

Although the researcher benefited from her work as academic partnerships officer at IUG to foster and promote the filling process, several challenges in collecting the sample responses. These challenges may be raised from the following reasons:

1. Most of the academics did not notice the e-form of the questionnaire as they usually receive lots of unimportant e-mails so they delete them all without filtering.
2. Academic staff members are overloaded by teaching hours and administrative tasks

3. Academic staff members are targeted by many other research studies; thus filling questionnaires becomes a bothering task.

To guarantee the reliability of the responses, group interference, and side suggestions were not allowed.

The total collected questionnaires were 175, such that 59 have been filled via online form whereas 116 have been filled by distributed hardcopies. All collected questionnaires were acceptable except one questionnaire has been excluded as the respondents did not fill the last field which was necessary to be filled. The collected questionnaires achieve more than the minimum sample size of the study population which is 167. The total response rate was as following:

Response rate= Collected questionnaires/ distributed questionnaires

= 174/294 = 59.18%

It's worth mentioning that this response rate is also representing 59.18% of the total population.

4.6.2 Interviews

The researcher has conducted interviews with 3 key persons at IUG from senior staff who are directly involved in the management of International projects. In addition, the research has met 2 key academic staff members who have participated in European funded project proposals preparation and funded projects implementation activities. The participants were:

1. Senior staff members:
    - Prof. Rifat Rustom, Former-Vice President for External Relations & IT (2007-2011), IUG.
    - Dr. Nazmi Al-Masri, Assistant to Vice President for External Affairs for External Relations, (2009-currently)
    - Prof. Mohammed Migdad Assistant to Vice President for Scientific Research, (2011-currently)
2. Whereas the academic staff members:
    - Prof. Samir Al-Afifi: IUG coordinator for FP7 project- CLIMB

- Prof. Mohammed Mikki: IUG coordinator for ERASMUS MUNDUS-PEACE project.

The interviews took from 15 to 25 minutes for each one and the interviewers have answered the interview questions in a very detailed manner. They were very supportive, active and dedicated to the study success. The researcher was responsible of writing the interviews notes.

4.7 Statistical Analysis

In this study the researcher used the numerical scale 1-10 as data measurement, where: 10 correspond to a strong agreement with the statement, and it gradually decreased until: 1 that indicates the strong disagreement with the statement. In order to extract information from collected data, different statistical analysis tests will be utilized. These statistical tests could be parametric tests or non-parametric tests. Identification of the statistical tests types depends on testing the normality of the collected data; if the collected data is normally distributed, parametric test will be used. Whereas if the collected data is non-normally distributed, then non-parametric tests will be used. in the following sub-section, normality test will be applied to identify the type of the statistical tests.

4.7.1 Test of Normality

The Central Limit Theorem states that for sample sizes sufficiently large (greater than 30), the shape of the distribution of the sample means obtained from any population (distribution) will approach a normal distribution (Klemens, 2008).

The number of the respondents equals 174 which is large enough to consider the shape of the data distribution approaching normal distribution. Thus the researcher can use parametric tests to perform all required computations to test the study hypothesises and answering its questions.

4.7.2 Parametric Tests

As the collected data is normally distributed, then the following parametric test will be used:

1. Cronbach's Alpha for Reliability Statistics.
2. Pearson correlation coefficient for Validity.
3. Frequency and Descriptive analysis.
4. Regression Analysis

5. Parametric Tests (One- sample T test, Independent Samples T- test, Analysis of Variance).

Cronbach's Alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when you have multiple Likert questions in a survey/questionnaire that form a scale, and you wish to determine if the scale is reliable.

Pearson's correlation coefficient (r) is a measure of the linear association of two variables. The values of correlation coefficient vary from -1 to +1. Positive values of correlation coefficient indicate a tendency of one variable to increase or decrease together with another variable. Negative values of correlation coefficient indicate a tendency that the increase of values of one variable is associated with the decrease of values of the other variable and vice versa. Values of correlation coefficient close to zero indicate a low association between variables, and those close to -1 or +1 indicate a strong linear association.

T- test is used to determine if the mean of a paragraph is significantly different from a hypothesized value (6) (Approximately the middle value of numerical scale 1-10). If the P-value (Sig.) is smaller than or equal to the level of significance (α= 0.05), then the mean of a paragraph is significantly different from a hypothesized value (6). The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 6. On the other hand, if the P- value (Sig.) is greater than the level of significance (α= 0.05), then the mean of a paragraph is insignificantly different from a hypothesized value 6.

Multiple Regressions Method calculates multiple regression equations and associated statistics and plots. In addition, this method calculates collinearity diagnostics, predicted values, residuals. This test is used to measure the statistical relation between two variables or more; such that one variable will be the dependent variable and other variables will be the independent variables. If there is significant relation then the independent variables will affect the dependent variable value.

The relation between variables will them be presented by the following equation:

$$Y = a + b \times X$$

Equation 4.7-1:Regression Model Equation

Where:

a: constant value represent the intersection value between the line and the Y axis

b:is the regression line slop. Which means the percentage of changing in Y value as a result of changing X value.

The regression analysis model produces several statistical measures such as R, R2; R is a measure of the correlation between the observed value and the predicted value of the dependent variable. R2is the square of this measure of correlation and indicates the proportion of the variance in the dependent variable which is accounted for by the model.

The Independent Samples T- test is used to examine if there is a statistical significant difference between two means among the respondents toward —Decision of Participation in R&D European Funded Cooperative projects due to the personal characteristics such as: Gender, Age, Degree, Experience or Occupational Characteristics such asDiscipline, Employment contract, Rank, voluntary work engagement, teaching hours and holding senior positions.

The One- Way Analysis of Variance (ANOVA) is used to examine if there is a statistical significant difference between barriers among the respondents toward Decision of Participation in R&D European Funded Cooperative projects due to personal characteristics such as: Gender, Age, Degree, Experience or Occupational Characteristics such asDiscipline, Employment contract, Rank, voluntary work engagement, teaching hours and holding senior positions.

4.8 Validity & Reliability of the Study Instruments

Validity of the instrument refers to the degree to which the instrument measure what it supposed to measure. Whereas the reliability of the instrument refers to the consistency in the obtained results if the same measures has been used in different occasions or applied on different participants (Easterby-Smith, Thorpe, & Lowe, 2002). There are many instruments that could be used to evaluate the study tool; in this study content validity and statistical validity were used to evaluate instrument validity.

4.8.1 Content Validity of the Interview Questions

To verify the content validity of the Interview questions; it was submitted to 3 experts in the field at IUG (Appendix F). The experts evaluated the interview questions in a period of two days. The final copy of the interview questions was modified according to the evaluator recommendations.

4.8.2 Content Validity of the Questionnaire

To verify the content validity of the study questionnaire; it was submitted to 11 experts in the field from IUG and Al-Quds Open University (Appendix F). The experts evaluated the questionnaire content in a period of two weeks. The final copy of the questionnaire was modified according to the evaluators' recommendations.

4.8.3 Statistical Validity& Reliability (Pilot Study)

Measuring the internal validity of questionnaire was the first statistical validity test and it was performed via conducting pilot study. The study participants were 30 from IUG academic staff members during the period of Sep. 1, 2012 till Sep. 15, 2012. The participants were randomly selected from the study population with consideration to the different faculties' representative rate.

The collected pilot study information was undergone the statistical validity tests which includes internal validity and structure validity. Whereas the study reliability was measured by applying the Cronbach’s Coefficient Alpha test on the collected questionnaire information.

4.8.3.1 Internal Validity

Internal validity of the questionnaire was the first statistical test conducted on the collected data from the pilot study. The internal validity was conducted by measuring correlation coefficients between each paragraph in one field and the whole filed. In statistics different correlation coefficient can be used depending on the variables types (numeric or nominal); in this study the variables were numerical so Pearson correlation coefficient was applied.

As it is clarified in Table 4.8-1: Correlation coefficient of each item of the Institutional support & the total of this field are significant at $\alpha = 0.05$, and the P-Value equals 0.000 (less than 0.05). Thus, it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-1: Correlation coefficient of each item of the Institutional support & the total of this field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Open call for proposals are published and circulated via deferent media means	**0.484**	**0.000***
2.	Workshops about open calls for proposals under European programme are organized	**0.558**	**0.000***
3.	Training courses on proposals preparation for European programmes are periodically organized	**0.795**	**0.000***
4.	Expert trainers in European funded programmes are deployed to train IUG academics on proposals preparation for European funded programmes	**0.756**	**0.000***
5.	Academics are given release time for a limited period of time to prepare projects for European funded programmes	**0.570**	**0.000***
6.	IUG helps Academics who are engaged in European funded programmes proposals activities in finding partners from international universities	**0.720**	**0.000***
7.	IUG provide administrative assistance for Academics who are engaged in European funded programmes in proposals preparation	**0.795**	**0.000***
8.	Research assistants are provided for academics to help in proposals preparation	**0.654**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-2: Correlation coefficient of each item of the University Policies field. The correlation values ranges from 0.799 to 0.873 with P-value = 0.00. The correlation values are significant atα = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-2: Correlation coefficient of each item of the University Policies

No.	Field	Pearson Correlation Coe.	P-Value (Sig.)
1.	Promotion and tenure decisions consider the number of proposals prepared by academic staff member	**0.853**	**0.000***
2.	Promotion and tenure decisions consider the number of granted projects prepared by academic staff member	**0.873**	**0.000***
3.	University law includes policies that regulates academic participation in European funded projects	**0.814**	**0.000***
4.	IUG deploy a systematic model to encourage academic participation in European funded projects	**0.799**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-3: Correlation coefficient of each item of the Rewards and Recognitions . The correlation values ranges from 0.783 to 0.900 with P-value = 0.00. The correlation values are significant at $\alpha = 0.05$ and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-3: Correlation coefficient of each item of the Rewards and Recognitions

No.	Field	Pearson Correl Coe.	P-Value (Sig.)
1.	Academics are financially rewarded for their participation in European funded projects proposals preparation activities	**0.820**	**0.000***
2.	Academics are rewarded for their participation in European funded projects proposals preparation activities by thanks letter	**0.900**	**0.000***
3.	Honoring ceremony are organized for academics whose proposals for European funded programme have been selected for funding	**0.889**	**0.000***
4.	IUG organizes grants programme for R&D projects similar to European funded programmes subjects and requirements.	**0.783**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-4: Correlation coefficient of each item of the Personnel Characteristics and Abilities and the total of this field. The correlation values ranges from 0.591to 0.761with P-

value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-4: Correlation coefficient of each item of the Personnel Characteristics and Abilities and the total of this field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	I am familiar with European funded programme for R&D projects	**0.726**	**0.000***
2.	I have experience in preparing and working on European funded projects	**0.688**	**0.000***
3.	I am good team player to prepare and work on European funded projects	**0.761**	**0.000***
4.	I am enthusiastic to participate in European funded R&D projects	**0.693**	**0.000***
5.	Participation in European funded R&D projects is fruitful	**0.651**	**0.000***
6.	Family and social circumstances encourage me to participate in European funded projects	**0.591**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-5: Correlation coefficient of each item of the Occupational Characteristics and the total of this field. The correlation values are 0.861 & 0.875with P-value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-5: Correlation coefficient of each item of the Occupational Characteristics and the total of this field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Academics teaching load hinder me from participation in European funded projects	**0.861**	**0.000***
2.	Administrative load hinder me from participation in European funded projects	**0.875**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-6: Correlation coefficient of each item of the European Funding Programmes Nature and the Total of this field. The correlation values ranges from 0.820 to 0.891with P-value = 0.00. The correlation values are significant at $\alpha = 0.05$ and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-6: Correlation coefficient of each item of the European Funding Programmes Nature and the Total of this field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Funding programmes objectives are in line with the Palestinian society needs	**0.820**	**0.000***
2.	Funding programmes concentrate on prioritized thematic fields of the third countries	**0.891**	**0.000***
3.	Funding programmes support multidisciplinary projects.	**0.835**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-7: Correlation coefficient of each item of the European Funding Timetable and the total of this field. The correlation values ranges are 0.877 & 0.900 with P-value = 0.00. The correlation values are significant at $\alpha = 0.05$ and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-7: Correlation coefficient of each item of the European Funding Timetable and the total of this field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Time period for open calls for proposals is adequate and enough to prepare competitive proposals	**0.900**	**0.000***
2.	Long time period of European funded projects increase their scientific benefits	**0.877**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-8: Correlation coefficient of each item of the Proposals Preparation Requirements and the Total of this Field. The correlation values ranges from 0.687to 0.873with P-value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-8: Correlation coefficient of each item of the Proposals Preparation Requirements and the Total of this Field

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Proposals preparation do not require literature review	**0.687**	**0.000***
2.	Proposals applications can be filled very easily	**0.873**	**0.000***
3.	It's easy to constitute the project consortium members	**0.823**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-9: Correlation coefficient of the Evaluation and Funding Decisions items. The correlation values ranges from 0.634 to 0.820 with P-value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-9: Correlation coefficient of the Evaluation and Funding Decisions items

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Evaluation criteria are clear and understandable	**0.782**	**0.000***
2.	European funding programme provide participants with evaluation report for that clarifies the proposal rejection reasons.	**0.820**	**0.000***
3.	Funding decisions are not affected by the regional and national political situation	**0.634**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-10: Correlation coefficient of each item of the Decision of Participation

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Level of my Personal characteristics & abilities	**0.563**	**0.000***
2.	Level of suitability of my occupational characteristics with the programmes requirements	**0.620**	**0.000***
3.	Level of Institutional support	**0.777**	**0.000***
4.	Level of correlation between University Policies and the participation in that projects	**0.752**	**0.000***
5.	Level of Rewards/ recognition provided for the participants	**0.761**	**0.000***
6.	Level of simplicity of Proposals preparation requirements	**0.790**	**0.000***
7.	Level of clarity of proposals evaluation and transparency of funding decisions	**0.808**	**0.000***
8.	Level of appropriateness of call for proposals and accredited projects time schedule	**0.809**	**0.000***
9.	High value of Scientific and financial benefits resultant from the projects	**0.715**	**0.000***

*Correlation is significant at the 0.05 level

Table 4.8-10: Correlation coefficient of each item of the Decision of Participation . The correlation values ranges from 0.563 to 0.809with P-value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

4.8.3.2 Structure Validity

The collected information from the pilot study underwent the second statistical test which aimed at measuring the structure validity of the questionnaire. This test was performed by measuring the correlation coefficient between the study 9 fields and the total of the entire questionnaire fields.

Table 4.8-11: Correlation Coefficient of Each Field and the Whole of Questionnaire. The correlation values ranges from 0.170to 0.693with P-value = 0.00. The correlation values are significant at α = 0.05 and the paragraphs of this field are consistent and valid to be measure what it was set for.

Table 4.8-11: Correlation Coefficient of Each Field and the Whole of Questionnaire

No.	Field	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Institutional Support	**0.593**	**0.000***
2.	University Policies	**0.598**	**0.000***
3.	Rewards & Recognition	**0.693**	**0.000***
4.	Personal characteristics & abilities	**0.524**	**0.000***
5.	Occupational Characteristics	**0.314**	**0.000***
6.	European Funding programmes nature	**0.616**	**0.000***
7.	European Funding programmes Time table	**0.579**	**0.000***
8.	Proposals preparation requirements	**0.513**	**0.000***
9.	Evaluation and Funding Decisions	**0.531**	**0.000***
10.	Decision of Participation	**0.170**	**0.000**

*Correlation is significant at the 0.05 level

4.8.3.3 Questionnaire Reliability

The questionnaire reliability was measured by applying Cronbach's Alpha test on the questionnaire fields. This test is used to measure the reliability of the questionnaire fields and the mean of the whole fields of the questionnaire. The value of Cronbach's Alpha coefficient lies between (0 -1), the higher the value of Cronbach's Alpha coefficient the higher the reliability of the measured items and it equals square root of the Cronbach's Alpha coefficient.

The resultant value of Cronbach's Alpha coefficient of each field is as shown in Table 4.8-12: Cronbach's Alpha for each filed of the questionnaire and the entire. The values of Cronbach's Alpha coefficient range from 0.566 to 0.893 and consequently the reliability values range from 0.80 to 0.945 which is considered relatively high values reflecting high reliability of questionnaire paragraphs. Moreover, the value of Cronbach's Alpha coefficient of the total questionnaire paragraphs equals 0.893 with reliability value of 0.945; this indicates excellent reliability value for the entire questionnaire.

Table 4.8-12: Cronbach's Alpha for each filed of the questionnaire and the entire field

No.	Field	Cronbach's Alpha	Reliability
1.	Institutional support	**0.822**	**0.91**
2.	University Policies	**0.858**	**0.93**
3.	Rewards and Recognition	**0.871**	**0.933**
4.	Personal characteristics & Abilities	**0.774**	**0.88**
5.	Occupational characteristics	**0.673**	**0.82**
6.	European Funding programmes nature	**0.797**	**0.893**
7.	European Funding programmes Time table	**0.726**	**0.852**
8.	Proposals Preparation Requirements	**0.633**	**0.80**
9.	Evaluation and Funding decisions	**0.566**	**0.752**
10.	Decision of Participation in European funding programmes	**0.893**	**0.945**
11.	All Questionnaire Paragraphs	**0.893**	**0.945**

4.9 Conclusion

This chapter covered the methods of the study and dealt with data collection and their derivation from primary and secondary sources. The applied research methodology in the study is descriptive analytic with cross sectional survey as a strategy. Both the questionnaires and interviews are used as research instruments. Such that results obtained from the two sources will synergy each other and promote the study findings and suggestions.

It is worth mentioning that both the interview questions and the questionnaire items were related as they tackle three major axes: assessing IUG participation in the European funded projects, barriers of participation in European funded R&D cooperative projects and finally suggestions for enhancing this participation. These major axes are derived from the previous studies findings.

The study sample equals 167 academic staff member; the response rate constitutes 59.18% of the total population which is very representative. Thus the obtained results could be generalised to the total population.

In addition, The Pilot study tests indicated that questionnaire was valid and reliable, thus the findings of the pilot study can be counted to the overall study findings.

Chapter Five: Findings & Discussion

CHAPTER OUTLINE

5.1 Introduction

5.2 Part I: Respondents Characteristics

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5.1 Introduction

This chapter includes detailed description of the interviews findings and the findings resulted from applying the statistical tests on the collected data from the questionnaires. The collected data of the respondents will be presented and the findings will be described and discussed in four main parts:

- The first part will tackle the analysis of the demographic information of the questionnaire respondents.
- The second part will testify the percentage of the questionnaire respondents who have participated in the European funded R&D projects proposals activities.
- The third part will apply the statistical tests indicated in section 4.7: Statistical Analysis on the collected data from questionnaire respondents. Moreover, the findings of qualitative data collected from the interviews will be described together with the quantitative data within this part; the overall results will be compared to each other, interpreted and finally compared with the precious studies results.
- The fourth part will testify the study hypothesis. The findings of this test will be discussed and compared with previous studies results.

