

**Contribution of Soft Skills Set of Project Managers
on the Benefits Realization Management Process
in the Construction Industry
in UAE**

مساهمة المهارات الشخصية لمديري المشروعات في عملية إدارة تحقيق الفوائد في
قطاع الإنشاءات بدولة الإمارات العربية المتحدة

by
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of the requirements for the degree of
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ABSTRACT

The United Arab Emirates is one of the fastest growing, and developing countries in the world and consequently parallel to this growth construction industry in the UAE is rapid and dynamic. The country has already made a great sound all around the globe with challenging projects. Government is in full support of construction projects that drive and contribute to the UAE construction market as well as the UAE economy. Importance of project managers (PMs) are undeniable as their influence and contribution to projects directly affect maximization of benefits realization; therefore, the role of project managers becomes a crucial topic not only in literature but also in practice.

Effectiveness of project manager, therefore, becomes a trending topic, and it is explained with the right combination of hard and soft skills, which is the general acceptance of scholars and practitioners.

Blackburn (2002, pp. 199-204) believes that technical skills and body of knowledge should be developed over interpersonal and managerial skills. Although earlier hard skills which are more related with technical knowledge and strength were considered as more important for projects and main concentration was given in this area, nowadays contribution of soft skill concept is getting well understood, and this discussion becomes a popular topic in literature.

Another developing concept in literature is the benefits realization management (BRM) process.

BRM is a process that realizes and manages the planned benefits as a result of a change. PMI (2017, p.3) describes BRM as a process that starts with the identification of benefits that needs to be ensured during execution stage to realize and sustain those planned benefits at the project completion and even after completion. BRM has been getting recognized by organizations having known the fact that success definition and criteria for success are getting replaced with benefits realization concept.

Success definition using the iron triangle, which are time, cost, and quality parameters are getting replaced with benefits realization concept.

The ultimate aim of BRM is to support organizations to achieve the desired values based on organizations objectives and strategies. (Serra & Kunc, 2014) Although the majority of organizations'

maturity level of benefits realization has not yet well developed, in all type of organizations and different disciplines and professions, BRM is becoming more and more popular. (Breese, 2012, p. 341)

Considering the fact that BRM concept is still premature as this concept is still evolving, the gap has been identified in the construction industry as there is lack of study and investigation has been performed in UAE related with this topic.

This research intends to develop literature considering evolving both topics, soft skills of project managers and benefit realization management process and investigate further their relationship how those selected soft skills of project managers contribute benefit realization management process to fill the identified gap in this area.

Reference to recent researches, it has been recently accepted as soft skills contribute projects more than hard skills and scholars and practitioners are in general agreement that benefits realization management process takes over earlier accepted success concept which was success criteria and iron triangle. This research aims to explore the significant soft skills set of project managers and check the influence of soft skills on benefit realization management process. The objective is to explore the literature on soft skills and personal traits of project managers concerning the benefits realization management process to provide a strong recommendation for future researchers.

Along with this study, soft skills of project managers are getting investigated which are, communication, leadership, conflict management & negotiation skills, teaming and motivation skills, empathy / emotional Intelligence, time management skill, change management skill, and planning skill. They are all firmly accepted soft skills in the literature review. However, only communication, leadership, change management, and planning skills are considered as independent variables in this study as a result of their high correlation with the BRM process following the pilot study results. Contribution of those selected soft skills on BRM process and related BRM phases which are also commonly accepted in literature as “Benefit Identification”, “Benefit Realization Planning”, “Execute

Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” considered as dependent variable in order to test the hypothesis of this research.

Descriptive research design is considered to explain variations in the dependent variable, benefit realization management process by independent variables selected soft skills of project managers. A questionnaire with quantitative six-point Likert scale is chosen as a research tool to gather the required data along with non-probability, convenience sampling is implemented for the data collected through a selected population. Questionnaires are distributed within selected consultants and contractors in the construction industry in the UAE. Statistical Package for Social Sciences (SPSS) has been conducted for the statistical analysis. To interpret the collected data, different analysis, values, and coefficients have been used, such as arithmetic mean value, standard deviation, correlation, Cronbach’s Alpha, Regression, R Square, etc..

Along with SPSS, all collected data is analyzed, and hypotheses are tested, and research questions are addressed accordingly. It is found out that significant relationship between selected soft skills and benefits realization management process is proved and hypotheses, therefore, are accepted as selected soft skills highly contribute benefit realization management process and related phases.

The main scope of the study is limited with communication skill, leadership skill, change management skill, and planning skill of project managers which are strongly accepted in literature review and found significantly correlated with BRM process as per the conducted pilot study. However, this research shall be further developed by future researchers considering other soft skills and personal traits of project managers concerning the BRM process and phases. This study is limited within the territory of the UAE and limited only with the construction industry. Participants of this research are 100% non-UAE citizen; therefore, the study is more relevant to expats rather than UAE citizens, which is another limitation related to this study. In the field of the project management process, skills of project managers are the right combination of soft and hard skills. However, in this research, only soft skills

are investigated; therefore, the study can be further developed by adding hard skills set of project managers in addition to soft skills. It is important to note that mediating variables are not considered in this study but shall be considered by future researchers.

موجز البحث

تُعد دولة الإمارات العربية المتحدة واحدة ضمن أسرع الدول نمواً وتقدماً على مستوى العالم. وبالتماشي مع ذلك، يشهد مجال الإنشاءات في الإمارات العربية المتحدة تقدماً سريعاً ونشطاً. وقد حققت الإمارات بالفعل طفرة عظيمة في أرجاء المعمورة كافةً عن طريق تنفيذ مشروعات تحفها العديد من التحديات. هذا وتدعم الحكومة مشروعات الإنشاءات بشكل كامل من أجل الدفع بعجلة سوق الإنشاءات والإسهام فيه بالإمارات العربية المتحدة فضلاً عن الوضع الاقتصادي للبلاد. ولا يخفى على أحد ما لأهمية مديري المشروعات (PMS) من ثقل لا يدع مجالاً للشك إذ إن دورهم ومساهماتهم التي يضيفونها على المشروعات تؤثر بصورة مباشرة على تعظيم تحقيق المنافع، ولذا؛ يتبلور دور مديري المشروعات ويصبح موضوعاً حيويًا، ليس فقط فيما يكتب من أسس وقواعد، بل وأيضاً من ناحية الممارسة العملية.