5.2 Part I: Respondents Characteristics

In this section, the researcher describes and analyzes the respondents personal characteristics (gender, age, degree, years of experience in academic work, marital status, foreign languages proficiency) and occupational characteristics (discipline, employment contract, rank, voluntary work engagement, teaching hours and holding senior positions).

5.2.1 Personal Characteristics

Personal characteristics of the study respondents includes six items: gender, age, degree, years of experience in academic work, marital status and foreign languages proficiency. Each one of them is described and analysed separately.

5.2.1.1 Gender

As shown in Table 5.2-1:Gender Distribution of respondents, the respondents gender distribution shows the dominance of male respondents on the sample as it constituted 85.6% of the total respondents. This can be intercepted as the female constitute very low percentage of the total academic staff at IUG (Master and PhD holders).

Table 5.2-1: Gender Distribution of Respondents

Gender	Frequency	Percent %
Male	149	85.6
Female	25	14.4

According to the Palestinian Central Bureau of Statistics PCBS 2011, the females' contributions in the workforce are limited, and males' contributions exceed 4 times of females' contributions (Palestinian Central Bureau of Statistics, 2011). This phenomenon can be due to the following reasons:

- Women rarely have the opportunity to complete their postgraduate studies to get the required qualification for academic profession.
- Women obligations and responsibilities toward their families.
- Society culture favour men on women at work.

5.2.1.2 Age

According to Table 5.2-2: Age Distribution of Respondents; Age distribution reveals a shift toward elder respondents. The mentioned age's distribution gives very critical indicators for academic process at IUG; as following:

- After less than ten years from now IUG will lose 24.7% from its man power.
- Young academics constitute 6.3% of the respondents' age distribution.
- More than 70% of the respondents ages are above 40 years old

Table 5.2-2: Age Distribution of Respondents

Age	Frequency	Percent %
Less than 30	11	6.3
30 – less than 40	39	22.4
40 – less than 50	81	46.6
50+	43	24.7

Youth have the energy and enthusiasm to be engaged in projects activities more than older ones. Whereas the older academic staff can be advisors for those young academic staff and help them by their experiences in various European R&D projects activities.

According to Bonaccorsi's & Daraio's (2003) study for analysing age effect on academics research productivity; it was entailed that the scientific productivity declines by the age of the researcher of the institute. Thus creating a research climate within the institute will become more difficult as time goes on; as a result, the institute will not be able to attract and recruit younger and talented researchers.

5.2.1.3 Educational Degree

According to Table 5.2-3:Academic Degree Distribution of Respondents; major respondents are PhD holders. Which is resulted from the nature of IUG as academic institution encourages its staff to peruse higher degrees to raise their capabilities and experiences.

It's worth mentioning that this distribution is not for the study respondents only, but it is inherited from the study population as the PhD holder percentage in IUG constitutes 75.17% whereas Master degree holder constitutes 24.83% from the total academic staff. Thus the respondents from the two categories are representative for the population distribution (Deanery of Planning and Development , 2012).

Table 5.2-3:Academic Degree Distribution of Respondents

Degree	Frequency	Percent %
Master	48	27.6
PhD	126	72.4

5.2.1.4 Years of Experience in Academic Work

Table 5.2-4: Years of Experience in academic work Distribution of Respondents, describe the experience of the respondents in number of years. The majority of the respondents have experience in the academic work more than 15 years in academic work.

This distribution is very rational as seen in Table 5.2-2: Age Distribution of Respondents, the majority of the respondents ages above 40 years. Thus, they were able to have high number of experience years in the academic work.

Table 5.2-4: Years of Experience in academic work Distribution of Respondents

Years of Experience	Frequency	Percent %
Less than 3	9	5.2
3 – less than 6	19	10.9
6 - less than 10	20	11.5
10- less than 15	53	30.5
15+	73	42.0

5.2.1.5 Marital Status

From Table 5.2-5: Marital Status Distribution of Respondents, it is seen that the majority of the respondent are married. In addition, there are neither widower nor divorced staff. Thus majority of the respondents have their own social commitments and activities that may affect their willingness of participation in European R&D projects.

Table 5.2-5: Marital Status Distribution of Respondents

Marital Status	Frequency	Percent %
Married	166	95.4
Single	8	4.6
Widower	"-"	"-"
Divorced	"-"	"-"

5.2.1.6 English/foreign languages proficiency

According to Table 5.2-6:English/foreign languages proficiency Distribution of Respondents; majority of the respondents are professional in using foreign languages specifically in using English. Thus they don't have any problem in using foreign languages.

This is logical results as the study population excluded academic staff from faculties and departments (faculty of Osoul Alldine, faculty of Shariaa and department Arabic Language) whose discipline may not require interact with foreign languages very often.

Table 5.2-6:English/foreign languages proficiency Distribution of Respondents

English/foreign languages proficiency	Frequency	Percent %
English	130	74.7
French	1	0.6
Non	7	4.0
English & Frenc	5	2.9
English & German	13	7.5
English & Others	18	10.3

5.2.2 Occupational Characteristics

Occupational characteristics of the study respondents includes six items: discipline, type of employment contract, rank, voluntary work engagement, teaching hours and holding senior positions. Each one of them is described and analysed separately.

5.2.2.1 Discipline

According to Table 5.2-7: Discipline Distribution of Respondents, it is seen that faculties of science, engineering and commerce have the highest representations, whereas faculties of Medicine and Nursing have the lowest representation of the total respondents.

Table 5.2-7: Discipline Distribution of Respondents

Discipline	Frequency	Percent %
Commerce	33	19.0
Engineering	33	19.0
Education	22	12.6
Nursing	4	2.3
Science	44	25.3
Arts	26	14.9
Medicine	4	2.3
IT	8	4.6

These mentioned percentages of each faculty representation of respondents seem acceptable and not far from estimated representation of each faculty academics in the population calculated section 4.3.2: Study Sample. For example, science faculty academics represent 27.55% of the total population and is considered as the biggest faculty in regards

to academics number, whereas faculty of Medicine academics represents only 1.9% of the total population. It is worth mentioning that all minor differences between calculated representation of each faculty academics in the population size and number of respondents of them are due to different response rate and willingness of filling the questionnaire.

5.2.2.2 Type of Employment Contract

According to Table 5.2-8:Type of Employment Contract Distribution of Respondents, majority of respondent have tenure contract at IUG. This is due to the fact that most of IUG academics are tenured. In a word, job security is very high within the respondents.

Table 5.2-8:Type of Employment Contract Distribution of Respondents

Type of Employment Contract	**Frequency**	**Percent %**
Tenure	152	87.4
Non-tenure	22	12.6

Having this job security status within the respondents at IUG is a two edged-sword; some academics will see this high security as a motive to invest more in the university. On the other hand, others will exploit this security and exert as little efforts as possible in their work at IUG (Leung, 2009). In a study conducted by Leung(2009) to examine the effect of tenure on the professors productivity, he found that the professors productivity dropped immediately after having the tenure decision.

5.2.2.3 Rank

Table 5.2-9: Academic Rank Distribution of Respondents, professors constituted 17.2% of the total respondents. This rate is low comparing to years of experiences distribution of the respondents: 42.0% for + 15years experience. It's worth mentioning that this low rate is not specific for the respondents only; since the professors at IUG constitute 17.69% of the total faculty members. Whereas assistant professor respondents constituted 35.1% of total respondents. This is considered high rate if we consider the previously mentioned years of experiences in academic work for PhD holders. This relatively high rate of assistant professors representation in the respondents is inherited from their presentation percentage (36.39%) in the total population. This phenomenon may be interpreted as:

- The respondents got the PhD degree very recently, thus they cannot cope with the promotion criteria which requirements are clarified in section 2.6.3: IUG R&D Management Departments

- The respondents usually get the PhD degree then they get the job, constitute a family and engaged in social activities. These responsibilities hinder them from conducting research activities that enable them for promotion.
- There are no regulations that force them to get a promotion.

Finally, the lecturer constituted 27.6 % of the total respondents which equals the percentage of Master degree holders in the study respondents and relatively approaching their representation in the study population as they constituted 24.83% of the total academic staff members at IUG.

Table 5.2-9: Academic Rank Distribution of Respondents

Academic Rank	Frequency	Percent %
Professor	30	17.2
Associate Professor	35	20.1
Assistant Professor	61	35.1
Lecturer	48	27.6

5.2.2.4 Voluntary Work Engagement

Table 5.2-10: Voluntary Work Engagement Distribution of Respondents indicates that 50% of the respondents are engaged sometimes in voluntary work activities. But 15.5% declared that they often engaged in voluntary work activities.

The engagement of the respondents' in voluntary work reflects the heavy load lied on them (teaching load, administrative load and the voluntary work load). The previously mentioned statistics reveal the leadership role the academic staff plays in the society. As The society considered them as the most professional ones due to their academic qualifications.

Table 5.2-10: Voluntary Work Engagement Distribution of Respondents

Voluntary Work Engagement	Frequency	Percent %
Always	27	15.5
Sometimes	87	50.0
Never	33	19.0
Often	27	15.5

5.2.2.5 Teaching Hours

The results described in Table 5.2-11: Teaching Hours Distribution of Respondents, indicates that most of the respondents have 12-15 teaching hours per week. whereas, 7.5% have more than 15 teaching hours per week.

Table 5.2-11: Teaching Hours Distribution of Respondents

Teaching Hours	Frequency	Percent %
< 12 hours	58	33.3
12-15 hours	103	59.2
> 15 hours	13	7.5

Teaching hour's distribution depends on different determinants i.e. academic rank, holding senior position, etc.. The majority representation of the respondents to have 12-15 hours per week is due to the fact that most of the respondent are ranked assistant professor. And according to IUG bylaw, PhD holders (assistant professors and associate professors) academic weekly workload is 12-15 hours. On the other hand, the representation of the respondents who have more than 15 hours is inherited from the representation of the master degree holders in the total respondents.

5.2.2.6 Holding Senior Positions

According to Table 5.2-12: Senior Positions Holders Distribution of Respondents, 44.3% of the respondents are holding senior positions at IUG. Whereas,55.7% of the respondents have not senior position at IUG. These percentages indicate that 55.7% are free and have time for participation in the European funded projects activities.

Table 5.2-12: Senior Positions Holders Distribution of Respondents

Holding Senior Positions	Frequency	Percent %
Yes	77	44.3
No	97	55.7

5.3 Part II: Assessing Academic Participation in R&D European Funded projects

One of the main objectives of this study is to assess IUG academic participation in European R&D projects. Section 2 of the questionnaire was designed to achieve this objective.

Table 5.3-1: Respondents Participation in R&D European Projects, indicates that majority of the respondents (85.63%) have never participated in these projects.

It is clear from this result that IUG participation is very week and there must be problems and barriers hinder those academics from participation in European R&D Cooperative projects proposals development.

This result matches the result obtained by Geuna (1998) study that aimed at identifying the determinants of universities participation in European funded projects; the study revealed that the number of times the university applies for European funding is proportional with its size, scientific research and country nature. IUG is pre-dominantly undergraduate university where teaching is the priority. In addition, the political situation of Palestine affects the participation.

Table 5.3-1: Respondents Participation in R&D European Projects

Participating in R&D European Funded Cooperative projects	Frequency	Percent %
No	149	85.63
Yes	25	14.37

5.4 Part III: Findings Description and Discussion

In this section, the researcher describes the collected data from the questionnaire 4 fields which contain 44 items and the interviews which includes the same 4 fields included in the questionnaire. These findings will be discussed and interpreted to answer the study questions and testify its hypothesis. Moreover, the study findings will be compared to the previous studies findings identifying the differences and similarities and explain the reasons for each of the two cases.

Before proceeding with the fields findings description and discussion, it is worth mentioning that the respondents who did not participated in R&D European funded cooperative projects various activities: proposals development, project management,

application process etc.. may not be able to answer the questions of the fields related to R&D European funded cooperative projects or the fields regarding recognition and rewards presented from IUG to the participants. Thus, they were allowed to leave the questions that they could not answer as blank. As a result, they will not give wrong estimation that may harm the statistical results obtained from the sample. In the following sub-section, the researcher describes and discusses the missing values statistical analysis of the questionnaire 4 fields.

5.4.1 Missing Values Analysis

The statistical analysis for the missing values of the collected date; shows that missing values are found on only fields that may need participation in R&D European projects various activities which are:

1. Rewards and Recognitions
2. European-Funding programmes nature
3. European-Funding programmes time table
4. Proposals Preparation Requirements
5. Evaluation and Funding decisions

Table 5.4-1: Missing values frequencies & its percentage, shows the missing values for each one of the mentioned fields.

Table 5.4-1: Missing values frequencies & its percentage

No.	Field	Frequency	Percentage %	Case
1.	Rewards and Recognitions	**14**	**8.0**	**No**
2.	European-Funding programmes nature	**14**	**8.0**	**No**
3.	European-Funding programmes time table	**18**	**10.3**	**No**
4.	Proposals Preparation Requirements	**18**	**10.3**	**No**
5.	Evaluation and Funding decisions	**23**	**13.2**	**No**

The previously mentioned percentages when labeled by categorical variable (**Have you ever been engaged in European funded R&D projects proposals preparing activities during the period 2002-2012**) on the missing values analysis; the result indicated that missing values for each item in the field is labeled with the answer (No) for the question of participation in European funded R&D projects proposals preparing activities during the period 2002-2012.

The items of the indicated fields are very general and targeting general information regarding the nature R&D European funded programmes. Thus, it will be sufficient for the respondents to read or attend general workshops about European Funding programmes to answer the questions of the European Funding Programmes Nature field. Thus missing values indicated that the respondents have never heard about or understand the nature of European Funding programmes. Two issues rose from this point:

- **First case**: The respondents are not interested on R&D cooperative projects. The projects may be far from their interest circle.
- **Second case**: There is gap regarding IUG efforts to announce and organize workshops about European funding programmes in addition to attract and encourage the academics to read announcements and attend workshops. It could be the language barrier or timing or ways of the announcements.

After the missing values have been analyzed, the statistical analysis for the questionnaire fields is described in the below sections. Each missing value was coded with the value "0".

5.4.2 First Field: Organizational Context at IUG

In this section, three sub-fields of the organizational context at IUG: institutional support, university policies and rewards/ recognition findings are described and discussed as follows.

5.4.2.1 Institutional Support

Table 5.4-2: Means and Test values for of each item of the institutional support field, shows the following results:

- The mean of paragraph No.1 "Open call for proposals are published and circulated via deferent media means" equals **7.63**. Test-value = 10.150, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is

positive, so the mean of this paragraph is significantly greater than the hypothesized value 6. It is concluded that the respondents agreed to this paragraph.

- The mean of paragraph No.3 “Training courses on proposals preparation for European programmes are periodically organized” equals **5.3**. Test-value = -3.715, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.
- The mean of paragraph No.5 “Academics are giving release time for a limited period of time to prepare projects for European funded programmes” equals **2.85**. Test-value = -21.665, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

In general, the field "Institutional Support" refers to institutional support presented by IUG to the academics by providing suitable institutional facilities to encourage them to participate in European Funded R&D cooperative projects. The mean of this field equals 5.02 Test-value = -8.737, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

In regards to conducting training courses on how to prepare competitive proposals for European Funded R&D cooperative projects, only one training course was hold in 2009 by the regional tempus office for Palestinian universities employees; TEMPUS is one of more than 20 R&D projects (Training session on “How to write a competitive proposal for Tempus program” , 2009). In addition, only once the External Relations Affairs has organized meeting with external expert in TEMPUS proposals preparation activities. The expert gave several notes to be considered when preparing tempus proposals for academics who may be interested in participating in TEMPUS proposals activities (External Relations Affairs, 2012). Once again, this initiative has happened just for once for specific audience (faculty of engineering academics) for one programme out of more than 20.

Table 5.4-2: Means and Test values for of each item of the institutional support field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Open call for proposals are published and circulated via deferent media means	**7.63**	**10.1**	**.000**	**76.3%**
2.	Workshops about open calls for proposals under European programme are organized	**6.72**	**4.01**	**.000**	**67.2%**
3.	Training courses on proposals preparation for European programmes are periodically organized	**5.30**	**-3.71**	**.000**	**53%**
4.	Expert trainers in European funded programmes are deployed to train IUG academics on proposals preparation for European funded programmes	**4.66**	**-7.81**	**.000**	**46.6%**
5.	Academics are giving release time for a limited period of time to prepare projects for European funded programmes	**2.85**	**-21.6**	**.000**	**28.5%**
6.	IUG helps Academics who are engaged in European funded programmes proposals activities in finding partners from international universities	**4.77**	**-7.01**	**.000**	**47.7%**
7.	IUG provide administrative assistance for Academics who are engaged in European funded programmes in proposals preparation	**4.86**	**-6.70**	**.000**	**48.6%**
8.	Research assistants are provided for academics to help in proposals preparation	**3.43**	**-16.7**	**.000**	**34.3%**
	All paragraphs of the filed	**5.025**	**-8.73**	**.000**	**50.2%**

In spite of having the overall field proportional mean is less than hypothesized value (6); but we can note that the respondents have agreed with the first two statements: Open call for proposals are published and circulated via deferent media means, Workshops about open calls for proposals under European programme are organized. This result is consistent with cited activities of both External Relations Affairs and Scientific Research

Affairs; both units at IUG circulate the open calls for proposals of R&D cooperative projects. In addition, they organize workshops to explain these open calls and how academics can benefit from these open calls.

The previous result is in line with Al-Afifi(2012) opinion as he said" in the last decade little institutional support had been exerted to enhance academic participation in European funded R&D cooperative projects; however in the last year & only from external relations affairs there have been some activities to mobilize IUG academics to participate in European funded R&D cooperative projects".

This result of this field is matching the answers obtained from senior staff interviewed by the researcher Rustom(2011) & Migdad (2011) for the question" What are the most effective barriers that influence IUG academics decision of participation in European funded R&D cooperative projects in regards to university context (institutional support). As they entailed: Even though IUG is interested in promoting scientific research but in fact it is teaching oriented university not research oriented; as a result its general policy does not support scientific research, i.e. IUG does not support academics with research assistant.

In addition, there is consensus between senior staff members opinions and academic staff members opinion regarding the institutional support; Mikki (2012) & AL-Afifi(2012) have indicated that " IUG focuses basically on teaching; It recognizes teaching achievements more than it does for research and projects achievements".

In addition, IUG is placed in a very week place in regards to personal administrative and technical support. The number of employees available for help is very limited to two persons (Al Afifi, 2012).