وبالتالي صارت فاعلية مدير المشروع موضوعاً رائجاً خضع للتداول والمناقشة من خلال الجمع الصائب ما بين المهارات الشخصية والتقنية وهو المقبول إجمالياً من جانب الباحثين والممارسين. يرى بلاكيرن (2002، ص. 199-204) أن المهارات الفنية والبنية المعرفية يجب أن تحظى بأولوية التطوير عن المهارات الاجتماعية ومهارات الإدارة. وعلى الرغم من اعتبار المهارات التقنية المشار إليها أنفياً والمرتبطة أكثر بالمعرفة والقدرة الفنية هي الأهم بالنسبة للمشروعات وحصولها على النصيب الأكبر من التركيز في هذا المجال، إلا أن إسهام مفهوم المهارات الشخصية قد بات واضحاً ومفهوماً على نحو أفضل وهو الأمر الشائع تداوله فيما يكتب عن هذا الشأن.

ومن ضمن المفاهيم الناشئة في مجموع ما كتب عن موضوعنا هو عملية إدارة تحقيق المنافع (BRM). وهي عبارة عن عملية يتم فيها تحقيق وإدارة المنافع المخطط لها كنتيجة لأي تغيير. ويصف معهد إدارة المشاريع (PMI) (2017، ص 3) العملية بأنها تبدأ أولاً بتعريف المنافع التي يتعين ضمانها خلال مرحلة التنفيذ لتحقيق المنافع المنشودة واستدامتها عند إنجاز المشروع وبعده على حد سواء. وقد أقرت العديد من المؤسسات بمفهوم إدارة تحقيق المنافع التي أدركت حقيقة أن تعريف النجاح ومعايير النجاح قد استعيب عنها بمفهوم تحقيق المنافع، حيث إن تعريف النجاح باستخدام المثلث الحديدي المتمثل في معايير الوقت والكلفة والجودة قد حل محله مفهوم تحقيق المنافع.

إن الهدف الأسمى الذي تسعى إليه إدارة تحقيق المنافع هو تقديم يد العون للمؤسسات بغية تحقيق القيم المرجوة على أساس أهداف المؤسسات وإستراتيجياتها. (سيررا وكونك، 2014) على الرغم من أن مستوى نضج غالبية المؤسسات من جهة تحقيق المنافع لم يتطور بعد على نحو كاف، وذلك في جميع أنواع المؤسسات وعلى اختلاف التفرعات والمهن، إلا أن مفهوم إدارة تحقيق المنافع يطفو على الساحة ليحتل الصدارة كأحد أكثر القضايا شيوعاً. (بريس، 2012، ص. 341)

وبالنظر إلى حقيقة أن مفهوم إدارة تحقيق المنافع لم تكتمل صورته حتى الآن حيث إنه لا يزال قيد التطور، فقد تم تحديد الفجوة في مجال صناعة الإنشاءات المتمثلة في قلة الدراسات المعنية بهذا الشأن. ولذا؛ جرى تطبيق مرحلة التقصي اللازمة في الإمارات العربية المتحدة فيما يتصل بهذا الموضوع.

ويسعى هذا البحث إلى تقديم دراسة تهدف إلى تطوير موضوعي المهارات الشخصية لمديري المشروعات وعملية إدارة تحقيق المنافع، والتحري عن علاقتهما وكيف أن المهارات الشخصية المنتقاة لمديري المشروعات تسهم في عملية تحقيق إدارة المنافع لسد الفجوة الخاصة بهذا المجال.

وبالإشارة إلى أحدث الأبحاث المطروحة، فقد تم التصديق مؤخراً على أن المهارات الشخصية تسهم في المشروعات أكثر من المهارات التقنية، كما يتفق الباحثون والممارسون بشكل عام على أن عملية إدارة تحقيق المنافع تهيمن على مفهوم النجاح المذكور سلفاً ألا وهو معايير النجاح والمثلث الحديدي. ويهدف هذا البحث إلى سبر أغوار أهمية مجموعة المهارات الشخصية لمديري المشروعات وتفقد أثرها على عملية تحقيق إدارة المنافع. ويكمن الغرض الأساسي لدينا في استعراض ما كتب عن المهارات الشخصية والسمات الفردية لدى مديري المشروعات بشأن عملية إدارة تحقيق المنافع لتقديم التوصيات الأمثل بين يدي الباحثين في المستقبل.

وبالإضافة إلى ذلك، فقد تقصينا بين طيات هذه الدراسة المهارات الشخصية لمديري المشروعات وهي مهارات التواصل والقيادة وإدارة النزاعات والتفاوض ومهارات العمل الجماعي والتحفيز والذكاء العاطفي/التعاطف مع الغير ومهارة إدارة الوقت ومهارة إدارة التغييرات ومهارة التخطيط. وجميعها مهارات شخصية مقبولة على نحو راسخ عند استعراض المؤلفات المعنية بهذا الأمر. ومع ذلك، فقد اعتبرنا مهارات التواصل والقيادة وإدارة التغييرات والتخطيط فقط كمغيرات مستقلة في هذه الدراسة نظراً لارتباطهم الوثيق بعملية إدارة تحقيق المنافع باتباع نتائج الدراسة الأولية. وعلاوة على ذلك، فإن إسهام تلك المهارات الشخصية المنتقاة في عملية إدارة تحقيق المنافع والمراحل المتعلقة بإدارة تحقيق المنافع وهي المقبولة عموماً في المؤلفات مثل "تعريف المنافع" و"تخطيط تحقيق المنافع" و"تنفيذ خطة تحقيق المنافع ومرافقتها" و"تقييم المنافع وإرساء احتمالية المنافع المستقبلية" قد اعتبرناها متغيراً تابعاً بغرض اختبار فرضية هذا البحث.

وقد تم اعتبار تصميم البحث الوصفي لشرح التغيرات في المتغير التابع، وعملية إدارة تحقيق المنافع بالمتغيرات المستقلة للمهارات الشخصية المنتقاة لمديري المشروعات. وتم اختيار استبيان بمقياس ليكرت الكمي ذي النقاط الست كأداة بحثية لجمع البيانات المطلوبة. كما تم أخذ العينات المريحة للبيانات المجمع من خلال مجموعة مشاركين مختارة. ووزعت الاستبيانات على الاستشاريين والمقاولين المختارين العاملين في نطاق صناعة الإنشاءات بالإمارات العربية المتحدة. كما تم تطبيق برنامج الحزمة الإحصائية للعلوم الاجتماعية (إس بي إس إس) لعمل التحليل الإحصائي. وتحقيقاً لغاية تفسير البيانات المجمع، استخدم التحليل والقيم والمعاملات المختلفة مثل قيمة الوسط الحسابي والانحراف المعياري والارتباط ومعامل ألفا كرونباخ والانحدار ومعامل التحديد وخلافه.

وفضلاً عن برنامج الحزمة الإحصائية للعلوم الاجتماعية، خلّلت كل البيانات المجمع واختُبرت كل الفرضيات، وبالتالي تمت معالجة جميع الأسئلة البحثية المنبثقة عنها. وتوصلنا إلى أن العلاقة الجوهرية بين المهارات الشخصية المنتقاة وعملية إدارة تحقيق المنافع مثبتة ولذا قُبلت الفرضيات التي تشير إلى أن المهارات الشخصية المنتقاة تسهم بنسبة كبيرة في عملية إدارة تحقيق المنافع والمراحل المرتبطة بها.

وقد قُصص النطاق الرئيسي لهذه الدراسة إلى مهارة التواصل ومهارة القيادة ومهارة إدارة التغييرات ومهارة التخطيط لمديري المشروعات وهي المقبولة بشكل ملحوظ عند مراجعة ما كتب في هذا الصدد وُجد أنها تتصل بنسبة كبيرة بعملية إدارة تحقيق المنافع بحسب الدراسة الأولية المجرأة. لكن لا بد وأن يعمل الباحثون في المستقبل على تطوير هذا البحث مع الأخذ في الاعتبار المهارات الشخصية والسمات الفردية الأخرى لمديري المشروعات بخصوص عملية إدارة تحقيق المنافع ومراحلها. ننوه إلى أن هذه الدراسة مقصورة فقط على دولة الإمارات العربية المتحدة ومحددة فقط بمجال صناعة الإنشاءات. أضف إلى ذلك أن المشاركين في هذا البحث ليسوا من مواطني دولة الإمارات العربية المتحدة؛ ولذلك تنصب هذه الدراسة على المغتربين أكثر من كونها موجهة نحو المواطنين الإماراتيين، وهو قيد آخر يلقي بظلاله على هذه الدراسة. ونخلص إلى أنه في مجال عملية إدارة المشروعات يمكن إيجاز مهارات مديري المشروعات في أنها المزيج الصحيح ما بين المهارات الشخصية والتقنية معاً. إلا أننا نسلط الضوء في هذا البحث على المهارات الشخصية فقط، وبذلك نترك فسحة لتوسيع مدى البحث عن طريق إضافة مجموعة المهارات التقنية لمديري المشروعات بجانب المهارات الشخصية. ويجدر بنا الإشارة إلى أن المتغيرات الوسيطة ليست مدرجة في هذه الدراسة بيد أنه لا بد وأن يضعها الباحثون المستقبليون في الحسبان.

DEDICATION

This study is dedicated to my lovely family members, honourable parents Mehmet Taki ENSARI & Asuman ENSARI, my sister Peyruze ENSARI, my beloved wife Ekaterina ENSARI and my lovely daughters Mira ENSARI & Maya ENSARI

INSPIRATION

“A candle loses nothing by lighting another candle.”

James Keller

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Dubai, 8th May, 2019

Suleyman ENSARI

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TABLE OF ABBREVIATIONS

ABR	Active Benefit Realization
ANOVA	Analysis of Variance
APM	Association of Project Management
BM	Benefit Management
BRM	Benefit Realization Management
DV	Dependent Variable
IT	Information Technology
IV	Independent Variable
KPI	Key Performance Indicators
MORM	Multi Objective Realization Method
MSP	Managing Successful Programmes
OGC	Office of Government Commerce
ORBIT	Operation of Realizing Benefit in Information Technology
PM(s)	Project Manager(s)
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
POE	Post Occupancy Assessment
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences

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Chapter 1: INTRODUCTION

1.1 General Introduction

Chapter 1 provides an overview of the research by exploring the background of the study, the gap, and the problem statement. Research questions are derived, research aim & objectives, as well as the scope of research, are defined, detailed, and significance of this research is highlighted.

1.2 Background of the Study

Maximizing the realized benefits throughout the project is highly essential for any business and organizations in the global market. Organizations, especially after the 1980s, started focusing on performance and productivity parameters to increase the return of benefit. Therefore organizations begin to pay more attention to performance management and its requirements.

Companies are nowadays, funding and investing in finding the correct way of the management process to get a competitive place for themselves in this growing market with great enthusiasm for maximizing their profit and return of investment. Bradley (2006) states that organizations invest in change; they change internally and externally to keep continuity in growth and adapt themselves to new evolving expectations.

To achieve this, changes should be effectively adopted; new changes should be identified, managed, and implemented to meet the organizational goals. (Ward and Daniel, 2006; Bradley, 2006). Therefore organizations are in the tendency to have change to improve their performance, profit, and benefits; therefore, benefit realization management (BRM) process along with change management process is getting more essential and critical for organizational development.

Benefits realization management is simply a management process of benefits realization due to change. Reiss et al. (2006) define BRM as a process of maximization of benefits due to change implication. BRM has been getting recognized by organizations, especially since 1995, having known the fact that success definition and criteria for success are getting replaced with benefits realization concept. Till the 1980s, the project success was explained using the iron triangle which are time, cost, and quality parameters whereas after 1980s beyond iron triangle, project success criteria such as benefit was added. (Ika, 2009, p.11) BRM was developed in between the 1980s to 1990s to understand the return of investment of realized benefits (Bradley, 2006) Effective from 2000s, BRM takes more attention in literature with compare to earlier weak success definition. (Laursen & Svejvig, 2016, p.740). Ward & Daniel (2006) suggest that benefits realization management process and stages consist of “Benefit Identification,” “Benefits Realization Planning,” “Execute Benefit Realization Plan & Monitor,” and “Benefit Evaluation & Establish Potential for Further Benefits” which are commonly accepted in the body of literature. Parr and Williams (2007) state that BRM is highly critical and vital to meet strategic objectives through projects. Cooke-Davies (2002) emphasizes the importance of project management throughout the project life cycle. General acceptance in the literature review is the necessity to integrate the BRM process in project management life cycle. (OGC, 2003; Cooke-Davies, 2001; Ward et al., 2006).