Both Al Afifi(2012) & Miki(2012) concluded that all activities aimed at activating IUG participation in European projects can be described as fragmented activities.

The interviewers answers and the statistical analysis of this sub-field matched what has been included in Sharobean & Howard, (2002) study, as their study has shown that predominantly undergraduate universities suffer from lacking in research facilities, administrative support as the university system relies mainly on teaching not on research.

Whereas Monahan & Fortune (1995) in their study found that all institutions involved in the study and interested in enhancing their participation in externally funded projects provided many types of support to academic staff to participate in the these projects activities. This support is provided in different types like training and practices rather than financial and institutional resources (i.e. release time) support.

Thus, institutional support provided by IUG is inadequate and do not encourage IUG academic decision of participation in European Funded R&D cooperative projects.

5.4.2.2 University Policies

Table 5.4-3: Means and Test values for of each item of the University Policies field, shows the following results:

- The mean of paragraph No.1 “Promotion and tenure decisions consider the number of proposals prepared by academic staff member” equals 3.15 Test-value = -15.814, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.
- The mean of paragraph No.4 “IUG deploy a systematic model to encourage academic participation in European funded projects” equals 4.17 Test-value = -10.614, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

In general, the field "University Policies" refers to group of regulations and policies govern the process of participating in European Funded R&D cooperative projects; Such that, these regulations and policies will identify the importance of participating in these projects. The mean of this field equals 3.572 Test-value = -16.882, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this sub-field.

In brief, the statistical analysis of this sub-field has shown that IUG policies and regulations are not tied with the participation in European funded R&D cooperative projects.

The statistical result of this subfield is consistent with Al-Masri (2011), Migdad (2011) & Rustom, (2011) mentioned barriers for academic participation in European Funded R&D cooperative projects during the interview. All of them indicated that IUG policies do not support or force academics to participate in these projects as there is no link between participation in the project and assessment, promotion criteria or even financial

compensation criteria. Thus, participate or not, this will not affect the academic promotion decisions and assessment result or even annual salary.

Table 5.4-3: Means and Test values for of each item of the University Policies field

No.	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Promotion and tenure decisions consider the number of proposals prepared by academic staff member	**3.15**	**-15.814**	**0.000**	**31.5%**
2.	Promotion and tenure decisions consider the number of granted projects prepared by academic staff member	**3.02**	**-17.996**	**0.000**	**30.2%**
3.	University law includes policies that regulates academic participation in European funded projects	**3.95**	**-11.822**	**0.000**	**39.5%**
4.	IUG deploy a systematic model to encourage academic participation in European funded projects	**4.17**	**-10.614**	**0.000**	**41.7%**
	All paragraphs of the filed	**3.5718**	**-16.882**	**0.000**	**35.72%**

From another point of view, both Mikki (2012) & AL Afifi(2012) have pointed to a very critical issue regarding the project management process; they said "there are no policies that govern the participation process in European funded R&D projects or even how to use the budgets of the funded projects clearly". This matches what respondents have indicated by their disagreement to the 3rd paragraph regarding the university law.

The obtained result of the 1st and 2nd paragraphs matches what has been indicated in section 2.6.3: **IUG R&D Management Departments** as nothing has been included explicitly about the participation in R&D cooperative projects in the promotion criteria at IUG.

Thus, IUG policies and regulation are not tied with participation in the European funded projects. As a result they do not encourage academics to exert efforts to participate in these projects.

The previously mentioned result obtained from the interviews of the importance of linking participation in externally funded R&D cooperative projects with the assessment criteria of academic staff members is matching what Zhang & Davies (2011) have mentioned in their study; as they indicated that linking research publication number and quality with the assessment and promotion criteria which are tied to financial rewards, promotion and other benefits such as training opportunity, travel opportunity, professional development opportunity and so on.

In addition, the obtained result from questionnaire survey or interviews agrees with Taylor (2001) study results; as Tayor study reveals that linking performance indicators with research productivity mainly funded research cause the academics to give more emphasis in developing themselves in this field to raise their performance indicator.

5.4.2.3 Rewards & Recognition

Table 5.4-4: Means and Test values for of each item of the Rewards & Recognition field, shows the following results:

- The mean of paragraph No.1 “Academics are financially rewarded for their participation in European funded projects proposals preparation activities” equals **3.39**. Test-value = -14.771, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.
- The mean of paragraph No.4 “IUG organizes grants programme for R&D projects similar to European funded programmes subjects and requirements.” equals **4.14**. Test-value = -10.137, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

The field "Rewards & Recognition" refers to group of incentives provided by IUG management system to encourage academics to participating in European Funded R&D cooperative projects; the incentives system may include financial, non-financial rewards or competitive contests.

Table 5.4-4: Means and Test values for of each item of the Rewards & Recognition field

No.	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Academics are financially rewarded for their participation in European funded projects proposals preparation activities	**3.39**	**-14.771**	**0.000**	**33.9%**
2.	Academics are rewarded for their participation in European funded projects proposals preparation activities by thanks letter	**4.64**	**-6.703**	**0.000**	**46.4%**
3.	Honouring ceremony are organized for academics whose proposals for European funded programme have been selected for funding	**5.00**	**-4.908**	**0.000**	**50.0%**
4.	IUG organizes grants programme for R&D projects similar to European funded programmes subjects and requirements.	**4.14**	**-10.137**	**0.000**	**41.4%**
	All paragraphs of the filed	**4.2749**	**-10.671**	**0.000**	**42.75%**

This field intends to measure the extent to which IUG use incentive system to encourage Academics participation in European Funded R&D cooperative projects. The mean of this field equals 4.275 Test-value = -10.671, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

Although senior staff when interviewed did not mention anything regarding this field. The interviewed academic staff: Al Afifi(2012) & Mikki(2012) have mentioned that despite the very important effect of rewards systems as motivators for academic staff, IUG has in a very limited manner rewarded faculty who get funded projects. They do not see the participation in these projects participation.

Relatively to the interviewers' opinion –Al Afifi & Miki- this year, IUG has done limited activities to reward academics whose proposals have been acknowledge for funding, but in a very limited dimension. Nothing has been mentioned about those who really involved in proposals preparation activities whose proposals were not acknowledge for funding (Islamic University of Gaza, 2012).

In general, the findings indicates that IUG reward and recognition system do not encourage IUG academics decision of participation in European funded projects.

In a study conducted by Balaji, Knisely & Blazyk (2007), where they investigated the impact of launching internal researches grant competition to fund R&D projects similar to the sponsored projects requirements, thematic fields and priorities; it was found that grant competition initiative has greet impact and increased the number of applied projects for R&D programmes by 50%. IUG has launched new competition for research groups, but this competition is not in line with European Funded or non-European funded cooperative R&D projects thematic fields, requirements, criteria, etc. the problem is, IUG did not encourage or direct IUG academics to externally funded R&D projects but she increase the dependence on IUG resources. In a ward, it is obvious that IUG is going forward to enhance its scientific research. But the problem is there is no links between its practices and the participation in sponsored projects. IUG can use its current practices but in different direction toward participation in funded projects.

5.4.3 Second Field: Academic Personality & Occupational characteristics

In this section the two sub-fields of the field academics personality and occupational findings are described and discussed as follows.

5.4.3.1 Personal Characteristics & Abilities

Table 5.4-6: Means and Test values for of each item of the Occupational Characteristics field, shows the following results:

- The mean of paragraph No.1 “I am familiar with European funded programme for R&D projects” equals 4.89. Test-value = -5.73, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.
- The mean of paragraph No.4 “I am enthusiastic to participate in European funded R&D projects” equals 7.63. Test-value = 4.20 , and P-value = 0.000 which is

smaller than the level of significance α =0.05. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 6. It is concluded that the respondents agreed to this paragraph.

- The mean of paragraph No.3 “I am good team player to prepare and work on European funded projects” equals 5.88 Test-value = -0.59, and P-value = 0.551 which is bigger than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is in-significantly different from the hypothesized value 6. It is concluded that the respondents neutral to this paragraph.

In general, the field "Personal Characteristics & Abilities" intends to identify the extent to which IUG academics have the required personal characteristics and abilities that enable them to participate in European Funded R&D cooperative projects. The mean of this field equals 56.9 % Test-value = -2.38, and P-value = 0.018 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

The number of respondents who participated in European Funding R&D cooperative projects proposals preparation activities during the last ten years promotes the study; as the participating respondents constituted 14.37% of the total respondents. Thus it’s very logical to have disagreement on the statements: I am familiar with European funded programme for R&D projects, I have experience in preparing and working on European funded projects.

Moreover, the results reveal that respondents agreed to the statement: “Participation in European funded R&D projects is fruitful”, which indicates that respondents believe that participation in these projects, have financial and scientific benefits for participants. This contradicts with Rustom (2011) opinion when he mentioned that most of IUG academics are not aware of the financial and non-financial benefits they will gain from participation in European funded R&D cooperative projects.

This result agrees with what has been mentioned by Rustom (2011) and Al-Masri (2011), during the interview when they were asked about the barriers that hinder IUG academics from participating in the European funded R&D cooperative projects they answered that most of IUG academics are not familiar with these projects and do not have experience in writing competitive proposals for these projects

Table 5.4-5: Means and Test values for of each item of the Personal Characteristics & Abilities field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	I am familiar with European funded programme for R&D projects	**4.89**	**-5.73**	**0.000**	**48.9%**
2.	I have experience in preparing and working on European funded projects	**4.23**	**-9.57**	**0.000**	**42.3%**
3.	I am good team player to prepare and work on European funded projects	**5.88**	**-0.59**	**0.551**	**58.8%**
4.	I am enthusiastic to participate in European funded R&D projects	**6.77**	**4.20**	**0.000**	**67.7%**
5.	Participation in European funded R&D projects is fruitful	**6.65**	**3.74**	**0.000**	**66.5%**
6.	Family and social circumstances encourage me to participate in European funded projects	**5.74**	**-1.37**	**0.173**	**57.4%**
	All paragraphs of the filed	**5.69**	**-2.38**	**0.018**	**56.9%**

In addition, Al-Masri (2011) has mentioned that working on European funded R&D cooperative projects management & proposals preparation activities requires group working which is not supported by our culture where individual working style is dominant. This cited barrier support the neutral answer of the respondents for their ability and willingness for group working to participate in European Funded R&D cooperative projects.

The obtained senior staff opinion matches academic staff Mikki (2012) opinion in regards to suffering IUG academics from week English & foreign language skills; participation in European funded R&D cooperative projects needs special training which IUG academics have not. Porter (2007) support what Mikki mentioned as he entailed in his study that academics are week in writing funding proposals as the academic writing is much different from grant writing. Thus institutes must promote her academic staff with the required training to enable them from writing competitive proposals for donors.

In contrast, Al Afifi(2012) has different opinion as he entailed that IUG academics have the potential and qualifications but lack the training and the direction toward participation in European funded cooperative projects.

In addition, Mikki(2012) added that IUG academics are not prepared or motivated to go international; their families' responsibilities and society culture discourage them from even thinking of leaving their families for period of time.

In spite of the neutral responses in regards to the paragraph "Family and social circumstances encourage me to participate in European funded projects" but Mikki opinion in this regards is more rational and logical for us as an Arabian people and more specifically Palestinians; family structure force this reality, we may differ from other citizens around the world. Most of academics when they get their PhDs they return to their country to constitute their family and bring children. The point is, when these children begin to grow up, parents cannot leave them for long period of time or even for series of short periods which is sometimes necessary to participate in European funded R&D cooperative projects. They are very concern of their sons and daughters specially teenagers; as they need very special care. Moreover; the political situation in our country may affect the ability of single parent to take care of the family in case of the absence of the father or the mother.

In brief, IUG academics personal characteristics and abilities are not supporting his participation in the European funded R&D cooperative projects. They have the potential and enthusiasm but lack the training and skills.

5.4.3.2 Occupational Characteristics

Table 5.4-6: Means and Test values for of each item of the Occupational Characteristics field, shows the following results:

- The mean of paragraph No.1 "Academics teaching load hinder me from participation in European funded projects" equals **5.51**. Test-value = **-2.6**, and P-value = **0.010** which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

Table 5.4-6: Means and Test values for of each item of the Occupational Characteristics field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Academics teaching load hinder me from participation in European funded projects	**5.511**	**-2.6**	**0.010**	**55.1%**
2.	Administrative load hinder me from participation in European funded projects	**5.517**	**-2.3**	**0.024**	**55.2%**
	All paragraphs of the filed	**5.505**	**-2.2**	**0.028**	**55.1%**

- The mean of paragraph No.2 “Administrative load hinder me from participation in European funded projects” equals **5.52**. Test-value = **-2.3**, and P-value = **0.024** which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

In general, the field "Occupational Characteristics" intends to identify the extent to which IUG academics workload (academic teaching hours and administrative tasks) hinders them from participation in European Funded R&D cooperative projects. The mean of this field equals 55.1 % Test-value = -2.2, and P-value = 0.028 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

Thus, the respondents indicated that their working hours (teaching and administrative tasks) at IUG are not considered as barriers for their participation in European funded R&D cooperative projects.

The result of this field is very rational and in line with respondents distributions according to their teaching hours and administrative tasks, as indicated in Table 5.2-11: Teaching Hours Distribution of Respondents, 33.3% of the respondents have less than 12 teaching hours per week. Whereas 59.2% of the respondents have 12-15 teaching hours per

week. Whereas Table 5.2-12: Senior Positions Holders Distribution of Respondents indicated that 44.3% of the academics hold senior position at IUG.

This is the same opinion as interviewed IUG senior staff Al-Masri (2011) & Rustom (2011) as they do find neither the academic teaching hours nor the administrative tasks as a major barrier for IUG academics participation in European funded R&D cooperative projects.

Whereas, Migdad (2011) mentioned academic workload at IUG as a barrier for IUG academics that hinders them from participation in European funded R&D cooperative projects.

Mikki(2012) agrees with Migdad (2011) opinion, as he indicated that large teaching hours load at IUG (12 hours for associate professor, 9 hours for professors) limit the time that faculty has use to focus on writing project proposals.

In contrast Al Afifi(2012) disagree with both Migdad (2011) & Mikki(2012) opinion and agrees with Al-Masri(2011) & Rustom (2011) as he find the teaching and administrative loads appropriate.

In general, the results of this sub-field indicated that occupational characteristics at IUG do hinder them from participation in European funded R&D cooperative projects.

The result of this sub-field contradict with the results obtained from Sharobeam & Howard (2002) study as they found that academics in predominantly undergraduate universities are heavily loaded by their teaching hours and administrative tasks.

5.4.4 Third Field: European Funded R&D Cooperative Projects Context

In this section the three sub-fields of European Funded R&D cooperative projects context is analyzed, the sub-fields are:

- European Funding programmes nature
- European Funding programmes Time table
- Proposals Preparation Requirements
- Evaluation and Funding decisions

5.4.4.1 European Funding Programmes Nature

Table 5.4-7: Means and Test values for of each item of European funding Programme Nature field, shows the following results:

- The mean of paragraph No.1 “Funding programmes objectives are in line with the Palestinian society needs” equals 5.58. Test-value = -0.68, and P-value = 0.495 which is bigger than the level of significance α =0.05, so the mean of this paragraph is in-significantly different from the hypothesized value 6. It is concluded that the respondents neutral to this paragraph.
- The mean of paragraph No.2 “Funding programmes concentrate on prioritized thematic fields of the third countries” equals 5.58. Test-value = -2.52, and P-value = 0.013 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

Table 5.4-7: Means and Test values for of each item of European funding Programme Nature field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Funding programmes objectives are in line with the Palestinian society needs.	**5.88**	**-0.68**	**0.495**	**58.8%**
2.	Funding programmes concentrate on prioritized thematic fields of the third countries.	**5.58**	**-2.52**	**0.013**	**55.8%**
3.	Funding programmes support multidisciplinary projects.	**6.24**	**1.588**	**0.114**	**62.4%**
	All paragraphs of the filed	**5.91**	**-0.66**	**0.513**	**59.1%**

In general, the field "European funding Programme Nature" intends to identify the extent to which the European funding programmes objectives, thematic fields and scientific outcomes encourage IUG academics to participate in European funding R&D cooperative programmes activities. The mean of this field equals 5.91 Test-value = -0.66, and P-value = 0.513 which is bigger than the level of significance α =0.05 so the mean of this field is

insignificantly different from the hypothesized value 6. It is concluded that the respondents are neutral to this field.

It was concluded that the respondents are not familiar with European Funding programmes. Thus, it's obvious to have neutral responses for the field of the European funding programme nature.

It is worth mentioning that the interviewers didn't mention any barrier for IUG academics participation in the European funded programmes regarding the nature of these programmes. On the contrary, Al Afifi (2012) said that European funding programmes are plenty, categorized in a rational manner, specific and clear for people who want to participate.

5.4.4.2 European Funding Programmes Time Table

Table 5.4-8: Means and Test values for of each item of European funding Programme Time Table field, shows the following results:

- The mean of paragraph No.1 "Time period for open calls for proposals is enough to prepare competitive proposals" equals 6.28 . Test-value = 1.59, and P-value = 0.113 which is bigger than the level of significance α =0.05, so the mean of this paragraph is in-significantly different from the hypothesized value 6. It is concluded that the respondents neutral to this paragraph.
- The mean of paragraph No.2 "Long time period of European funded projects increase their scientific benefits" equals 6.82 . Test-value = 5.09, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is positive, so the mean of this paragraph is significantly higher than the hypothesized value 6. It is concluded that the respondents agreed to this paragraph.

In general, the field "European funding Programme Time Table" intends to identify the characteristics of European funding programmes time table: time period of open calls and time duration of the funded projects, as seen by IUG academics. The mean of this field equals 65.5 % Test-value = 3.70 with positive sign, and P-value = 0.000 which is smaller than the level of significance α =0.05 so the mean of this field is significantly bigger than the hypothesized value 6. It is concluded that the respondents agreed to this field.

Table 5.4-8: Means and Test values for of each item of European funding Programme Time Table field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Time period for open calls for proposals is enough to prepare competitive proposals	**6.28**	**1.59**	**0.113**	**62.8%**
2.	Time duration of European funded projects is very long	**6.82**	**5.09**	**0.000**	**68.2%**
	All paragraphs of the filed	**6.553**	**3.70**	**0.000**	**65.5%**

This result is similar to what has been cited by Gonzales (2009), as it was mentioned that the R&D funded projects characterized by its long implementation period.

Regarding the first item of the field: Time period for open calls for proposals is enough to prepare competitive proposals; It is very obvious to have this neutral answer as the number of respondents who have participated in European funded projects proposals preparation activities in the last ten years obtained in section 5.4: Part II: Assessing Academic Participation in R&D European Funded projects constituted 14.37 % of the total respondents. Thus, they are not aware of its time period for open calls.