To have a competitive place in the market, organizations are also keen to establish a proper management system to ensure that projects are getting managed and completed successfully with realized benefits and expected success. (Medina & Medina, 2014, p.1459). To receive those expected deliverables and realized planned benefits from projects, organizations are applying project-based management approach under the management of project managers.

To obtain those deliverables and outcomes throughout the projects, project managers are accepted as the key members and the essential stakeholder within the project life cycle; therefore, the role of project manager and their contribution to the projects become highly important. (Turner, 2008).

According to Meredith and Mantel (2012), project managers are the main responsible party starting from the planning till completion of the project. They are expected to manage and complete the project as per the scope within budget and expected quality parameters (Saynisch, 2010, pp.21-37) to ensure stakeholders are experiencing desired benefits. (Ward et al., 1996; Bennington and Baccarini, 2004; Lin and Pervan, 2001)

El-Sabaa (2001, pp. 1-7) highlights the fact that project managers, during their course of action, face different types of challenges and difficulties. Therefore to meet the project requirement, project managers are supposed to demonstrate required competencies such as but not limited with knowledge, tools, and techniques which are related to hard skills. (PMI, 2013a, p.4). PMI (2013a, pp. 15-18) states that in addition to these hard skills, personal skills which are called soft skills are mandatory. Project managers while they are handling matters such as scheduling and risk management use their hard skills and knowledge whereas soft skills are necessary for the successful continuity of project life cycle as all interaction takes place in social environments.

To understand benefit realization and project success, the project manager should possess the required set of soft skills as well as hard skills. Blackburn (2002, pp. 199-204) believes that technical skills and body of knowledge should be developed over interpersonal and managerial skills. Therefore, soft skills set should be well understood and investigated further.

Till the late 1980s, the main concentration in literature was mainly on hard skills rather than soft skills. (Heerkens and Brennan, 2013, pp. 1-7) It was similar to the idea of the initial researches on this area as

the general belief was to have full technical capacity and skills to take all decisions rather than taking into consideration of any soft skills of project managers. (Gaddis, 1959, pp. 29-97) Then the tendency has been changed. Nowadays, the soft skill concept is further developed, and it is getting better understood. Soft skills which are related to interpersonal skills and personal traits of project managers contribute project success and benefit realization more than the technical knowledge and hard skills (Lechler, 1998).

Similarly, El-Sabaa (2001, pp. 1-7) highlights that interpersonal skills have a significant impact on the project management process. Turner & Muller (2006) state that hard skills do not contribute to the success rate of the project as much as soft skills. Furthermore, competencies of project managers have been found highly critical for benefits realization and success of the project (Zhang et al., 2013, pp.195-207) as in reality, the projects are mainly driven successfully with the contribution of soft skill sets of project managers.

Considering the new understanding of soft skills, subjects of personal traits, and interpersonal skills of project managers are getting more attention to investigate. Therefore in this study, soft skill sets of project managers, and their contribution to benefit realization management process will be further explored since similar to soft skills concept, BRM process is another trending topic that supersedes the concept of project success and success criteria. This study will focus on selected four soft skill competencies of PMs in the UAE construction industry and check the influence of those dimensions on the benefits realization management process.

1.3 Problem Statement

The United Arab Emirates is one of the fastest growing, and developing countries in the world and consequently parallel to this growth construction industry in the UAE is rapid and dynamic. The country has already made a great sound all around the world with its challenging projects. Government is in full support of construction projects, and both government and private developers are launching many projects that drive and contribute to the UAE construction market as well as the UAE economy. In addition to challenging timeline of the projects, expectations of clients and stakeholders in UAE are to maximize the benefits realization along with the project life cycle and complete the project with desired quality within targeted budget by keeping involved stakeholder ultimate satisfaction. The high volume of construction projects, the competitive construction market, and high-level expectations of clients and stakeholders directly increase the importance of project management process and the importance of project managers in the construction industry in UAE as well.

To deliver the projects with desired benefits, soft skills of project managers are extremely important for the overall management process. In this study influence of selected soft skills of project managers are investigated in relation with the benefits realization management process since benefit realization management process interconnects all management process with the change as an evolving process that supersedes earlier success concept which is the main aim of any projects.

Anantatmula, (2008, pp.34-48) states that it is must to have project management process on any construction project since construction projects are difficult to handle and complex due to the involvement of different trades and nature of the work.

Turner (2008) states that PMs are highly crucial for a project because they are the one running the entire management process during the project life cycle by taking significant responsibilities to ensure the project is getting completed successfully. Due to these reasons, Crawford (2005, pp. 7-16) suggests

that effectiveness of PMs and their contribution should be further investigated with project success by maximizing benefit realization.

Edum-Fotwe & McCaffer (2000, pp.111-124) highlight that the expected project management process is not only limited to the body of technical knowledge. Effectiveness of project managers is the combination of hard and soft skills of project managers. Zhang et al. (2013, pp.195-207) state that the competencies of project managers directly affect the successful completion of projects. Bourne & Walker (2004, pp. 226-243) states that both soft and hard skills are required for a successful project manager. Nowadays, the necessary competencies of a PM are explained with the right combination of soft and hard skills. (Müller & Turner, 2010, p.438)

According to the literature review, the earlier acceptance for core skills of project managers was more related to hard skills and technical knowledge. (Loo 2002, p.94) Zwikael and Bar-Yaseph (2004, pp 137-144) admits that the main focus in literature was on hard skills and technical competence of project managers rather than soft skills. Over the last 50 years, the main focus was given on the contribution of hard skills of PMs to the successful project management process. On the other hand, soft skills, social skills, personal traits, and their contribution to the project management process are nowadays getting investigated and better understood. (Muller & Turner, 2007, pp.21-32). Zielinski (2005, p. 18) states that PMs are the ones who handle client and stakeholder expectations and contribute projects with their personal traits and soft skills.

Nowadays, some scholars argue that soft skills are more important and critical than hard skills contribution. Recent researches highlight that contribution of soft and interpersonal skills is more important than hard skills. (Yong & Mustaffa, 2013; El-Sabaa,2001)

Since main concentration in literature was mainly on the hard skills and the concept and influence of soft skills, especially in the construction industry has not well developed yet, the gap has been identified in this area. This study intends to develop this concept further in relation to benefit realization management process (BRM), which has also been recognized as a premature concept still in the construction industry in UAE.

BRM is a commonly accepted process that realizes and manages the planned benefits as a result of a change. PMI (2017, p.3) describes BRM as a process that starts with the identification of benefits which needs to be ensured during execution stage to realize and sustain those planned benefits at the project completion and even after the project completion.

BRM has not yet completed its development other than IT (Breese, 2012, p. 348) as the BRM investigation takes place till date. Moreover, lack of consistency in the description of BRM (Breese et al. 2015, p. 1438) and no formalized benefit identification process yet established; (PMI, 2016a, pp. 7-13) therefore, nowadays organizations are showing great interest on the implementation of BRM process through the project life cycle. (PMI, 2017, pp. 3-8).

BRM has been getting recognized by organizations having known the fact that success definition and criteria for success are getting replaced with benefits realization concept. Till the 1980s, the project success was explained using the iron triangle which are time, cost, and quality parameters whereas after 1980s beyond iron triangle project success criteria such as benefit was added. (Ika, 2009, p.11)

The ultimate aim of BRM is to support organizations to achieve the desired values based on organizations objectives and strategies; (Serra & Kunc, 2014) therefore, BRM is becoming more and more popular. (Breese, 2012, p. 341)

Bradley (2006) also emphasizes that BRM is at the center of all other management disciplines and connect those via change. Therefore BRM is supposed to be an integral part of the overall project management process and should be further investigated in relation to the contribution of project managers. The failure in delivering desired benefits is due to not assigning right people to the right roles (PMI, 2016a, p. 13) or lack of clarity on roles and responsibilities in the benefit plan (Lin & Pervan, 2003, p. 21). Therefore having project managers with required soft skills are highly essential for the overall project management process as well as the benefit realization management process that consist of “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” which are commonly accepted in the body of literature. (Ward & Daniel, 2006)

Considering the fact that BRM concept is not fully developed other than IT, the gap has been identified in the construction industry in UAE as there is lack of study and investigation have been performed so far related with this topic. This study intends to develop literature in both, selected soft skills of PMs and benefit realization management process and investigate further their relationship how soft skill sets of PMs influence benefit realization management process to fill the identified gaps in this area.

1.4 Research Questions

Reference to the above sections, the research aims to answer the following questions:

Do the project managers soft set of skills affect BRM process?

What are the major soft skills set required by project managers to manage BRM process?

What is the correlation in between selected soft skills of project managers and BRM process?

Which of the soft skills are the most critical on BRM process?

1.5 Research Aim and Objectives

The aim is to contribute the literature by examining the relationship between selected soft skills and benefit realization management process to understand what are the major soft skills set of PMs and how those soft skills influence benefit realization management process by investigating the relationship between selected soft skills set of PMs and benefit realization management process in the construction industry in UAE.

The objective of this paper is to explore literature by examining empirically the relationship between selected soft set skills of PMs and benefit realization management process to provide a strong recommendation for future researches.

1.6 Scope of Research

This research is limited with selected soft skills, communication skill, leadership skill, change management skill, and planning skill which are firmly accepted in literature review and contribution of those skills on BRM process and related BRM phases commonly accepted in literature which are “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits”. Some of the other skills which may also affect the BRM process and steps are not entirely mentioned and covered under this research as only the selected major ones listed and investigated as per conducted pilot study over selected population. In this research, the influence of soft skills is checked and analyzed with compare to benefit realization management process. In the field of the project management process, qualifications of project managers are true combination of soft and hard skills. However, in this research, only soft skills set are investigated but not hard skills in order to check the influence and contribution of soft skills over the BRM process to maximize realized benefits.

1.7 Significance of Research

This research focuses on how selected soft skills of PMs contribute and influence benefit realization management process. This study will further contribute to the literature as both soft skills and BRM concepts are still evolving since these topics are new areas of investigation in literature. This research will also motivate future researchers as the topic of this research fill the gap of the contribution of soft skills of project managers on benefit realization management process.

This study will detail the required major soft skill sets and motivate project managers to develop themselves throughout their career in order not only concentrate on their hard skills but their soft skills and development of those skills as well. Similarly, this study will also enable companies and organizations give more importance on soft skills set during the selection process of their project managers to ensure selection is done with right soft skill sets and also motivate them to keep their project managers under training to develop their soft skill during their service period. This research also explores the benefits realization management process since benefits realization concept is a new phenomenon which supersedes the concept of earlier success criteria. This study concentrates on the interrelation of both of these evolving subjects; therefore this research will be a vital drop in the literature for the scholars and practitioners to explore the contribution of selected soft skills of PMs on benefit realization management process.

Chapter 2: LITERATURE REVIEW

2.1 Introduction

In this chapter, the theoretical background of this study will be presented, and the literature review will be detailed for the relationship between soft skills sets in project management and benefits realization management process. The concept of significant soft skills of a PM will be analyzed, and the benefits realization management for the aim of maximization of benefits will be discussed along with details of benefits realization management processes and steps.

2.2 Theoretical Framework

2.2.1 Soft Skills Sets of Project Managers

The main objective of PMs is to complete the project with all required deliverables to make sure all goals are met and benefits out of those deliverables are well received and realized. Project managers are the most important stakeholders of the projects considering the fact that they are the one running entire management process during the life cycle of the projects by taking significant responsibility to ensure the projects are getting successfully completed (Turner, 2008). Project Managers are the ones who bridge the gap in between all stakeholders, project team, operation, end users, client and any other stakeholder involved while they are trying to hand over their projects within the expected time, cost, and quality standards along with stakeholders and client satisfaction. Due to those high-level expectations, PMs are expected to be capable in both hard and soft skills areas and should possess related skill sets to manage the overall project life cycle successfully.

The scope and responsibilities of construction project managers should be well understood to define what are the competencies required for project managers. (El-Sabaa 2001, p.1) Therefore before the discussion of any skills sets, the responsibilities and boundaries in the construction management field

should be well emphasized. Below, Table 1 summarizes the overall general duties of project managers in construction fields.