Interviewed academic staff Mikki (2012) has another point of view that does not support the neutral opinion of the respondents for the 1st paragraph; he indicated that Proposals submission deadlines usually occur within the semester where faculty members are busy in teaching and students mentoring. Thus, they preferred not to participate as they would not be able to meet the deadlines. Whereas, Al Afifi(2012) indicated that time table for open calls is very enough for who begin early in preparing the proposal and constituting the consortium.

5.4.4.3 Proposals Preparation Requirements

Table 5.4-9: Means and Test values for of each item of Proposals Preparation Requirements field, shows the following results:

- The mean of paragraph No.1 “Proposals preparation does not require literature review” equals 3.32. Test-value = -15.4, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this

paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

- The mean of paragraph No.1 “It’s easy to constitute the project consortium members” equals 4.01. Test-value = -11.9, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph

Table 5.4-9: Means and Test values for of each item of Proposals Preparation Requirements field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Proposals preparation do not require literature review	**3.32**	**-15.4**	**0.000**	**33.2%**
2.	Proposals applications can be filled very easily	**3.61**	**-14.3**	**0.000**	**36.1%**
3.	It’s easy to constitute the project consortium members	**4.01**	**-11.9**	**0.000**	**40.1%**
	All paragraphs of the filed	**3.63**	**-18.4**	**0.000**	**36.3%**

In general, the field “Proposals Preparation Requirements" intends to identify how easy the process of preparing proposals for European funding programmes open calls in regards to constructing the project consortium, applications parts and the need for statistical information and literature review seen by IUG academics. The mean of this field equals 36.3 % Test-value = -18.4 with negative sign, and P-value = 0.000 which is smaller than the level of significance α =0.05 so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

This result is consistent with what the interviewers Al-Masri (2011), Migdad (2011) & Rustom, (2011) have mentioned regarding the barriers that hamper IUG academics from participation in European funded R&D projects; they agreed on the proposals preparation requirements is very difficult and need lot of time and paper work.

Interviewed academic staff agrees with the obtained results and with interviewed senior staff opinions; Mikki (2012) has indicated that previous negative experience in writing unsuccessful proposals leads to the discouragement of submitting new proposals as these

proposals requires high efforts and needs lot of time. In addition, he added that most of IUG academics do not have relation with European countries academics; thus they face huge obstacle in constituting the project consortium members.

Mikki opinion is matching the literature; as indicated in section 2.2.7: Cooperation Difficulties between HEIs, constituting the project consortium members is not an easy task and requires time and high efforts. For IUG academics, as Al-Masri (2011) reported that some of IUG academics have been graduated from Arabic countries; thus they are not connected to European universities. As a result their chance of finding project partners is very low.

Whereas Al Afifi(2012) has pointed to the fact that finding suitable project partners is the most challenging requirement for participation in European funded R&D cooperative projects. He added networking activities are very essentials for academics who want to participate in these projects. Moreover, the European programme support academics with virtual portals that help them to find the suitable partners and constitute the project consortium. The only thing they need is to know about these portals and how to benefit from these portals.

Thus, the results indicated that proposals preparation requirements are challenging and not easy.

The results from this sub-field match Al-Furaih & Al-Shayji (2005), Monahan(1992) & Ogunrinade(2005) studies results as they entailed that grant application and submission process consumes time and reduces academics incentives to apply for funding. The same was pointed to in section:Grant Writing, as it was cited by different researchers that the difference between grant writing and academic writing makes the academics hesitate to participate in grant related activities

5.4.4.4 Evaluation and Funding Decisions

Table 5.4-10: Means and Test values for of each item of Evaluation & Funding Decisions field, shows the following results:

- The mean of paragraph No.1 “Evaluation criteria are clear and understandable” equals 5.7. Test-value = -1.73, and P-value = 0.086 which is bigger than the level of significance α =0.05, so the mean of this paragraph is in-significantly different from the hypothesized value 6. It is concluded that the respondents neutral to this paragraph. This is very logical; the respondents who have participated in European funded projects proposals preparation activities in the last ten years according to section 5.3: **Part II: Assessing Academic Participation in R&D European**

Funded projects constituted 14.37 % of the total respondents Thus, they are not aware of what has been identified in the call guidelines.

- The mean of paragraph No.3 “Funding decisions are not affected by the regional and national political situation” equals 3.66 . Test-value = -12.5, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this paragraph.

In general, the field “Evaluation & Funding decisions" intends to identify how transparent and faire the evaluation process and funding decisions of European funding programmes proposals as seen by IUG academics. The mean of this field equals 5.08 Test-value = -8.4 with negative sign, and P-value = 0.000 which is smaller than the level of significance α =0.05 so the mean of this field is significantly smaller than the hypothesized value 6. It is concluded that the respondents disagreed to this field.

Table 5.4-10: Means and Test values for of each item of Evaluation & Funding Decisions field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)
1.	Evaluation criteria are clear and understandable	**5.70**	**-1.73**	**0.086**	**57.0%**
2.	European funding programme provide participants with evaluation report that clarifies the proposal rejection reasons.	**5.88**	**-0.59**	**0.551**	**58.8%**
3.	Funding decisions are not affected by the regional and national political situation	**3.66**	**-12.5**	**0.000**	**36.6%**
	All paragraphs of the filed	**5.08**	**-8.4**	**0.000**	**50.8%**

The result of this field is in line with what has been reviewed by the literature; as indicated in section 2.2.9: External Funding Activities the European funded R&D cooperative programmes call for proposals characterized by:

“Consortium are selected via call for proposals and evaluation procedures including:

1. Assessment criteria which is prepared and published along with the call for proposals open
2. Independent assessors. “

But in general the respondents disagreed to the transparency of the funding decisions. This contradicts between the field overall result and the literature review appeared from the respondents answers to the third paragraph regarding the political situation effect on the funding decisions: Funding decisions are not affected by the regional and national political situation. The respondents disagreement to this paragraph may be interpreted as Palestine and especially Gaza strip political situation is not stable since 2007 (Poort, 2011); The continues closure, bad economic situation and Gaza war in 2009 is seen as an effective factors in the funding decisions by the respondents. In general no item about political situation effect has been indicated in the literature review of the European funding R&D programmes funding decisions.

Both Mikki and Prof Al-Afifi support the respondents’ opinion regarding the political situation as they indicated that "political situation do affect the funding decisions of the European programmes", as two of their projects have been rejected after passing evaluation stages because of changing political situation in 2006.

The political situation may not be a direct factor in funding decisions for the European Funded R&D cooperative projects but the consequences of the political situation in the target country are the effecting factors. The donor requires the achievement of the project overall aim and specific objectives; thus if the political situation at the target country is not stable and will hamper the project implementation activities; the donor may not acknowledge the project for funding even though it was superior according to assessors reports.

We can say that it’s the donor role to measure to what extent does the political situation of specific country will affect the project implementation activities.

For country like Palestine which is considered as politically unstable country, people can’t expect their country political circumstances; they may exert greet efforts in proposals preparation and submission process and then the political situation turned around. Thus, their paid efforts go for nothing. This point may influence IUG academics decision of participation in proposals preparation activities for European funded R&D cooperative projects.

5.4.5 Forth Field: Decision of Participation in European Funded R&D cooperative projects.

Table 5.4 11: Means and Test values for of each item of Decision of Participation in the European Funded R&D cooperative projects field, shows the following results:

- The mean of paragraph No.1 “My decision of participation in European funding programmes is positively correlated with Level of my Personal characteristics & abilities” equals **7.68**. Test-value = **11.70**, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 6. It is concluded that the respondents agreed to this paragraph by percentage of 76.8%.
- The mean of paragraph No.5 “My decision of participation in European funding programmes is positively correlated Level of Rewards/ recognition provided for the participants by the university” equals 6.71. Test-value = **3.87**, and P-value = 0.000 which is smaller than the level of significance α =0.05. The sign of the test is positive, so the mean of this paragraph is significantly greater than the hypothesized value 6. It is concluded that the respondents agreed to this paragraph by percentage of 67.1%.

In general, the field "Decision of participation in European funding R&D cooperative projects" intends to identify the effecting factors that influence IUG academics decision of participation in European funding programmes in regards to the study nine fields. The mean of this field equals 7.17 % Test-value = 10.01, and P-value = 0.00 which is bigger than the level of significance α =0.05 so the mean of this field is significantly bigger than the hypothesized value 6. It is concluded that the respondents agreed to this field.

It’s noted that respondents have agreed to all paragraphs of this field, and this is supported by all previous studies; the first paragraph has got the highest agreement percentage between respondents 76.8%. Whereas the ninth paragraph The Scientific and financial benefits resultant from the projects has got 75.6%agreement from respondents. The last rank has gone to the 5th paragraph: Level of Rewards/ recognition provided for the participants by the university.

Table 5.4-11: Means and Test values for of each item of Decision of Participation in the European Funded R&D cooperative projects field

No	Item	Mean	Test value	P-value Sig.	Proportional mean (%)	rank
My decision of participation in European funding programmes is positively correlated with:						
1.	Level of my Personal characteristics & abilities	**7.68**	**11.70**	**0.000**	**76.8%**	**1**
2.	Level of suitability of my occupational characteristics with the programmes requirements	**7.51**	**11.21**	**0.000**	**75.1%**	**3**
3.	Level of Institutional support	**7.14**	**6.98**	**0.00**	**71.4%**	**5**
4.	Level of correlation between University Policies and the participation in that projects	**6.94**	**5.65**	**0.00**	**69.4%**	**7**
5.	Level of Rewards/ recognition provided for the participants by the university	**6.71**	**3.87**	**0.00**	**67.1%**	**9**
6.	Level of simplicity of Proposals preparation requirements	**6.76**	**4.29**	**0.00**	**67.6%**	**8**
7.	Level of clarity of proposals evaluation and transparency of funding decisions	**7.18**	**7.45**	**0.00**	**71.8%**	**4**
8.	Level of appropriateness of call for proposals and accredited projects time schedule	**7.06**	**6.72**	**0.00**	**70.6%**	**6**
9.	The Scientific and financial benefits resultant from the projects	**7.56**	**10.84**	**0.00**	**75.6%**	**2**
	All paragraphs of the filed	**7.17**	**10.01**	**0.00**	**71.7%**	

This result indicates the prioritize motivators for IUG academics to participate in European funded R&D cooperative projects. The first priority for IUG academics was the level of their personal characteristics and abilities which includes: experiences, enthusiasm, social circumstances, etc… if the academic has got the required abilities and characteristics

then he will examine the Scientific and financial benefits resultant from the projects – paragraph 2- does it worth working on the project?

Then he will examine his occupational characteristics which include: project field, eligibility criteria, workload etc… after that he may interpret the political situation, is it stable? (The researcher here point to the political situation as the respondents were neutral to the other paragraphs of the field) and so on, he will examine the available motivator to decide whether to participate in European funded R&D cooperative projects or not.

5.5 Part IV: Hypothesizes Testing

In this section the study two hypothesizes will be tested:

- IUG Academic Personality's & Occupational' s characteristics, European Funded R&D cooperative projects context & the Organizational context at IUG affect the decision of participation in European funded R&D projects at α= 0.05.
- There are significant differences among respondents for Barriers that influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to personal and occupational attributes (Rank, tenure/ non tenure, discipline, non-professional work, Age, gender, educational degree, marital status, English/foreign languages proficiency & experience)

5.5.1 Testing the First Main Hypothesis

As resulted from section 5.4.5: Forth Field: Decision of Participation in European Funded R&D cooperative projects., the nine study sub-fields have been entailed as influencing factors for IUG academics Decision of participation in European Funded R&D cooperative project.

In this section, the most significantly effecting factors on IUG academics decision of participation will be identified.

The study first hypothesis is:

"IUG Academic Personality's & Occupational' s characteristics, European Funded R&D cooperative projects context & the Organizational context at IUG affect the decision of participation in European funded R&D projects at α= 0.05." where:

H1-1:*"IUG Academics Personal characteristics & Abilities affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-2: *"IUG Academics Occupational characteristics affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-3*: IUG Institutional support affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-4*: IUG Policies affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-5*: IUG Rewards/ recognition affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-6*: European Funding programmes nature affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-7*: European Funding programmes Time table affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-8*: Proposals Preparation Requirements of European funded projects affect the decision of participation in European funded R&D projects at α= 0.05."*

H1-9*: Evaluation and Funding decisions of European funded projects affect the decision of participation in European funded R&D projects at α= 0.05."*

To test the nine sub-hypothesizes, linear regression –stepwise method- is applied on the nine subfields of the three fields of the study.

Table 5.5-1: Model Summary for the first Hypothesis, shows the following results: adjusted R Square= 76.4% which means that 76.4% of the variation in "IUG academics Decision of Participation European funded R&D projects" is explained by this model.

Table 5.5-1: Model Summary for the first Hypothesis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.881	0.776	0.764	0.82344

Table 5.5-2: Analysis of Variance for the Regression Model shows the assessment of the overall significance of the model. As $p<0.05$, the model is significant.

Table 5.5-2: Analysis of Variance for the Regression Model

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	382.642	9	42.516	62.702	0.000a
Residual	110.524	163	0.678		
Total	493.165	172			

Table 5.5-3: The Regression Coefficients of the Independent Variables shows Beta values for each independent variable, the bigger the value of Beta, the bigger the effect of independent variable on the value of the dependent variable value. Only independent variables whose P-values <0.05 are significantly affecting the dependent variable.

The Beta values indicate that Proposals Preparation Requirements is the most effective subfield with β= - 0.696 followed by Rewards & Recognition with β= 0.620. Whereas, Institutional support comes in the 3rd rank with beta = 0.42. the University Policies regarding participation in European Funded R&D cooperative projects subfield is the 4th affecting factor with β= 0.198. The Personal characteristics & Abilities is the following independent affecting factor with beta= 0.135 and finally, Evaluation & Funding decisions β= - 0.100.

Table 5.5-3: The Regression Coefficients of the Independent Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.444	0.437		3.306	0.001
Institutional support	0.421	0.059	0.337	7.080	0.000
University Policies	0.198	0.045	0.224	4.363	0.000
Rewards & Recognition	0.620	0.058	0.678	10.761	0.000
Personal characteristics & Abilities	0.135	0.055	0.120	2.473	0.014
Occupational Characteristics	-0.068-	0.026	-0.111-	-2.597-	0.098
European Funding programmes nature	0.110	0.049	0.123	2.235	0.077
European funding programmes timetable	-0.023-	0.034	-0.032-	-.679-	0.498
Proposals Preparation Requirements	-0.696	0.049	0.647	-14.343-	0.000
Evaluation & Funding decisions	-0.100	0.043	0.057	-2.343-	0.020

Thus the regression equation is:

Equation 5.5-1 : Regression Equation of IUG Academic Decision of Participation in European Funded R&D cooperative projects

$$Y = 1.444 + 0.135 * X1 + 0.421 * X2 + 0.198 * X3 - 0.696 * X4 - 0.100 * X5 + 0.620 * X6$$

Y: IUG academics decision of participation in European Funded R&D cooperative projects
X1: Personal characteristics & Abilities
X2: Institutional support
X3: University Policies
X4: Proposals Preparation Requirements
X5: Evaluation & Funding decisions
X6: Rewards & Recognition

In conclusion, there is a significant relationship between the dependent variable "IUG academics decision of participation in European Funded R&D cooperative projects" and the independent variables previously identified and their rank is as following (the first one means the most effective variable):

1. Rewards & Recognition
2. Proposals Preparation Requirements of European funded project
3. IUG Institutional support
4. IUG Policies regarding participation in European funded R&D projects.
5. IUG Academics Personal characteristics & Abilities
6. Evaluation & Funding decisions

The regression equation reveals that testing the first main hypothesis resulted in accepting 6 sub-hypothesizes and rejecting 3 sub-hypothesizes as shows in Table 5.5-4: First Main Hypothesis testing summary:

Table 5.5-4: First Main Hypothesis testing summary

	Hypothesis statement	Testing
H1-1	*IUG Academics Personal characteristics & Abilities affect the decision of participation in EU*	Accepted
H1-2	*IUG Academics Occupational characteristics affect the decision of participation in EU*	Rejected
H1-3	*IUG Institutional support affect the decision of participation in European funded R&D projects at α= 0.05*	Accepted
H1-4	*IUG Policies affect the decision of participation in EU*	Accepted
H1-5	*IUG Rewards/ recognition affect the decision of participation in European funded R&D projects at α= 0.05*	Accepted
H1-6	***H6**: European Funding programmes nature affect the decision of participation in European funded R&D projects at α= 0.05."*	Rejected
H1-7	*European Funding programmes Time table affect the decision of participation in European funded R&D projects at α= 0.05."*	Rejected
H1-8	*Proposals Preparation Requirements of European funded R&D projects at α= 0.05*	Accepted
H1-9	*Evaluation and Funding decisions of European funded R&D projects at α= 0.05*	Accepted

1. Institutional support

Supporting to the statistical results, the academic staff interviewees Mikki (2012) & prof.Al-Afifi (2012) pointed to the lack of the institutional support from IUG as an affecting barrier that influence IUG academics decision of participation in European Funded R&D cooperative projects.

In general, the obtained results are in line with the previous studies results; Boyer & Cockriel(2001), Kleinfelder, Price&Dake (2003), Boyer & Cockriel (1998) and finally Balaji, Knisely, & Blazyk(2007) all of the mentioned researchers cited the Lack of experience and training in grant writing as a major barrier that hinder academics from participation in R&D cooperative projects.

Whereas the lack of technical and administrative support from the university was cited by Boyer & Cockriel (2001), Monahan (1992), Al-Furaih & Al-Shayji(2005), Boyer & Cockriel (1998) and finally Sharobeam & Howard (2002).

In addition, Time release for grant activities was found as a motivator by studies conducted by Monahan(1992), Sterner(1999), Monahan & Fortune (1995), Porter(2004), Walden & Bryan (2010) and Stahler & Tash(1992)

In total, Institutional support by its different ways cited above is considered as an affecting factor on the academic decision of participation in European Funded R&D cooperative projects; their existence will motivate academics to participate whereas absence will hinder them from participation.

2. University policies

All interviewees Mikki (2012), Al-Afifi (2012), Rustom (2011), Migdad (2011) & Nazmi (2011) highlighted the absence of linkages between participation in European funded R&D cooperative projects and tenure, promotion and performance evaluation criteria as a major barrier that influence IUG academics decision of participation in European Funded R&D cooperative projects.

In addition, this study is similar to other studies regarding the University policies field as it was considered as an affecting factor on the academics decision of participation in European Funded R&D cooperative projects. In different studies conducted by the following researchers: (Gonzales, 2009; Boyer & Cockriel, 2001; Kleinfelder, Price, && Dake, 2003; Boyer & Cockriel, 1998; Taylor, 2001; Porter, 2004; Walden & Bryan, 2010; Stahler & Tash, 1992). it was found that linking external funding activities to tenure/ promotions decisions is considered as motivator by the studies academic staff samples.