<p>1. Management of the development, conservation and improvement of the built environment</p> <p>Initiate and deliver projects, including buildings and infrastructure which demonstrated excellence of both process and product.</p>	<p>2. Exercised at a variety of levels from the site and project, through the corporate organisations of the industry and its clients, to society as a whole</p> <p>The quality of life, in its economic, social, cultural and environmental dimensions, depends upon the existence of an efficient and innovative construction industry</p>	<p>3. Embracing the entire construction value stream from inception to recycling, and focussing upon a commitment to sustainable construction</p> <p>Involvement of construction managers in the initiation of projects, and in design management aimed at integration of design and production, is vital to project success</p>
<p>4. Incorporating a wide range of specialist services</p> <p>Good practise through research, education and training</p>	<p>5. Guided by a system of values demonstrating responsibility to humanity and to the future of this planet</p> <p>Truly a 'people business' because virtually every construction project is a prototype, requiring the creation of a team, and sensitive attention to complex human interactions in conditions of partial uncertainty</p>	<p>6. Informed, supported and challenged by an independent academic discipline</p> <p>The practise must be founded upon knowledge (discovered and confirmed through research) and evidence (identified and evaluated by intellectually equipped practitioners)</p>

Table 1: Definition of Management in Construction (Bale, 2010)

Having known the fact that organizations are expecting their projects are effectively handled and successfully completed in order to achieve their objectives and goals in the competitive market; therefore they pay extreme attention for the project management process to keep themselves in the market competitive and successful. (Bendell, 1998)

Due to the importance of project managers, core competencies of PMs become a trendy topic in literature as the main interest is to find out and develop core competencies of project managers to maximize the project management performance. (Crawford 2005, p.7) Crawford (2005) also emphasizes that selection of the right PM with the right skills is the key for the successful project completion. LeBlanc (2008) explains that it is mainly due to project managers expected leadership skills to ensure expected deliverables are met at the end.

Radford (2008) emphasizes that as the project management environment is human-oriented, soft skills set and related competencies are must and necessary in addition to technical knowledge and skills.

Bourne & Walker (2004, pp. 226-243) state that both soft and hard skills are required for a successful PM. Corcoran (1997, p. 125) argues that soft skills become prerequisite of effective project management requirements. Depend on the type of project and characteristics of the project; PM should have the right combination of hard and soft skills to implement the project management tools. (Belling & Mengelaars, 2004)

Zhang et al. (2013, pp. 195-207) highlight that personal characteristics of project managers are highly important for the execution of project management knowledge to increase project performance. Thomas & Mengel (2008) emphasize that in the case of a complex phenomenon or unknown situation / uncertain environment project managers' soft skills and emotional skills become compulsory to select the right direction. Beale & Freeman (1991, p.28) state that interpersonal skills are highly important for a project manager and Fisher (2011, p.1000) confirms the same by listing major skills such as leadership and communication skills. Stevenson & Starkweather (2010, p.667) argue that soft skills are the most important competencies for a PM. Although initially, the main contraction was mainly on the hard skills of project managers, the importance of soft skills are now getting well understood, and nowadays soft skills are considered to be more important than hard/technical skills for the project success. (El-Sabaa,2001; Yong & Mustaffa, 2013) Melymuka (2000) states that project managers are the one influence other stakeholders to create a win-win situation. Scholars also agree that project managers are the one leading all their skills to influence others for the success of the project (Brewer, 2005)

Moving forward, the research on this area is growing, and the importance of soft skills set of project managers are getting better understood by identifying new knowledge in this area. Consequently,

according to the literature review the main soft skills required by project managers are listed and detailed in the following sections.

2.2.1.1 Communication Skill

The research in this area shows communication skill has been commonly accepted by the body of literature considered as one of the core soft skills. (Gibson et al., 2012; Moore et al., 2003; Thomas & Mengel, 2008) Communication skill in the construction industry is more about the ability of PMs to communicate with all involved parties timely and effectively, which positively affects successful completion and expected project outcomes and deliverables to maximize the benefits realization. Communication skill is more related to effective speaking and listening (Benator and Thumann, 2003, p.142; Gibson et al., 2012, pp.455). Communication skill is one of the key skills of PMs for the success of the project. Project Manager is expected to be a good communicator. (Weinstein and Jaques, 2010; Gibson et al., 2012, pp.455; Hynds and Martin, 1995; Hölzle, 2010, pp. 779-786). Clarke, (2010, pp. 5-20) stresses the importance of communication skill for a PM to develop the relationship between stakeholders. Verma (1996, p.16) states the fact that communication is essential and necessary for the implementation of technical knowledge and hard skills.

To have a successful project implementation, PM should act as a good communicator (Papke-Shields et al., 2010, pp. 650 - 662) to ensure the project is getting managed smoothly. The project can be well managed only with effective communication. (Hölzle, 2010, pp. 779-786).

Communication is important parameters with stakeholders as a lack of communication will lead to a lack of understanding (Hynds and Martin, 1995). Transparent proper communication with communication management process will prevent many misunderstandings, eliminate mistakes, maximize quality, speed of deliverables and eventually the benefits realization.

Thomas and Thomas (2005) highlight the fact that having close communication with stakeholders will increase teaming and provide integrated management, shared understanding, and knowledge. Thomas and Thomas (2005) state that excellent communication with stakeholders, active involvement of stakeholders together with trust will minimize the surprises and complains, maximize the end user satisfaction and benefit.

According to the study performed by PMI, within the effect of soft skills of PMs on project success, communication skill of a PM has the eighty percent rank with the highest impact. Besides, Ayuso et al. (2006) highlight the necessity of effective communication between stakeholder to stakeholder, stakeholder to the organization, and knowledge integration with stakeholders to maximize knowledge and benefits realization. Kagioglou et al. (2000) state that project success depends on correct information usage at the right time and place with the participation of key stakeholders with effective communication and decision-making process. A project manager is vital to ask the right question to commence and develop effective communication between stakeholders. (Weinstein and Jaques, 2010; Hynds and Martin, 1995; Hölzle, 2010, pp. 779-786)

Gibson et al. (2012,pp.455) state the importance of this skill in the project life cycle, as a project manager is expected to understand others well, and well explain himself, and keep improving his communication skills. (Weinstein and Jaques, 2010)

To sum up, the importance for communication skill is well supported in the body of literature as to meet the requirement and carry out the work; PM should possess excellent communication skills throughout the project life cycle to increase success ratio by maximizing the realization of project benefits.

2.2.1.2 Leadership Skill

According to Dulewicz (2005), leadership is the most researched soft skill. In the body of literature, one of the most important soft skill of a PM is leadership skill to deliver the project with expected outcomes to ensure planned benefits are realized as expected. (Ellis, 2016; Fisher, 2011; Dyett, 2011; Geoghegan & Dulewicz, 2008; Zimmerer & Yasin, 1998).

In the last 20 years, the leadership skill in project management field is getting investigated deeper and more comprehensive. (Leban & Zulauf, 2004, pp. 554-564) The researches are getting conducted to understand and explain the effect of this skill on project performance. (Turner & Muller, 2005; Geoghegan & Dulewicz, 2008; Clarke, 2010)

Leadership skill is the ability of a PM to direct and manage all involved stakeholders to receive expected deliverables throughout the project to complete the project satisfactorily and successfully. Project managers are the influencers by inspiring others with their leadership skills & charismatic personality. (Weinstein and Jaques, 2010; Ellis, 2016) Ellis (2016, p. 61) highlights the fact that project manager by having a charismatic personality shares his vision with his team and inspire them by creating the trustworthy workplace. It is a necessary skill for a project manager to cope with any difficulties. (Zimmerer & Yasin, 1998; Verma, 1996, p.229;

Zimmerer & Yasin (1998, p.31) explain leadership skill as the ability to deal with internal matters and external strategies. PM courage team members to take the initiative and risk by motivating them to be creative and innovative. (Fisher, 2011; Ellis, 2016) According to Fisher (2011) below descriptions are given for leadership skill of a project manager:

Description of Leadership by Fisher, 2011
Show a high level of motivation towards innovation to inspire others to become more creative and innovative.
Adopt a leadership style that is appropriate to the situation, for example, situational, transitional, visionary or charismatic. Ensure that your team members comply with your wishes.
Apply directive, firm or demanding behaviours according to the attitudes and behaviours of your team members

Table 2: Description of Leadership (Fisher, 2011)

According to the study conducted by Geoghegan & Dulewicz, (2008, pp. 58-67) project success factors are considered with subcategories of usability, value of project outcome to users and project delivery in order to investigate the relationship of leadership skill of a project manager with compare to these listed parameters as below Figure 1. The result of the study proves that leadership skill is highly important and relevant to those grouped parameters.

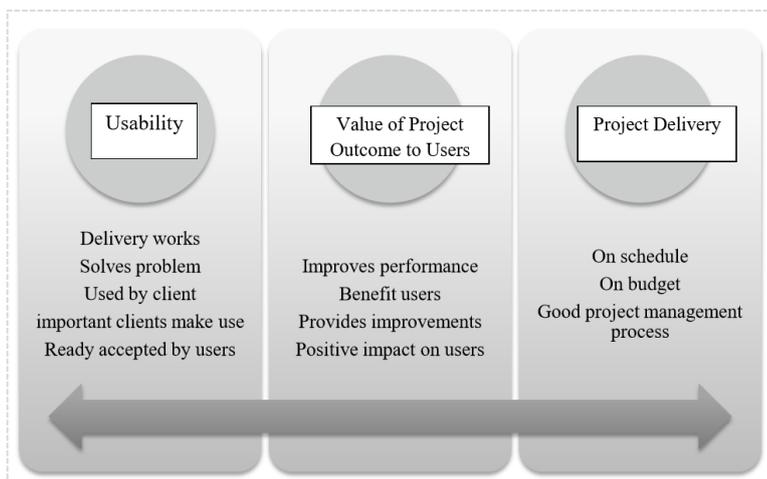


Figure 1: Parameters of Project Success (Geoghegan & Dulewicz, 2008, pp.58-67)

Moreover, according to research conducted by Turner & Müller (2005), it is proved that the leadership style of PM has a direct impact on the project. There are identified leadership traits to ensure expected benefits are getting realized throughout the project listed as per below Table 3 modified from Turner, Muller, and Dulewicz (2010); Valdo (2008)

Project Leadership Skills	Description
Trustworthiness	The capacity of the Project Leader for inspiring people
Passion and Motivation	Doing the best effort to accomplish the objective proposed.
Approachability & Friendliness	The most effective type of leader is an approachable one. Project team have to be confident about communicating with the Project Manager without any restriction.
Confidence	The Project Leader must show ambition, it will lead to confidence to the rest of the team.
Ability to Listen	The Project Leader which listen well increase the chance to succeed in the project. Understanding all points of vie
Calmness	Project Leader trait to stay calm down under pressure when situation does not go according to plan.
Ability to Delegate	Project Leader must delegate. He/She can not do it all by themselves.
Charisma	Project Leader trait, regarding self confidence at the moment to communicate ideas.
Clarity	Project Leader must express all the Ideas Clear. Everyone is have as target the same objectives.
Human Understanding	Project Leader understands the team, values, and needs in al terms.
Adaptability and Flexibility	A Project Leader must be adaptable to change, especially with the unanticipated.
Wide Outlook	A good leadership trait is to be open mind, thinking out the box.
Sense of Humour	Helping to get ride in moments of high pressure.
Modesty	The Ability of being modest in all aspects.
Fairness	Project Leader must behave fair and with equity
Hard Work	Project Leader have to work hard to succeed in the project
Patience	A good leader needs to show their team, they have the chance to do Things good, and with enough time.
Celebration	A Good Project Leader must celebrate and motivate the team group.

Table 3: Leadership Traits (modified from Valdo, 2008; Turner, Muller and Dulewicz 2010)

Leadership skill makes an enormous difference in project management and benefit realization management process by leading, coaching, motivating, separating relevant issues from irrelevant ones (Benator and Thumann, 2003,p.112) to ensure project management and benefit realization management processes are well taken care by providing effective change management process. (Verma, 1996,p.229)

2.2.1.3 Conflict Management & Negotiation Skills

Conflict management skill is considered as one of the core soft skill dimensions for a PM. (Creasy & Anantatmula, 2013, pp. 36-51) Considering the fact that the nature of construction projects are complex with the involvement of different trades and stakeholders with different priorities, ideas, and expectations, conflicts are considered as inevitable. Conflicts if not timely resolved are one of the main

reasons of project failure. (Nordin, 2006; Vaaland & Håkansson, 2003) Due to this reason, it is expected from PM to possess high-level conflict management skill in order to resolve those arisen conflicts by keeping the continuity of the project life cycle for the desired outcomes (Clarke, 2010; Rahim, 2002)