Moreover, Gallaher & Daniel (1989) in his study entailed that the absence of policy that govern the process of participation in European funded R&D cooperative projects is one of the most barriers for academics decision of participation in these projects. In line with this study both Al Afifi (2012) & Mikki (2012) pointed to the absence of specific and detailed policies and regulations regarding the participation in these projects as a majour barrier that discourage IUG academics from participation in the cooperative projects.

In total, IUG Policies & Regulations regarding participation in European funded R&D projects by its different ways cited above is considered as an affecting factor on the academic decision of participation in European Funded R&D cooperative projects; their existence will motivate academics to participate whereas absence will hinder them from participation.

3. Proposals Preparation requirements

This study has aproved the previous studies results regarding the relation between proposals preparation requirements and the willing of participation in R&D funded cooperative projects.

Monahan (1992), Al-Furaih & Al-Shayji (2005) & Ogunrinade (2005) found in their studies that Grants applications requirements and characteristics requires heavy working hours and hinder academics from willing to participation in R&D funded cooperative projects. All of them entailed that academics who have submitted one applications and failed toacknowledge for funding would hesitate to be engaged in proposasl preparation activities once again because of its complicated and huge requirements.

In line to these studies, interviewed senior staff: Rustom(2011), Migdad(2011) & Nazmi(2011) in addition to interviewed academic staff Mikki(2012 & Al-Afifi(2012) have pointed to the complications of proposasls preparation requirements for European Funded R&D cooperative projects as a major barrier that hinder IUG academics from participation in these projects.

4. Personal Characteristics and Abilities

The statistical result for this sub-field support the identified barriers by the interviewed senior staff: Rustom(2011), Migdad(2011) & Al-Masri(2011) as they included:

1. Language barriers as lot of academics at IUG cannot use English language very fluently.
2. Lack of knowledge of European funded projects sources, benefits and importance of participation for the academic himself and the university.

The obtained results regarding the personal characteristics and abilities is in line with many other studies; Boyer P. (2005), Gallaher & Daniel (1989) & Boyer & Cockriel (1998) have found that that lack of knowledge of funding sources was cited as majour barrier for academics participation in Funded R&D cooperative projects.

Whereas the Lack of experience and training in grant writing was identified as barriers by the studies conducted by Boyer & Cockriel (2001), Kleinfelder, Price, & Dake (2003), Boyer & Cockriel (1998) & finaly the study of Balaji, Knisely, & Blazyk (2007)

In addition, Sharobeam & Howard (2002) found that the personal motive is the only factor that encourage academics to exploit weekends and summer to conduct their research with absence of institutional support, lack of knowledge of funding sources and the Lack of experience and training in grant writing.

In general, Personal Characterises and Abilities sub-field with its all paragraph is affecting factors that have to be considered if IUG will interested in activating the academics participation in European Funded R&D cooperative projects.

5. Rewards and Recognition

The academic staff interviewers Al Afifi(2012) & Miki(2012) matches the result regarding the affecting role of the level of rewards and recognition at IUG and the willingness of academics to participate in the European funded R&D cooperative projects; both of them pointed to the importance of peer recognition and rewards to encourage participation in these projects.

The obtained results are matching the previous studies results; in several studies conducted by Monahan (1992), Boyer & Cockriel (1998), Sharobeam & Howard (2002), Monahan & Fortune (1995), Porter (2004), Walden & Bryan (2010) and Hartmann (2011) it was approved that recognition of grants work in the college publications help academics in building academic reputation and encourage them in be involved in grants activities.

In addition, lack of a clearly defined system of rewards for those who obtain external funding was found as a barrier that hinder academic staff from participation in European Funded R&D cooperative projects according to Gallaher & Daniel (1989).

Moreover, implementing internal grant programme in line with external fund programmes objectives and themes and their applications requirements was found to be one of incentives that motivates academics participation in European funded R&D projects (Balaji, Knisely, & Blazyk, 2007).

The Rewards and Recognition sub-field motivates IUG academics to participate in European Funded R&D cooperative projects and has the greatest effect of their participation in European funded R&D cooperative projects.

6. Occupational Characteristics

This study reveals that the occupational characteristics are not affecting IUG academics decision of participation in European Funded R&D cooperative projects. This result is contrasting with the studies of Boyer P. (2005), Gallaher & Daniel (1989), Boyer & Cockriel (2001), Kleinfelder, Price, & Dake (2003), Monahan (1992), Al-Furaih & Al-Shayji (2005), Sharobeam & Howard (2002), Sterner (1999), Walden & Bryan (2010)& Onyefulu & Ogunrinade (2005) were thay cited lack of time due to Heavy teaching load and committee tasks hinder them from the participation in R&D funded cooperative projects.

This contrast between what the current study indicated and what previous studies have indicated regarding the barriers resulted from heavy teaching load and administrative tasks may return to the fact that the respondents find their academic work suitable and is not hindering them from participation in European Funded R&D cooperative projects. This can be justified as the respondents who are engaged in voluntary activities constitute more than 61% of the total respondents; thus they have enough time to participate extra activities other than their academic work.

7. Evaluation & Funding decisions

The study resulted in considering the evaluation funding decisions sub field and its effecting paragraph: "Funding decisions are not affected by the regional and national political situation" as a significant factor to predict IUG academics decision of Participation in the European funded R&D cooperative projects.

Both Mikki and Al-Afifi support the respondents' opinion regarding the political situation as they indicated that: political situation do affect the funding decisions of the European programmes, two projects have been rejected after passing evaluation stages because of changing political situation of Gaza in 2006.

5.5.2 Testing the Second Main Hypothesis

"There are significant differences among respondents for Barriers that influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to personal and occupational attributes (Rank, tenure/ non tenure, discipline, non-professional work, Age, gender, educational degree, marital status, English/foreign languages proficiency & experience)"

In the following section significant differences between respondents will be measured by each attribute

5.5.2.1 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to Gender

Table 5.5-5: Independent Samples T-Test of the fields and their p-values for Gender, shows the following results:

- The P-value of field No.1 "Institutional support" equals **0.049** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the

respondents regarding to this field due to Gender. The researcher concludes that the respondents' Gender has significant effect on this field.

- The P-value of field No.8 "Proposals Preparation Requirements" equals **0.016** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to Gender. The researcher concludes that the respondents' Gender has significant effect on this field. The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to Gender. The researcher concludes that the respondents' Gender has no effect on these fields

The obtained result gave the same indicators as Boyer (2005) study; as the study entailed significant differences due to gender in the level of institutional support provided for academics to encourage them to participate in R&D projects. The women have indicated lower institutional support than men get.

The main reason for this difference in responses is due to the dominance of male academics at IUG; women constitute very small group in any department. Thus, the provided institutional support is not biasing to male academics, but females may not be aware of various type of provided support because of their weak representation at their departments.

Whereas, significant difference in respondents mean to the 8th field: Proposals Preparation Requirements, can be interpreted as women in general is detailed creature, thus her estimation is based on deep thinking. In addition, the field has included paragraph about the consortium constitution simplicity; this paragraph depends on networking activities of the academics within IUG and other regional and international institution. Thus, as women academics at IUG are minors they constitutes 14.4 % of the respondents from different departments; their potential to support networking of each other is very low. That's why their responses to this field are significantly differing from men responses.

Table 5.5-5: Independent Samples T-Test of the fields and their p-values for Gender

No	Item	Test value	P-value Sig.	Means	
				Male	Female
1.	Institutional support	**-2.03**	**0.049**	**5.1147**	**4.5800**
2.	University Policies	**-0.35**	**0.726**	**3.5918**	**3.4400**
3.	Rewards & Recognition	**-0.75**	**0.457**	**4.3288**	**3.9275**
4.	Personal characteristics & Abilities	**-0.39**	**0.700**	**5.7136**	**5.5667**
5.	Occupational characteristics	**0.079**	**0.937**	**5.4832**	**5.5200**
6.	European Funding programmes nature	**-0.59**	**0.554**	**5.9456**	**5.6884**
7.	European Funding programmes Time table	**-1.7**	**0.101**	**6.6848**	**5.7273**
8.	Proposals Preparation Requirements	**-2.5**	**0.016**	**3.7258**	**2.9583**
9.	Evaluation and Funding decisions	**0.836**	**0.41**	**5.09**	**4.7667**
	Decision of Participation in the European funded R&D cooperative projects	**1.370**	**0.180**	**7.1051**	**7.56**

5.5.2.2 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to Age

Table 5.5-6: ANOVA test of the fields and their p-values for Age; shows the following results:

Table 5.5-6: ANOVA test of the fields and their p-values for Age

No	Item	Test value	P-value Sig.	Age			
				< 30	30 < 40	40 < 50	50+
1.	Institutional support	**1.250**	**0.293**	**4.6**	**5.03**	**4.92**	**5.38**
2.	University Policies	**4.117**	**0.008**	**4.5**	**3.5**	**3.1**	**4.2**
3.	Rewards & Recognition	**3.456**	**0.018**	**5.1**	**4.64**	**3.75**	**4.7**
4.	Personal characteristics & Abilities	**1.557**	**0.202**	**5.9**	**6.12**	**5.63**	**5.35**
5.	Occupational characteristics	**0.911**	**0.437**	**4.8**	**6.00**	**5.34**	**5.48**
6.	European Funding programmes nature	**1.621**	**0.186**	**6.2**	**6.17**	**5.59**	**6.18**
7.	European Funding programmes Time table	**2.922**	**0.036**	**5.0**	**6.74**	**6.41**	**6.97**
8.	Proposals Preparation Requirements	**0.817**	**0.486**	**3.10**	**3.60**	**3.55**	**3.91**
9.	Evaluation and Funding decisions	**0.336**	**0.800**	**4.7**	**5.22**	**5.01**	**5.04**
10.	Decision of Participation in the European funded R&D cooperative projects	**1.30**	**0.27**	**7.51**	**7.50**	**7.12**	**6.88**

- The P-value of field No21 “University Policies” equals **0.008** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to Age. The researcher concludes that the respondents’ Age has significant effect on this field.
- The P-value of field No.3 “Rewards & Recognition” equals **0.018** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to Age. The researcher concludes that the respondents’ Age has significant effect on this field.
- The P-value of field No.7 “European Funding programmes Time table” equals **0.036** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to Age. The researcher concludes that the respondents’ Age has significant effect on this field.
- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to Age. The researcher concludes that the respondents’ Age has no effect on these fields

Respondents aged less than 30, gave the highest expectations to two fields:” University Policies” and” Rewards & Recognition” whereas they gave the lowest expectation to the field: European Funding programmes Time table. This could be because young academics do not have enough experience in preparing European funding time table, thus they will need more time than experienced academics and especially those aged more than 50 years old.

5.5.2.3 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to “Educational Degree”

Table 5.5-7: Independent Samples T-Test of the fields and their p-values for Educational Degree, shows the following results:

- The P-value of field No.2 “Rewards & Recognition” equals **0.044** which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to Educational Degree. The researcher concludes that the respondents’ Educational Degree has significant effect on this field.

Table 5.5-7: Independent Samples T-Test of the fields and their p-values for Educational Degree

No	Item	Test value	P-value Sig.	Means	
				Master	PhD
1.	Institutional support	**-1.09**	**0.280**	**4.84**	**5.11**
2.	University Policies	**1.36**	**0.176**	**3.88**	**3.45**
3.	Rewards & Recognition	**2.04**	**0.044**	**4.77**	**4.08**
4.	Personal characteristics & Abilities	**-1.43**	**0.154**	**5.41**	**5.79**
5.	Occupational characteristics	**0.38**	**0.703**	**5.60**	**5.44**
6.	European Funding programmes nature	**0.45**	**0.649**	**6.01**	**5.87**
7.	European Funding programmes Time table	**-2.34**	**0.022**	**5.96**	**6.75**
8.	Proposals Preparation Requirements	**-1.48**	**0.142**	**3.36**	**3.72**
9.	Evaluation and Funding decisions	**-0.92**	**0.357**	**4.87**	**5.10**
10.	Decision of Participation in the European funded R&D cooperative projects	**0.561**	**0.577**	**7.27**	**7.12**

- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to Educational Degree. The researcher concludes that the respondents' Educational Degree has no effect on these fields

The master degree respondents gave the 3rd field higher expectations than PhD holders. This significant difference probably because PhD holders expect more from the University rewards system. Whereas PhD holders gave higher expectations for the field: European Funding programmes Time table; because PhD holders perhaps have better experience in dealing with funded project time table.

5.5.2.4 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Marital Status"

As previously indicated in section 5.3.1.5, the marital status for the study respondents distributed between two cases: single and married; thus the researcher used T-test for this hypothesis.

Table 5.5-8: Independent Samples T-Test of the fields and their p-values for Marital Status, shows that the p-values (Sig.) for all fields are greater than the level of significance (Sig.=0.05), thus there is insignificant difference among the respondents regarding to these fields due to Educational Degree. The researcher concludes that the respondents' marital status has no effect on these fields.

Table 5.5-8: Independent Samples T-Test of the fields and their p-values for Marital Status

No	Item	Test value	P-value Sig.	Means	
				Married	Single
1.	Institutional support	**0.714**	**0.496**	**5.0540**	**4.7031**
2.	University Policies	**-0.153**	**0.883**	**3.5657**	**3.6563**
3.	Rewards & Recognition	**-0.845**	**0.428**	**4.2464**	**4.9405**
4.	Personal characteristics & Abilities	**-1.750**	**0.117**	**5.6536**	**6.5000**
5.	Occupational characteristics	**-0.714**	**0.495**	**5.4669**	**5.9375**
6.	European Funding programmes nature	**-0.910**	**0.388**	**5.8889**	**6.3333**
7.	European Funding programmes Time table	**-0.087**	**0.933**	**6.5493**	**6.6250**
8.	Proposals Preparation Requirements	**2.378**	**0.055**	**3.6699**	**2.6111**
9.	Evaluation and Funding decisions	**-0.898**	**0.397**	**4.8226**	**5.5625**
10.	Decision of Participation in the European funded R&D cooperative projects	**-1.343**	**0.217**	**7.1392**	**7.8194**

5.5.2.5 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Years of Experience"

Table 5.5-9: ANOVA test of the fields and their p-values for Years of Experience, shows the following results:

Table 5.5-9: ANOVA test of the fields and their p-values for Years of Experience

No	Item	Test value	P-value Sig.	mean				
				< 3	3 < 6	6 < 10	10< 15	15+
1.	Institutional support	**0.93**	**0.4**	**4.86**	**4.4821**	**5.3329**	**5.04**	**5.11**
2.	University Policies	**1.40**	**0.2**	**4.58**	**3.9342**	**3.7763**	**3.18**	**3.57**
3.	Rewards & Recognition	**2.15**	**0.7**	**5.11**	**3.9815**	**5.3991**	**3.97**	**4.16**
4.	Personal characteristics & Abilities	**1.12**	**0.3**	**6.52**	**5.5789**	**6.3500**	**5.51**	**5.60**
5.	Occupational characteristics	**2.08**	**0.8**	**4.89**	**6.2632**	**5.1250**	**6.02**	**5.13**
6.	European Funding programmes nature	**1.350**	**0.25**	**6.8704**	**5.5439**	**6.3684**	**5.71**	**5.90**
7.	European Funding programmes Time table	**5.26**	**0.0**	**5.00**	**5.5263**	**6.2347**	**6.87**	**7.77**
8.	Proposals Preparation Requirements	**1.10**	**0.1**	**2.17**	**3.3947**	**4.1481**	**3.53**	**3.7**
9.	Evaluation and Funding decisions	**1.81**	**0.3**	**4.19**	**4.5877**	**5.1296**	**4.39**	**5.20**
10.	Decision of Participation in the European funded R&D cooperative	**1.63**	**0.7**	**8.88**	**6.8480**	**7.6333**	**7.10**	**7.05**

- The P-value of field No7 “European Funding programmes Time table” equals 0.001 which is smaller than the level of significance (α =0.05). Thus, there is significant difference among the respondents regarding to this field due to Years of Experience in academic work. The researcher concludes that the respondents’ Educational Degree has significant effect on this field.
- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to Years of Experience in academic work. The researcher concludes that the respondents’ Years of Experience in academic work has no effect on these fields.

The result of the 7th paragraph shows that respondents who have more than 15 years in academic work have the highest expectations of the European programmes time table: call open period, long period of European progrmmes projects. This may because of their long experience, thus they are aware that cooperative projects is characterized by its long time duration and their networking and research activities make the open call period enough and suitable for them. This interpretation is justified for the researcher as the mean of this paragraph is increasing with the number of years of experience.

5.5.2.6 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to “English/Foreign Languages proficiency”

Table 5.5 10: ANOVA test of the fields and their p-values for foreign languages proficiency, shows that the P-value of field No4 “Personal characteristics & Abilities” equals 0.01 which is smaller than the level of significance (α =0.05). Thus, there is significant difference among the respondents regarding to this field due to Foreign Languages proficiency. The researcher concludes that the respondents’ Foreign Languages proficiency has significant effect on this field.

Table 5.5-10: ANOVA test of the fields and their p-values for foreign languages proficiency

No	Item	Test value	P-value	Mean					
				English	French	Non	Eng.& French	English & German	English & Others
1.	Institutional support	0.1	1.0	5.1	4.6	4.9	5.2	4.9	5.0
2.	University Policies	0.4	0.9	3.5	2.8	3.5	3.6	3.6	4.1
3.	Rewards & Recognition	0.9	0.5	4.2	2.3	4.0	5.4	3.9	4.9
4.	Personal characteristics & Abilities	3.3	0.0	5.5	5.3	4.5	6.4	7.1	6.1
5.	Occupational characteristics	1.4	0.2	5.3	9.0	6.1	4.8	6.8	5.4
6.	European Funding programmes nature	1.7	0.1	5.8	4.7	4.7	6.9	6.3	6.5
7.	European Funding programmes Time table	1.8	0.1	6.4	6.5	6.6	5.8	7.2	7.4
8.	Proposals Preparation Requirements	0.9	0.5	3.6	2.3	3.9	4.9	3.5	3.8
9.	Evaluation and Funding decisions	0.6	0.7	4.7	5.3	4.9	5.7	5.0	5.3
10.	Decision of Participation in the European funded R&D cooperative projects	0.5	0.8	7.2	7.0	7.6	6.5	6.8	7.2

As entailed in the result of the 4th field, respondents who are proficient in more than one foreign language gave higher expectation to their personal characteristics and abilities. Respondents who are proficient in English and German languages gave the highest value for the field; whereas, respondents who are not proficient in any foreign languages gave the lowest expectation values.

This result ensures the importance of foreign language proficiency for academic staff to participate in European Funded R&D cooperative projects. The obtained results is in line with what the interviewers Rustom(2011), Migdad(2011), Al-Masri(2011) & Mikki(2012) mentioned about the foreign Language barriers as lot of academics at IUG cannot use foreign language very fluently which hinder them from participation in European funded R&D cooperative projects.

5.5.2.7 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Faculty"

Table 5.5-11: ANOVA test of the fields and their p-values for Faculty, shows that the P-value of field No4 "Personal characteristics & Abilities" equals 0.01 which is smaller than the level of significance (α =0.05). Thus, there is significant difference among the respondents regarding to this field due to faculty. The researcher concludes that the respondents' faculty has significant effect on this field.

As entailed in the result of the 4th field, respondents from faculty of Engineering and IT faculty gave higher expectation to their personal characteristics and abilities. Whereas, respondents from faculty of nursing gave the lowest expectation values for this field. Thus, according the result obtained in section 5.7.1: Testing the First Main Hypothesis, as it was found that Personal Characteristics and abilities field has significant effect on IUG academic decision of participation in European Funded R&D cooperative projects. So that, enhancing the academic staff characteristics and abilities to activate and enhance their participation in European Funded R&D cooperative projects in faculties that entailed low expectations to their personal characteristics and abilities will raise the IUG participation in these projects.

The obtained results match the indicated information in section 2.6.5: IUG European Funding Profile about the high percentage of engineering faculty participants in European funded R&D cooperative projects.

Table 5.5-11: ANOVA test of the fields and their p-values for Faculty

No	Item	Test value	P-value Sig.	mean							
				Commerce	Engineering	Education	Nursing	Science	Arts	Medicine	IT
1.	Institutional support	0.4	0.9	5.1	4.9	5.2	4.1	5.2	4.9	4.8	5.1
2.	University Policies	0.2	0.91	3.6	3.6	3.9	3.6	3.5	3.4	3.9	3.0
3.	Rewards & Recognition	1.4	0.2	4.6	4.3	4.5	2.0	4.4	3.8	5.9	3.5
4.	Personal characteristics & Abilities	2.3	0.01	5.8	6.5	5.8	4.7	5.2	5.3	5.9	6.3
5.	Occupational characteristics	1.3	0.2	5.3	5.6	5.6	6.3	5.7	4.6	4.8	7.4
6.	European Funding programmes nature	1.7	0.1	6.0	6.5	5.6	4.1	5.9	5.4	5.8	6.4
7.	European Funding programmes Time table	1.0	0.4	6.5	6.9	6.3	5.5	6.9	6.1	5.4	6.8
8.	Proposals Preparation Requirements	0.6	0.8	3.8	3.7	3.3	3.2	3.9	3.3	4.3	3.5
9.	Evaluation and Funding decisions	1.3	0.3	5.3	5.1	5.0	4.0	4.3	5.0	5.3	4.0
10.	Decision of Participation in projects	0.6	0.7	7.5	7.7	7.2	6.7	7.1	7.0	6.4	6.7

5.5.2.8 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Type of employment Contract"

Table 5.5-12: Independent Samples T-Test of the fields and their p-values for Type of Employment Contract, shows the following results:

Table 5.5-12: Independent Samples T-Test of the fields and their p-values for Type of Employment Contract

No	Item	Test value	P-value Sig.	Means	
				Tenure	Non-tenure
1.	Institutional support	0.61	0.55	5.06	4.86
2.	University Policies	-2.01	0.06	3.47	4.32
3.	Rewards & Recognition	-2.58	0.02	4.13	5.25
4.	Personal characteristics & Abilities	-2.84	0.01	5.58	6.49
5.	Occupational characteristics	0.02	0.98	5.49	5.48
6.	European Funding programmes nature	-1.86	0.07	5.81	6.57
7.	European Funding programmes Time table	0.40	0.70	6.58	6.40
8.	Proposals Preparation Requirements	2.41	0.02	3.73	3.00
9.	Evaluation and Funding decisions	-0.04	0.97	4.86	4.87
10.	Decision of Participation in the European funded R&D cooperative projects	-0.65	0.52	7.14	7.37

- The P-value of field No 3 "Rewards & Recognition" equals 0.02 which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to type of employment contract. The

researcher concludes that the respondents' type of employment contract has significant effect on this field.

- The P-value of field No.4 "Personal characteristics & Abilities" equals 0.01 which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to type of employment contract. The researcher concludes that the respondents' type of employment contract has significant effect on this field.
- The P-value of field No.8 "Proposals Preparation Requirements" equals 0.02 which is smaller than the level of significance (α=0.05). Thus, there is significant difference among the respondents regarding to this field due to type of employment contract. The researcher concludes that the respondents' type of employment contract has significant effect on this field.
- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to type of employment contract. The researcher concludes that the respondents' type of employment contract has no effect on these fields

The non-tenure respondents gave higher expectations to the 3rd and 4th paragraphs, whereas tenure respondents gave the 8th paragraph higher expectations. This difference in expectations returns to the fact that non-tenure academics are mostly in their second or third year working at IUG; thus they are enthusiastic, following up their e-mails daily, attending most of the departments meeting, following up new research in their discipline, fresh blood, etc.; in a ward they are working very hard to deserve the tenure contract at IUG.

Whereas; the difference in the expectation for the 8th paragraph probably occurred as tenure academics have more experience, their ability to measure time duration is better than non-tenured academics. Non-tenured academic may over estimating the required time to prepare project proposals.

This result is different from Walden & Bryan (2010) study results; where the study showed difference between tenured and non-tenured faculty members in perceiving the heavy teaching load as a barrier but current study do not show any differences in perceiving academic work load as barrier. This may return to the fact that both tenured and non-tenure academics have the same teaching load, and the teaching load is affected by the academics' rank and having senior positions.

5.5.2.9 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Rank"

Table 5.5-13: ANOVA test of the fields and their p-values for Rank, shows the following results:

Table 5.5-13: ANOVA test of the fields and their p-values for Rank

No	Item	Test value	P-value Sig.	means			
				Prof.	Associate Prof.	Assistant Prof.	Lecturer
1.	Institutional support	1.11	0.35	5.41	5.13	4.99	4.80
2.	University Policies	1.35	0.26	3.39	3.09	3.70	3.88
3.	Rewards & Recognition	1.53	0.21	3.91	4.39	4.00	4.77
4.	Personal characteristics & Abilities	0.86	0.46	5.92	5.60	5.86	5.40
5.	Occupational characteristics	0.72	0.54	5.98	5.07	5.48	5.50
6.	European Funding programmes nature	0.67	0.57	5.97	6.20	5.68	5.98
7.	European Funding programmes Time table	3.15	0.03	7.29	6.53	6.64	5.93
8.	Proposals Preparation Requirements	0.47	0.70	3.66	3.87	3.63	3.42
9.	Evaluation and Funding decisions	0.75	0.52	5.28	4.88	4.78	4.67
10.	Decision of Participation in the European funded R&D cooperative projects	0.22	0.88	7.04	7.31	7.11	7.22

- The P-value of field No7 "European Funding programmes Time table" equals 0.03 which is smaller than the level of significance (α =0.05). Thus, there is significant

difference among the respondents regarding to this field due to the rank. The researcher concludes that the respondents' rank has significant effect on this field.

- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to the rank. The researcher concludes that the respondents' rank has no effect on these fields.

According to the test, the respondents ranked as professors gave the highest expectation to the 7th field: "European Funding programmes Time table" as they have enough experience to judge that cooperative projects are characterized by their long implementation duration.

The value of the expectations is declining as the respondents rank going to the lecturer rank.

5.5.2.10 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Voluntary Work Engagement "

Table 5.5-14: ANOVA test of the fields and their p-values for Voluntary work engagement, shows the following results:

The P-value of field No.4 "Personal characteristics & Abilities" equals 0.01 which is smaller than the level of significance (Sig .=0.05). Thus, there is significant difference among the respondents regarding to this field due to voluntary work engagement. The researcher concludes that the respondents' voluntary work engagement has significant effect on this field.

The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to the voluntary work engagement. The researcher concludes that the respondents' voluntary work engagement has no effect on these fields.

According to the result obtained the respondents who are always engaged in voluntary activities gave the highest expectation to the 4th field; whereas respondents who never participated in voluntary work activities gave the lowest expectations to their personal characteristics and abilities field. This result is quite rational and justified for the researcher

and it returns to the fact that people engaged in extra activities other than their work will increase their abilities and enhance their abilities to engage in different activities.

Table 5.5-14: ANOVA test of the fields and their p-values for Voluntary work engagement

No	Item	Test value	P-value Sig.	Means			
				Always	Sometimes	Never	Often
11.	Institutional support	**1.68**	**0.17**	**4.83**	**4.91**	**5.10**	**5.59**
12.	University Policies	**0.12**	**0.95**	**3.52**	**3.50**	**3.71**	**3.67**
13.	Rewards & Recognition	**1.03**	**0.38**	**4.02**	**4.12**	**4.42**	**4.86**
14.	Personal characteristics & Abilities	**4.22**	**0.01**	**6.33**	**5.43**	**5.29**	**6.38**
15.	Occupational characteristics	**1.51**	**0.21**	**6.24**	**5.32**	**5.03**	**5.83**
16.	European Funding programmes nature	**0.31**	**0.82**	**5.68**	**5.88**	**6.03**	**6.11**
17.	European Funding programmes Time table	**1.34**	**0.26**	**6.13**	**6.49**	**6.57**	**7.15**
18.	Proposals Preparation Requirements	**0.56**	**0.64**	**3.85**	**3.46**	**3.80**	**3.72**
19.	Evaluation and Funding decisions	**1.43**	**0.24**	**4.44**	**4.84**	**5.39**	**4.77**
20.	Decision of Participation in the European funded R&D cooperative projects	**1.96**	**0.12**	**7.05**	**7.07**	**6.99**	**7.82**

5.5.2.11 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to "Teaching load"

Table 5.5-15: ANOVA test of the fields and their p-values for teaching Load, shows:

Table 5.5-15: ANOVA test of the fields and their p-values for teaching Load

No	Item	Test value	P-value Sig.	Means		
				< 12 hours	12-15 hours	> 15 hours
1.	Institutional support	**1.09**	**0.34**	**5.27**	**4.91**	**4.96**
2.	University Policies	**0.42**	**0.66**	**3.64**	**3.48**	**3.96**
3.	Rewards & Recognition	**0.01**	**0.99**	**4.25**	**4.29**	**4.29**
4.	Personal characteristics & Abilities	**0.49**	**0.61**	**5.77**	**5.70**	**5.26**
5.	Occupational characteristics	**0.96**	**0.39**	**5.80**	**5.27**	**5.81**
6.	European Funding programmes nature	**1.24**	**0.29**	**6.20**	**5.74**	**5.95**
7.	European Funding programmes Time table	**6.43**	**0.00**	**7.26**	**6.16**	**6.23**
8.	Proposals Preparation Requirements	**0.61**	**0.55**	**3.44**	**3.72**	**3.83**
9.	Evaluation and Funding decisions	**2.44**	**0.09**	**5.27**	**4.67**	**4.49**
10.	Decision of Participation in the European funded R&D cooperative projects	**0.53**	**0.59**	**7.34**	**7.09**	**7.03**

- The P-value of field No7 “European Funding programmes Time table” equals 0.00 which is smaller than the level of significance (α =0.05). Thus, there is significant difference among the respondents regarding to this field due to the rank. The researcher concludes that the respondents’ teaching load has significant effect on this field.
- The p-values (Sig.) for other fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to the teaching load. The researcher concludes that the respondents’ teaching load has no effect on these fields.

The respondents whom teaching loads below 12 teaching hours per week gave the highest expectation for the 7th field. Those respondents who have this load generally either ranked as professor or have senior position. In both cases they have experience and abilities to judge that the time available for open calls is enough and the R&D cooperative project are characterized by their long implementation period.

5.5.2.12 There are Significant Differences Among Respondents for Barriers that Influence Academics Decision of Participation in European Funded Collaborative R & D Projects due to “Senior Position”

Table 5.5-16: Independent Samples T-Test of the fields and their p-values for Senior Position, shows the following results:

The p-values (Sig.) for all fields are greater than the level of significance (α=0.05), thus there is insignificant difference among the respondents regarding to these fields due to the rank. The researcher concludes that the respondents’ rank has no effect on these fields.

The result indicated that respondents who hold senior position expectation are not significantly different from those who are not holding senior position at IUG.

It was expected that there would be difference in the field of Occupational characteristics as holding senior position increase the administrative load very sufficiently; but it seems that this increase in the administrative load was compensated by decreasing the teaching hours which cause balance in the working load.

Table 5.5-16: Independent Samples T-Test of the fields and their p-values for Senior Position

No	Item	Test value	P-value Sig.	Means	
				Yes	No
1.	Institutional support	**1.68**	**0.10**	**5.25**	**4.87**
2.	University Policies	**-1.13**	**0.26**	**3.39**	**3.71**
3.	Rewards & Recognition	**-0.67**	**0.50**	**4.15**	**4.37**
4.	Personal Characteristics & Abilities	**1.91**	**0.06**	**5.96**	**5.48**
5.	Occupational characteristics	**0.72**	**0.47**	**5.64**	**5.37**
6.	European Funding programmes nature	**0.82**	**0.41**	**6.03**	**5.81**
7.	European Funding programmes Time table	**1.83**	**0.07**	**6.85**	**6.30**
8.	Proposals Preparation Requirements	**-0.31**	**0.76**	**3.59**	**3.67**
9.	Evaluation and Funding decisions	**1.40**	**0.16**	**5.07**	**4.69**
10.	Decision of Participation in the European funded R&D cooperative projects	**1.51**	**0.13**	**7.36**	**7.02**

5.6 Conclusion

In this section the findings of the study were presented and analysed in the light of previous studies and qualitative data from the interviews with senior and academic staff members at IUG.

The results revealed that the selected variables: institutional context, Personal and occupational characteristics and the European Funded R&D cooperative projects context serve as barriers for IUG academics decision of participation in the European funded R&D cooperative projects. According to literature review of IUG and European funding, it was

found that IUG perform several activities to support academic participation in these projects. But the statistical analysis along with qualitative results revealed that the performed services are not efficient which leads to the low participation in the European funded projects.

In addition, the barriers raised from the European funded projects context is not seen by IUG academics only, but all academics around the world face these barriers but they still participate in these projects. Thus, if the statistical barriers raised from the IUG organizational context and the personal and occupational characteristics are overcome, IUG academics' participation in the funded R&D projects will enhance.

Overall, and according to the previous studies it was expected that personal and occupational attributes would create significant differences among respondents to the barriers that influence Academics Decision of Participation in European Funded Collaborative R & D Projects; but the findings of the second hypothesis reject this expectation. This could be due to the following reasons:

1. Majority of IUG academics are not aware of the European funded R&D projects and did not participate in these programmes proposals preparation stages. Thus, no matter their personal and occupational traits.
2. Previous studies were conducted mostly in developed countries where:
   - **Different cultures:**
     - The tendency of the Palestinian to get married early.
     - The tendency of women to stay at home
   - **Different organizational context of the home HEIs**
     - The promotion criteria is very different, at IUG promotion criteria mostly depend on the research whereas in other developed countries HEIs in three axes: services, research and teaching excellence. Thus in developed countries early stages researchers should exerts high efforts in the three axes to be promoted and gain higher rank.
     - Tenure decisions: the previous studies indicated that tenure decisions are tied to the participation in these projects, whereas in IUG there is no clear link between getting tenured and participation in the R&D cooperative funded projects.

Chapter Six: Conclusions & Recommendations

CHAPTER OUTLINE

6.1 Introduction

In this chapter, the first section will summarize the study findings. The study conclusion will be listed and then the study recommendations will be presented by proposing framework work to overcome barriers that influence IUG academics decision of participation in the European Funded R&D cooperative projects. Finally the future research ideas are stated.

6.2 Conclusions

On the basis of the study findings, these final conclusions were reached. They are divided into two main categories: conclusions of the content analysis card which are divided into the six main domains mentioned below and the conclusions of interviews.

1. **Participation in the European funded R&D projects**

IUG academics participation in the European funded R&D cooperative projects is very week and need to be enhanced and promoted

2. **Organizational context of IUG**

- The institutional support provided by IUG to encourage academics to participate in European funded R&D cooperative projects is inadequate and do not serve very well to encourage their decision of participation in those projects.
- IUG policies and regulations are not linked or support academics participation in European funded R&D cooperative projects.
- IUG rewards and recognition system is not linked or considers academics participation in European funded R&D cooperative projects.

3. **Personal and Occupational characteristics of IUG Academics**

- IUG academics are not well prepared to participate in European funded R&D cooperative projects because of their personal characteristics and abilities.
- Academic workload (teaching and administrative tasks) at IUG does not hinder IUG academics participation in European funded R&D cooperative projects.

4. **The R&D Cooperative Projects Context**

- The timing of open calls for proposals for the European funded R&D cooperative project hinder IUG academics decision of participation in these projects as it lies at the middle of the semester where academics are busy in their teaching duties.
- Proposals preparation requirements (application filling & consortium constitution) for the European funded R&D cooperative projects are very time consuming and require high efforts and work.
- Funding decisions of the European funded R&D cooperative projects proposals are affected highly by the regional and national political situation of the target countries.

5. **Statistically Effective Factors on IUG Academics' Decision of Participation in the European Funded Projects**

- IUG academics decision of participation in European funded R&D cooperative projects is affected by (the first one means the most effective variable):
    a. Rewards & recognition
    b. Proposals preparation requirements of European funded project
    c. IUG institutional support
    d. IUG policies regarding participation in European funded R&D projects.
    e. IUG academics personal characteristics & abilities
    f. Evaluation & funding decisions

6. **Demographic Characteristics Effect on the Respondents Opinions**

- There are significant differences among respondents for barriers that influence academics decision of participation in European funded cooperative R & D projects due to personal and occupational attributes (Rank, tenure/ non tenure, discipline, non-professional work, Age, gender, educational degree, English/foreign languages proficiency, experience)

6.3 Proposed Framework

6.3.1 Introduction

In order to make efficient use of the results of this study, the researcher proposes a framework to overcome barriers that influence IUG academics decision of participation in

European funded R&D cooperative projects. This framework has been developed according to:

- Literature review.
- Current IUG practices.
- Study results.

It's worth mentioning that the proposed framework has been developed to be practical by:

- Considering limited available resources; the main idea behind the proposed activities is to re-allocate IUG available financial resources to serve the participation in funded projects.
- Presenting it by identified specific steps and activities directed to achieve the enhancement of academics participation in funded projects.

In addition, to use of the proposed framework efficiently, IUG must:

- Be committed by its senior management staff to enhance participation in the funded R&D cooperative projects. Without the commitment of the senior management; the changing process toward funded R&D cooperative projects will not be accomplished and will stay as personal matters (Pescatello, 1986; Mishler, 1988).
- Identify the responsible body who will implement the proposed framework; it may be part of scientific research affairs as most of universities do with the title: sponsored projects office (SPO), or it can be part of external relations affairs (Al Afifi, 2012).

6.3.2 Proposed Framework Presentation and Explanation

As shown in Figure 6.3-1 the proposed framework depends in two main component which are:

- Enhancing and reshaping the provided support to the academics to encourage the academics to participate in the funded cooperative R&D projects
- Enhancing the university policies and regulations to promote the participation of IUG academics in the funded cooperative

The SPO will be responsible of implementing and coordinating with other IUG deaneries these two main components. Such that, these two components will be achieved

and applied on IUG academics to encourage and promote their participation in the cooperative funded R&D projects.

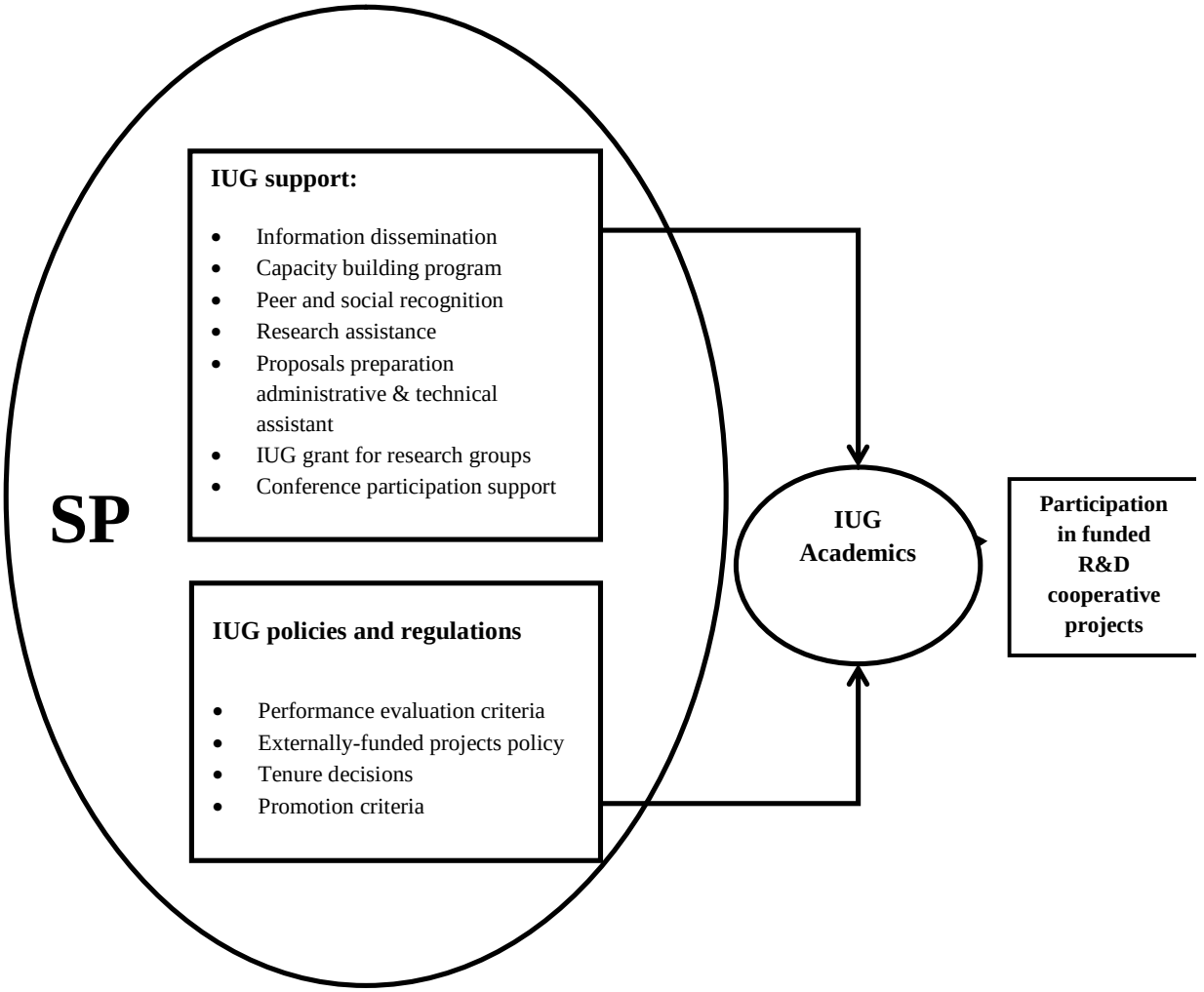

Figure 6.3-1: Proposed Framework to overcome barriers that influence IUG academics decision of Participation in European funded R&D cooperative projects

IUG Institutional support

IUG institutional support has to be reshaped and enhanced according to the obtained results, as following:

- **Disseminating information** about funding sources and available opportunities in a simple language. The disseminated information must demonstrate the anticipated

benefits for academics both financially and non-financially from participation in these projects. Two ways for dissemination is required:

- **Direct**: which means two ways of communications such that every call for proposals is studied and the target academics are determined according to their academic specialty, age and any other criteria set by the programme eligibility criteria to be contacted to coordinate for participation like conducting workshops (Porter, 2011).
- **Indirect**: the indirect method is also an effective mean for creating culture of participation in European funded R&D cooperative projects. In this method:
  - Bulk e-mailing of brochures, writing tips and newsletters are developed and circulated to the academics via e-mail, websites etc (Mishler, 1988) .
  - Database of potential calls institutions along with their objectives, disciplines, type of supported projects and future call for proposals timetable has to be developed & permanently published via sponsored projects management bodies at IUG webpages (Mikki, 2012).
  - Efficient use of social media websites to create regional and international working groups and forums. In these forums, experienced and senior researchers share their experience with junior ones (Mikki, 2012; Porter, 2007).

- **IUG academics capacity building programme:** this programme can be implemented by organizing annual training courses enlisting experienced and senior researchers from IUG in the following fields:
  - English language skills: This course is essential for academics to enable them use their language efficiently in describing their research ideas (Migdad, 2011; Al-Masri, 2011; Al Afifi, 2012).
  - Grants proposals preparation techniques since the academic writing is much different from grant writing (Porter, 2007;Wimsatt, Trice, & Langley, 2009; Henson, 2004; Porter, 2004; Al Afifi, 2012; Cole, 2006). The trainer must be one of experienced consultant or assessor who already has involved in succeeded grant proposals preparation or evaluation. In addition, the training courses timing must be chosen very carefully to be suitable for academics time schedule.
- **Supporting IUG academics with research assistant**: Those assistants who works on developing specific tasks. IUG can benefit from many programmes for graduates

employment like Best Students programme funded by UNRWA. This programme provides universities best graduates with 10 month working opportunities at their home universities. Thus IUG can benefit from youth power to help academics with required research assistance. The most important in these funded programmes is that the training the research assistant has gotten can benefit him in preparation of other projects. The project that acknowledge for funding will provide graduates for employment opportunities (Mikki, 2012).

- **IUG grants and prizes**: as indicated in the literature review, IUG provides through the Scientific Research Affairs 4 different annual prizes and grants to support the scientific research excellence. These grant and prizes should be re-viewed according to international R&D cooperative programmes grants thematic fields, requirements application form and budget templates. Such that grants could be provided for those who are working on calls for proposals under funded R&D programmes. In addition, the prizes eligibility criteria must include items regarding the funded research activities (Rath, 2009; Balaji, Knisely, & Blazyk, 2007; Banta, et al., 2004).
- **Peer & Social recognition**: IUG management parties must give participation in funded R&D cooperative project high priority by emphasizing on the participation in these projects in its different meeting and must appear at the overall evaluation indicators for different faculties and units. This priority must appear in its publications, newsletter, social recognition (Al Afifi, 2012; Mikki, 2012; Zhang & Davies, 2011). i.e.
    - Preparing roster for participants in European funded cooperative R&D projects. This roster must be published to be marked by all university academic and administrative staff and students.
    - Differentiating academics who were fully engaged in proposal development process from those who just participated as a partner. As indicated in **section 2.6.5: History of IUG Policies and Activities Regarding Funded R&D Cooperative Projects,** some academics are not fully engaged in proposals preparation process rather than they were invited by their colleagues to participate as a partner; whereas others were fully engaged in proposals preparation process which is very time consuming and difficult. Thus the participated academics must be stated in different meetings and publications. More concentration on their activities has to be given.

- **Administrative and technical assistant**: staff of the responsible offices for managing funded projects must be qualified technically to support interested academics in preparation process for European funded R&D cooperative projects (Al Afifi, 2012). The support should include but not limited to:
  - Contractual arrangements
  - Partnerships constitutions
  - Budget preparation process

- **Conference participation support**: in order to overcome barriers related to proposals preparation requirements and the effect of political situation on the funding decisions, networking activities must be enhanced and developed by concerned academics themselves. One of IUG provided services for IUG academics is supporting IUG academics in conference participation; this support can be reshaped to enhance networking activities (Al Afifi, 2012). Such that, supporting academic attendance in conferences will depend on the quality of his plan to benefit from his attendance. This can be achieved as following:
  - Creating an application form so that the academic member fill in and submit to seek fund for conference attendance.
  - The application form must contain separate part for networking activities the academic member intend to perform i.e. exploring different call for proposals, constituting consortium for different calls for proposals, linking with academics from the same discipline, etc..
  - The networking activities must be tied to participation in the preparation of externally funded R&D cooperative projects.
  - Upon his return, a follow up plan to achieve what he has coordinated for during the conference period.
  - Linking achieving of his plan to future support for conference attendance. Such that if he achieve what he planned for, he may grant extra fund to attend another conference within the same year.

So that, no academic member will be granted conference attendance support without showing sound plan of his travel.

IUG policies and regulations

- **Performance evaluation criteria** for academics members must be aligned with their participation in externally funded R&D projects. So that, the results of the assessment criteria are tied to their financial compensation i.e. at least the academic member participate in one project during three years (Al Afifi, 2012, Rustom, 2011, Al-Masri, 2011 ,Zhang & Davies, 2011& Taylor, 2001, Gonzales, 2009).
- **Promotion criteria** must be aligned with their participation in externally funded R&D projects. This means that separate items for participation in European funded R&D cooperative projects have to be included in the promotion criteria and the absence of participation results in losing those items points (Al Afifi, 2012, Rustom, 2011, Al-Masri, 2011 ,Zhang & Davies, 2011& Taylor, 2001, Gonzales, 2009 & Migdad, 2011). Thus, the promotion criteria should as indicated in section 2.5 Boyer's Domains of Scholarship concentrate on scientific research, external funding and teaching activities.
- **Tenure decisions**: tenure decisions must be tied with participation in funded R&D cooperative projects (Al-Masri, 2011, Zhang & Davies, 2011). Such that tenure decision could be given to the academics who can get fund under one of R&D cooperative projects. Non tenure academics at IUG must be acknowledged that tenure criteria are tied to the participation in these projects.
- **Linking participation in externally funded R&D projects with training opportunity and travel opportunity for conferences and other activities**. Such that, active academics in the R&D projects should be distinguished by nominating them to attend different international events i.e. conferences, international networks meetings, etc. (Zhang & Davies, 2011).
- **Externally-funded projects policy**: Developing a management policy for participation in funded R&D cooperative projects (Al Afifi, 2012, Gallaher & Daniel, 1989) such that:
    - The policy will be published and announced to the academics and different university units and departments.
    - The management policy must contain specific terms relating to the funded project budget distribution between applicants and university.
    - The policy must contain specific steps and procedures that describe the process that the academic staff has to fellow to submit a proposal for funding agencies. In

general, no proposal for funding will be accepted by universities grant offices without reviewing it and auditing the university role and benefits.

Examples of these policies can be found at the American university in Cairo website. During the development of this management policy in regards to financial terms and budget allocations, IUG will find itself confronted with a huge variety of different funding conditions and requirements; but in general the funding schemes will fellow two models of financial management (Herlitschka, 2009):

- Full cost allocation: where the total cost of the project will be covered by the donor like European funding programmes. In this type of cost allocation both the direct and indirect cost are calculated according to specific guidelines and percentages provided by the donor.
- Direct cost allocation: in this scheme the donor indicates that the project budget is not intended to cover indirect or administrative costs. This type is diminishing and funding agencies are more convinced with full cost model.

6.3.3 General Recommendations

Although Arabic and Islamic world specially golf states have the required resources (financial and human);their participation in R&D funding is still very limited. Thus it is the time for Arabic and Islamic countries to launch new funding programmes similar to European funded R&D programmes to handle the issues that are or not covered by the European programmes (Rustom, 2011).

6.4 Future Researches

Researches about the barriers that influence academics decision of participation in externally funded cooperative project is a new field and not highly researched area especially in the Arab world. Thus, the door is still open for more academic research.

Here are some of the proposed studies:

- Evaluating the current practices of research management in the Palestinian universities.
- Impact of third countries participation in the European funded R&D projects
- Trends analysis for the Islamic donors funding policy.

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Appendix A

List of European Funding sources

	Funding source	**Country**	**Website**
1.	Flemish Interuniversity Council – University Development Cooperation (VLIR-UOS)	Belgium	http://www.vliruos.be/index.php?language=EN&navid=587&direct_to=Home
2.	Interuniversity Council of the French Community in Belgium (CIUF-CUD)	Belgium	www.cud.ciuf.be
3.	University partnerships in cooperation and development (UPCD)	Canada	http://www.aucc.ca/programs-services/
4.	NUFFIC via the Netherlands Initiative for Capacity development in Higher Education (NICHE)	Netherlands	http://www.nuffic.nl/en/capacity-building/niche
5.	Swedish International Development Cooperation Programme (Sida)	Sweden	http://www.sida.se/English/Partners/Universities-and-research/From-funding-research-to-fighting-poverty/About-FORSK/
6.	German service for academic exchange (DAAD)	Germany	https://www.daad.de/entwicklung/hochschulmanagement/08014.en.html
7.	Austrian service for exchange (ÖAD)	Austria	www.oead.ac.at
8.	Spanish agency for International Cooperation (AECI)	Spain	http://www.aecid.es/en/index.html
9.	Denmark's development cooperation (DANIDA)	Denmark	http://um.dk/en/danida-en/partners/research/
10.	*Italian Development Cooperation via ministry of foreign affairs*	Italy	http://www.cooperazioneallosviluppo.esteri.it/pdgcs/
11.	*Norwegian Centre for International Cooperation in Education (SIU)*	Norway	http://siu.no/eng/Front-Page
12.	*Leverhulme Trust*	UK	http://www.leverhulme.ac.uk/index.cfm
13.	*Norwegian Agency for Development Cooperation (NORAD)*	Norway	http://www.norad.no/en/front-page
14.	*The British Academy*	UK	http://www.britac.ac.uk/index.cfm
15.	*European commission via The Education, Audiovisual and Culture Executive Agency (EACEA)*	EU	http://eacea.ec.europa.eu/index_en.php

Appendix B

Questionnaire (Arabic Version)

بسم الله الرحمن الرحيم

الجامعة الإسلامية – غزة

عمادة الدراسات العليا

كلية التجارة

قسم إدارة الأعمال

استبانة دراسة:

نموذج مقترح للتغلب على المعيقات التي تؤثر في قرار مشاركة الأكاديميين في المشاريع البحثية التنموية المشتركة أوروبية التمويل

الأساتذة الدكتورة/ المحترمة .

السلام عليكم ورحمة الله وبركاته،،،

تجري الباحثة دراسة حول الأسباب التي تعيق الأكاديمي من المشاركة في المشاريع البحثية التنموية المشتركة أوروبية التمويل، دراسة تطبيقية على الجامعة الإسلامية، وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في إدارة الأعمال بالجامعة الإسلامية بغزة. و سوف يتم دراسة المعيقات من ثلاثة جوانب:

1. معيقات متعلقة بالسياق الإداري في الجامعة الإسلامية
2. معيقات متعلقة بالقدرات و المهارات و الخصائص الوظيفية للأكاديمي
3. معيقات متعلقة بسياق المشاريع البحثة التنموية المشتركة ذاتها

لذا اتمنى منكم تخصيص بضع دقائق من وقتكم لتعبئة الإستبانة المرفقة بما ترونه مناسبا، حيث سيتم الإعتماد على نتائج هذه الإستبانة في **تطوير نموذج للتغلب على هذه المعيقات،** إن نتائج الإستبانة ستجدول وتعرض ضمن بيانات مجمعة ولن يتم الإشارة لإي حالة بعينها. إن إجاباتكم سوف تعامل بسرية تامة و سوف تستخدم لإغراض البحث العلمي ولن يتم نشرها او استخدامها لإية أغراض اخرى.

وتقبلوا فائق الاحترام والتقدير،،، **الباحثة: أماني المقادمة**

أولاً:البيانات الشخصية والوظيفية

ضع إشارة (×) في المربع المناسب:

1.1 السمات الشخصية

1. **الجنس**:

□ ذكر □ أنثى

2. **العمر**:

□ أقل من 30سنة □ من 30 – أقل من 40

□ من 40- أقل من 50 □ 50سنة فأكثر

3. **المؤهل العلمي**:

□ ماجستير □ دكتوراه

4. **عدد سنوات الخبرة في التدريس الأكاديمي**:

□ أقل من 3سنوات □ من 3- أقل من 6 □ من 6- أقل من 10 □ 10- أقل من 15 □ 15سنة فأكثر

5. **الحالة الإجتماعية**

□ متزوج □ اعزب □ ارمل □ مطلق

6. **اللغات الأجنبية الأوروبية التي تتقنها: (يمكنك اختيار اكثر من خيار)**

□ الانجليزية □ الفرنسية □ الاسبانية

□ الألمانية □ غير ذلك □ لا اتقن اي لغة

2.1 السمات الوظيفية

1. **الكلية**

□ كلية التجارة □ كلية الهندسة □ كلية التربية □ كلية الطب

□ كلية التمريض □ كلية الاداب □ كلية العلوم □ كلية تكنولوجيا المعلومات

2. **نوع عقد العمل**

□ عقد دائم □ عقد تجريبي

3. **الدرجة العلمية:**

□ استاذ □ استاذ مشارك □ استاذ مساعد □ محاضر

4. **هل انت مرتبط بأية أعمال او نشاطات تطوعية غير أعباء وظيفتك في الجامعة الإسلامية ؟**

□ دائما □ غالبا □ احيانا □ ابدا

5. **عبء ساعات التدريس**

□ اقل من 12 ساعة تدريس □ 12 15 ساعة تدريس □ اكثر من 15 ساعة تدريس

6. **هل تشغل منصب إداري في الجامعة حاليا؟**

□ نعم □ لا

ثانياً: تقييم مشاركة الأكاديميين في الجامعة الإسلامية في المشاريع البحثية التنموية المشتركة اوروبية التمويل.

1. هل شاركت في كتابة مقترحات مشاريع بحثية تنموية مشتركة لبرامج التمويل الأوروبية **خلال الفترة من** 2002 2012

□ نعم □ لا

ثالثا: يرجى اختيار الرقم الذي يناسبك من (1 = غير موافق بدرجة كبيرة جدا) إلى (10= موافق بدرجة كبيرة جدا). كلما اقتربت الدرجة من 1 دل ذلك على عدم الموافقة بدرجة كبيرة جدا وكلما اقتربت الدرجة من 10 دل ذلك على الموافقة بدرجة كبيرة جدا.

ملاحظات:

1. تشير كلمة المشاريع إلى المشاريع البحثية التنموية القائمة على الشراكات الأكاديمية مثل مشاريع الشراكات المتعددة الممولة من برامج الاتحاد الأوروبي مثل برنامج التمبوس و اراسموس مندوس، وهناك ايضا المشاريع ثنائية الشراكات مثل برنامج Appear و برامج المساعدات الايرلندية لدعم التعليم العالي و برنامج NORHED بدعم من النرويج.

2. **في حال لم تستطع الاجابة على اي بند يرجى تركه فارغ**

المحور الأول:النظام الإداري داخل الجامعة الإسلامية : يقصد بها الخدمات الداعمة و الأنظمة و القوانين و الحوافز المقدمة من ادار ة الجامعة خلال الثلاث سنوات الماضية		**الإجابة**
#	**العبارة**	**(10 1)**
1.1 الخدمات الداعمة و التسهيلات: أسئلة هذا البند تقيم الدعم المقدم من الجامعة الإسلامية لتشجيع الأكاديميين للمشاركة في المشاريع أوروبية التمويل		
1	يتم نشر وتعميم فرص البرامج الأوروبية لتمويل المشاريع عبر مختلف الوسائل المتاحة (مثل الايميل، صفحة الجامعة).	
2	يتم تنظيم ورش عمل لشرح فرص تمويل المشاريع المشتركة ضمن البرامج الأوروبية	
3	يتم عقد دورات تدريبية في كيفية و آلية كتابة مقترحات مشاريع لبرامج التمويل الأوروبية بصورة دورية	
4	يتم الإستعانة بمدربين خبراء في برامج التمويل الأوروبية لعقد دورات حول آلية كتابة مقترحات مشاريع لتلك البرامج	
5	يتم إعفاء الأكاديميين من بعض اعباء العمل لفترة زمنية محدودة لإعداد مشاريع لبرامج التمويل الأوروبية	

6	يتم مساعدة الأكاديميين في توفير عدد الشركاء اللازم لإتمام إعداد مقترحات المشاريع لبرامج التمويل الأوروبية	
7	يتم تقديم المساعدة للأكاديميين في اعداد مقترحات المشاريع لبرامج التمويل الأوروبية	
8	يتم توفير مساعد بحث للأكاديميين للمساعدة في اعداد المشاريع	
2.1 انظمة ولوائح الجامعة: أسئلة هذا البند تقيم مستوى دعم أنظمة الجامعة الإسلامية لمشاركة الأكاديميين في المشاريع أوروبية التمويل		
1	معايير التثبيت و الترقيات العلمية تهتم بعدد مقترحات المشاريع لبرامج التمويل الأوروبية التي قام بإعدادها الأكاديمي	
2	معايير التثبيت و الترقيات العلمية تأخذ بعين الإعتبار عدد المشاريع أوروبية التمويل التي حاز عليها الأكاديمي.	
3	يوجد في نظام الجامعة قوانين ولوائح تنظم مشاركة الأكاديميين في المشاريع أوروبية التمويل	
4	تطبق الجامعة نموذج ممنهج لتشجيع الأكاديميين على المشاركة في كتابة مقترحات مشاريع لبرامج التمويل الأوروبية.	
3.1 الحوافز : أسئلة هذا البند تقيم مستوى الحوافز التي تقدمها الجامعة الإسلامية لتشجيع الأكاديميين للمشاركة في المشاريع أوروبية التمويل		
1.	يتم تقديم مكافئات مادية للأكاديميين الذين شاركوا بإعداد مقترحات مشاريع لبرامج التمويل الأوروبية .	
2.	يتم توجيه رسائل شكر للأكاديميين الذين شاركوا بإعداد مقترحات مشاريع لبرامج التمويل الأوروبية.	
3.	يتم تكريم الأكاديميين الذين حازت مشاريعهم على تمويل من البرامج الأوروبية.	
4.	يتم تنظيم برامج تمويل داخلية تنافسية للأكاديميين على غرار متطلبات ومواضيع المشاريع الأوروبية.	
المحور الثاني: القدرات و المهارات و الخصائص الوظيفية للأكاديمي		**الإجابة**
#	**العبارة :**	**(10 1)**
1.2 القدرات و المعارف و السمات الفردية : أسئلة هذا البند تقيم مستوى القدرات والمعارف والسمات الفردية للأكاديمي فيما يتعلق بالمشاركة في المشاريع اوروبية التمويل		
1.	لدي معرفة ببرامج التمويل الأوروبية للمشاريع البحثية التنموية المشتركة.	
2.	لدى خبرة في إعداد و تنفيذ المشاريع المشتركة أوروبية التمويل	
3.	أجيد العمل ضمن فريق لإعداد و تنفيذ المشاريع المشتركة أوروبية التمويل	
4.	لدي حماسة للمشاركة في إعداد و تنفيذ المشاريع المشتركة أوروبية التمويل	
5.	المشاركة في إعداد و تنفيذ المشاريع المشتركة أوروبية التمويل مجدية .	
6.	الظروف الأسرية و الإجتماعية تشجعني على المشاركة في المشاريع المشتركة أوروبية التمويل	
2.2 السمات الوظيفية : أسئلة هذا البند تقيم ارتباط خصائص وظيفة الأكاديمي بقرار مشاركته في المشاريع اوروبية التمويل		
1.	عبء ساعات التدريس يحد من رغبتي في المشاركة في كتابة مقترحات مشاريع لبرامج التمويل الأوروبية	
2.	عبء المهام الإدارية يحد من رغبتي في المشاركة في كتابة مقترحات مشاريع مشتركة لبرامج التمويل الأوروبية	
المحور الثالث: سياق المشاريع البحثية التنموية المشتركة لبرامج التمويل الأوروبية		**الإجابة**
#	**العبارة**	**(10 1)**
1.3 طبيعة برامج التمويل: يقيم هذا البند الفائدة الناتجة من المشاركة في برامج التمويل الأوروبية		
1.	اهداف برامج التمويل الأوروبية للمشاريع المشتركة مرتبطة مع مصالح المجتمع الفلسطيني.	
2.	تركز برامج التمويل الأوروبية على دعم المجالات ذات الأولوية للدول النامية.	
3.	برامج التمويل الأوروبية تدعم المشاريع ذات التخصصات المتعددة مما يزيد القيمة العلمية للأوراق العلمية المنشورة ضمن المشروع.	
2.3 الجدول الزمني: يقيم هذا البند الجدول الزمني لبرامج التمويل الأوروبية		

.1	المدة الزمنية لاستقبال طلبات مقترحات المشاريع لبرامج التمويل الأوروبية تكفي لإعداد مقترح	
.2	المدة الزمنية الطويلة لتنفيذ المشاريع أوروبية التمويل تزيد لإستفادة من نتائج المشروع في نشر ابحاث علمية	
3.3	**متطلبات مقترحات المشاريع : يقيم هذا البند المتطلبات الخاصة بمقترحات المشاريع لبرامج التمويل الأوروبية**	
.1	اعداد مقترحات المشاريع لبرامج التمويل الأوروبية لا تتطلب مراجعة الدراسات الحديثة في مجال المشروع	
.2	طلبات مقترحات المشاريع لبرامج التمويل الأوروبية تتسم بسهولتها وسرعة تعبئتها	
.3	من السهل إيجاد عدد الشركاء الاقليميين و الأوروبيين اللازم لإتمام اعداد مقترحات المشاريع	
4.3	**التقييم وقرارات التمويل : يقيم هذا البند آليات التقييم لبرامج التمويل الأوروبية من وجهة نظر الأكاديميين**	
.1	معايير التقييم للمقترحات المقدمة واضحة و مفهومة	
.2	توضح أنظمة التقييم و التغذية الراجعة المشاكل و الأخطاء التي تبين سبب عدم نجاح المقترح في الحصول على التمويل	
.3	الوضع السياسي في المنطقة لا يؤثر على قرارات تمويل مشاريع البرامج الأوروبية.	
المحور الرابع: علاقة قرار مشاركة الأكاديمي في المشاريع البحثية التنموية المشتركة أوروبية التمويل بالقدرات و المهارات و الخصائص الوظيفية للأكاديمي و النظام الإداري للجامعة الإسلامية و سياق تلك المشاريع		**الإجابة**
#	**العبارة**	**(10 1)**
قرار مشاركتي في المشاريع البحثية التنموية المشتركة أوروبية التمويل يتأثر ايجابيا ب:		
.1	مستوى خبرتي ومهاراتي و قدراتي الفردية	
.2	مستوى تناسب خصائص وظيفتي مع متطلبات تلك المشاريع	
.3	مستوى الخدمات الداعمة و التسهيلات المقدمة من قبل الجامعة الإسلامية	
.4	مدى إرتباط انظمة ولوائح الجامعة الأكاديمين بالمشاركة في تلك المشاريع	
.5	مستوى الحوافز و المكافئات التي تقدمها الجامعة للمشاركين في اعداد المشاريع	
.6	مستوى سهولة وبساطة متطلبات مقترحات المشاريع	
.7	وضوح وحيادية التقييم المتبع لمقترحات المشاريع المقدمة	
.8	ملائمة الجدول الزمني لبرامج التمويل والمشاريع المنفذة	
.9	ارتفاع قيمة الفائدة العلمية للمشاريع التي سيتم تنفيذها	

<< شاكرين حسن تعاونكم >>

Appendix C

Questionnaire (English Version)

Islamic University of Gaza- IUG

Deanery of post graduate studies

Faculty of Commerce

Master of Business Administration

Questionnaire

Proposed Framework to Overcome Barriers that influence Academics Decision of Participation in European Funded R & D Cooperative Projects

Part One: Demographic information

Tick √ in the box that reflects your answer

1.1 Personnel Characteristics

1.	Gender	□ Male	□ Female	
2.	Age	□ Less than 30	□ 30 – less than 40	
		□ 40 – less than 50	□ 50+	
3.	Qualification	□ Master's	□ Doctorate	
4.	Years of Experience in academic work	□ Less than 3	□3 – less than 6	□ 6 - less than 10

		☐10- less than 15 ☐15+
5.	Marital Status	☐ Married ☐ Single ☐ Divorced ☐ Widower
6.	Foreign languages proficiency	☐ English ☐French ☐ Spanish ☐ German ☐Others ☐ Non

1.2 Occupational Characteristics

1.	Faculty	☐ Engineering ☐Arts ☐ Education ☐ IT ☐Science ☐ Nursing ☐ Medicine ☐Commerce
2.	Employment contract	☐ Tenure ☐Non-tenure
3.	Rank	☐ Professor ☐Associate Professor ☐Assistant Professor
4.	How often are you engage in voluntary work?	☐ Always ☐ Often ☐ Sometimes ☐ Never
5.	Teaching working hours	☐ < 12 hours ☐12-15 hours ☐ > 15 hours
6.	Do you hold senior position at IUG now	☐ Yes ☐ No

Part two: Assessing IUG academics engagement in European Funded R&D projects

Have you ever been engaged in European funded R&D projects proposals preparing activities during the period 2002-2012

□ Yes □ No

Part Three: Assessing IUG academics engagement in European Funded R&D projects

Choose the number that reflects your answer (1=Strongly Disagree, 10 = Strongly Agree)

Notes:

1. In the following item the word projects refers to European Funded R&D projects. European projects can be multi-country projects like European programmes : TEMPUS, FP7 etc.. Or bilateral projects like Appear, Irish Aid, Norhed etc..
2. In case you can't answer the question, you can leave it blank

No	Statement	1-10
1- Organizational context at IUG		
1.1 Institutional support		
1.	Open call for proposals are published and circulated via deferent media means	
2.	Workshops about open calls for proposals under European programme are organized	
3.	Training courses on proposals preparation for European programmes are periodically organized	
4.	Expert trainers in European funded programmes are deployed to train IUG academics on proposals preparation for European funded programmes	
5.	Academics are giving release time for a limited period of time to prepare projects for European funded programmes	
6.	IUG helps Academics who are engaged in European funded programmes proposals activities in finding partners from international universities	
7.	IUG provide administrative assistance for Academics who are engaged in European funded programmes in proposals preparation	
8.	Research assistants are provided for academics to help in proposals preparation	
1.2 University Policies		
1.	Promotion and tenure decisions consider the number of proposals prepared by academic staff member	
2.	Promotion and tenure decisions consider the number of granted projects prepared by	

	academic staff member	
3.	University law includes policies that regulates academic participation in European funded projects	
4.	IUG deploy a systematic model to encourage academic participation in European funded projects	
1.3 Rewards/ recognition		
1.	Academics are financially rewarded for their participation in European funded projects proposals preparation activities	
2.	Academics are rewarded for their participation in European funded projects proposals preparation activities by thanks letter	
3.	Honoring ceremony are organized for academics whose proposals for European funded programme have been selected for funding	
4.	IUG organizes grants programme for R&D projects similar to European funded programmes subjects and requirements.	
2. Academic personality & Occupational characteristics		
2.1 Personal characteristics & Abilities		
1.	I am familiar with European funded programme for R&D projects	
2.	I have experience in preparing and working on European funded projects	
3.	I am good team player to prepare and work on European funded projects	
4.	I am enthusiastic to participate in European funded R&D projects	
5.	Participation in European funded R&D projects is fruitful	
6.	Family and social circumstances encourage me to participate in European funded projects	
2.2 Occupational characteristics		
1.	Academics teaching load hinder me from participation in European funded projects	
2.	Administrative load hinder me from participation in European funded projects	
3. R&D cooperative projects context: Application requirements, Time schedule, Assessment criteria & funding programmes nature		
3.1 European Funding programmes nature		
1.	Funding programmes objectives are in line with the Palestinian society needs	

2.	Funding programmes concentrate on prioritized thematic fields of the third countries	
3.	Funding programmes support multidisciplinary projects which increase the value of published scientific papers	
3.2 European Funding programmes Time table		
1.	Time period for open calls for proposals is adequate and enough to prepare competitive proposals	
2.	Long time period of European funded projects increase their scientific benefits	
3.3 **Proposals Preparation Requirements**		
1.	Proposals preparation do not require literature review	
2.	Proposals applications can be filled very easily	
3.	It's easy to constitute the project consortium members	
3.4 Evaluation and Funding decisions		
1.	Evaluation criteria are clear and understandable	
2.	European funding programme provide participants with evaluation report for that clarifies the proposal rejection reasons.	
3.	Funding decisions are not affected by the regional and national political situation	
4. The relation between Academic decision of participation in European funding programmes with the organizational context, Academic personality & Occupational characteristics and R&D cooperative projects context		
My decision of participation in European funding programmes is positively affected by:		
1.	Level of my Personal characteristics & abilities	
2.	Level of suitability of my occupational characteristics with the programmes requirements	
3.	Level of Institutional support	
4.	Level of correlation between University Policies and the participation in that projects	
5.	Level of Rewards/ recognition provided for the participants by the university	
6.	Level of simplicity of Proposals preparation requirements	
7.	Level of clarity of proposals evaluation and transparency of funding decisions	
8.	Level of appropriateness of call for proposals and accredited projects time schedule	
9.	High value of Scientific benefits resultant from the projects	

Appendix D

Cover letter from External Relations at IUG

الإخوة و الأخوات الأساتذة حفظهم الله

السلام عليكم ورحمة الله وبركاته،،،

الموضوع: المعيقات التي تؤثر في قرار مشاركة الأكاديميين في المشاريع البحثية التنموية المشتركة أوروبية التمويل

تجري دائرة العلاقات الخارجية بالجامعة الإسلامية دراسة حول الأسباب التي تعيق الاخوة الأكاديميين من المشاركة في المشاريع القائمة على الشراكة الأكاديمية مع الجامعات الاقليمية و العالمية و الممولة أوروبيا، و سوف يتم دراسة هذه المعيقات من ثلاثة جوانب:

1 معيقات متعلقة بالنظام الإداري في الجامعة الإسلامية:خدمات، تسهيلات، حوافز و أنظمة وقوانين

2 معيقات متعلقة بالمهارات و القدرات الفردية و السمات الوظيفية له

3 معيقات متعلقة بالمشاريع البحثية التنموية المشتركة ذاتها : اهدافها ونتائجها و تعبئة الطلبات و النماذج ومتطلباتها و آلية تقييمها

لذا يرجى التكرم بتعبئة الإستبانة المرفقة بما ترونه مناسبا، حيث سيتم الإعتماد على نتائج هذه الإستبانة في تطوير مقترحات للتغلب على هذه المعيقات، إن نتائج الإستبانة ستجدول وتعرض ضمن بيانات مصنفة . إن إجاباتكم سوف تستخدم لإغراض البحث العلمي ولن يتم نشرها او استخدامها لإية أغراض اخرى.

و تقبلوا فائق الاحترام و التقدير،،،

م.اماني المقادمة

مكتب العلاقات الخارجية

غرفة B 529 رقم داخلي 1017

Appendix E

Interview Referees

	Referee	University
1.	**Samir Al-Afifi**	Islamic University of Gaza
2.	**Nazmi AL-Masri**	Islamic University of Gaza
3.	**Hatem Al Aydi**	Islamic University of Gaza

Appendix F

Questionnaire Referees

	Referee	**University**
1.	Dr. Majed Al-Farra	Islamic University of Gaza
2.	Dr. Nazmi AL-Masri	Islamic University of Gaza
3.	Dr. Samir Safi	Islamic University of Gaza
4.	Dr. Yousif Bahar	Islamic University of Gaza
5.	Dr. Rushdi Wadi	Islamic University of Gaza
6.	Dr. Sami Abu AlRoss	Islamic University of Gaza
7.	Dr. Bassam Abu Hamad	Al- Quds – Abu Dis University
8.	Dr. Samir Al-Afifi	Islamic University of Gaza
9.	Dr. Mohammed Migdad	Islamic University of Gaza