Negotiation is one of the most reliable methods for the resolution of conflict. The PM should have the required negotiation skill, strategy, and tactics to handle the conflict. (Morris and Pinto, 2004, p.1049; Zhang, 2013)

Since conflicts are unpredictable, inevitable, and cannot be eliminated or dismissed, project managers are required to show effective conflict management skill by adopting their behaviors depending on the type and level of conflicts to resolve the conflict issue. (Verma, 1996; Zhang, 2013)

Fisher (2011) describes conflict management as a process to investigate the root problem that causes the conflict while being open, honest, helpful, ready to compromise where necessary. He also adds the importance of observation to timely understand and sense conflict. Zhang describes this skill as negotiation ability to settle the cause of the problem by taking corrective actions. (Zhang, 2013)

As conflict cannot be eliminated or dismissed, then the most useful approach would be the way how to cope with the arisen conflict. It is important to note that conflict should be resolved and addressed at its early stage. Kendrick (2014, p.35) highlights the importance of early detection of conflict. The main reason for the problem should be openly discussed and brainstormed to find the most effective resolution. (Kendrick, 2014, p.35)

There are specific expected conflicts, and difficulties recognized along with the project life cycle. Multiple stakeholders involvement with different demands and expectations is one of the core cause of the conflict. (Ayuso et al., 2006). The PM role is to show his interest to all stakeholders equally and

effectively to reconcile them. (Olander and Landin, 2005) According to Newcombe (2003) selection/prioritization on whether quality or quantity, long term objective or short term, control or freedom, cost efficiency or jobs are the main problems getting experienced between stakeholders within construction projects.

Bradley (2006) states that having early involvement of stakeholders with effective communication, effective conflict and stakeholder management processes during the project life cycle, along with effective implementation of BRM will certainly contribute conflict management process.

According to the body of literature, this skill is one of the most important behavioral competencies. The PM should systematically approach any conflict by discussing, brainstorming, and keeping all concerned parties in the loop of resolution. (Kendrick, 2014, p.35; Uher and Loosemore, 2004)

Negotiation skill of a project manager enables to get ready to generate all possible options for effective conflict management process during the discussion of a conflict. PM must be open to target for a fair resolution. PM, by considering only project benefit shall consider all potential options for resolution and select the best alternative. (Verma, 1996, p.145)

Conflict, conflict management, and early detection of conflict all can be used for the benefit of the project if it is handled on the right hands as PM can take advantage of the conflict to create a win-win situation for the benefit of the project. Uher and Loosemore (2004, p.300) highlight the fact that handling the conflict by having mutual consensus between parties will create further benefit to the project rather than damage.

2.2.1.4 Teaming and Motivation Skill

In the construction industry, project managers are the ones who select and assign the roles and responsibilities. In other words, PM should assign the roles and responsibilities in a team structure by considering the right skills and abilities of his team members. (Grazier, 2006; PMI, 2016a, p. 13)

According to Shi et al. (2006, pp.25), the PM is the one assigning the roles and responsibilities considering the right skills and abilities of his team.

The PM should have his team members come together under his vision for the main objective of the project. He coaches and supports his team members by well communicating, interacting, and motivating. Motivation is described by Neuhauser (2007, pp. 55-68) as energy to achieve targeted goals even though experiencing difficulties during actions.

Gray and Smeltzer (1990, pp. 470-504) highlight that motivation skill of project managers is vital for the effective and efficient performance of the team members. It is noted that motivation is the source of innovation and creative ideas of team members. (Gray and Smeltzer, 1990, pp. 470-504) Having an ultimate aim and objective is one of the core motivating factor for team members. The PM is the one distributing roles and responsibilities within the team members, along with their targeted aim and objectives.

Challenge is another crucial factor for motivation. People mostly find facing difficulties more challenging to keep themselves motivated; therefore, PMs set up the challenging targets for the team members to keep them motivated. (Graizer, 2006)

Another factor is developing a relationship within the team. PM is responsible for bonding team members to each other along with open and effective communication that ensures team members understand each other in a better way. (Grazier, 2006) Keeping team members feel responsible is an

important motivation factor. (Grazier, 2006). Team members who feel responsible are motivated.

Project manager distributes responsibilities within team members and coaches them where necessary to ensure tasks are getting completed effectively.

Growth at individual or group level is the source of motivation. (Grazier, 2006). Project manager by closely interacting with team members shall create opportunities for them to enhance their knowledge and skill depend on their area of interest. (Grazier, 2006).

Campbell (2009,pp.52-59) states that PMs are the main motivators for the team as one of the primary roles of project managers is to motivate the team members to make sure they come together around of a common goal and focus on expected deliverables of the project. Grazier (2006) states that PM with their leadership trait should be the one taking overall responsibility to ensure team members are motivated to carry out their duties for the desired outcomes. Laszlo (2004, pp. 55-57) highlights that motivation on change management during the planning and implementation stage maximizes the benefits realization. PMs are expected to be good motivator. (Gray and Smeltzer, 1990; Grazier, 2006; Cockrell, 2013) Motivation is the source of innovation and creative ideas. (Gray and Smeltzer, 1990; Cockrell, 2013)

Teaming is another core skill of a PM. Thomas and Thomas (2005) highlight how vital effective communication for teaming. PM is responsible for coaching his team by trusting and giving opportunity instead of providing his direct contribution. (Cockrell, 2013, p.102) The primary role of PM is to coach his team in a supportive position and manage to eliminate any politics to increase productivity.

(Termini, 2009, p.120) The failure in delivering desired benefits is due to not assigning right people to the right roles (PMI, 2016a, p. 13) or lack of clarity on roles and responsibilities in the benefit plan.

(Lin & Pervan, 2003, p. 21) Therefore teaming is one of the leading behavioral competencies of a PM.

Teaming and motivation ability of PMs will directly contribute to the performance of the team. Performance measurement and management process enable to adopt and implement a benefit realization strategy. (Sedera et al., 2001)

2.2.1.5 Empathy / Emotional Intelligence

Empathy skill of PMs will directly contribute involved parties participation in the project, along with their motivation and commitment. (Wall, 2007, p.24; Kendrick, 2014) Wall (2007, p.24) states that empathy develops a relationship between team members, help them not only to share more about themselves but also to take more initiative and risks. Empathy skill of a project manager helps to develop teaming to contribute project benefit. Wall (2007, p.24) highlights the fact that empathy by developing the relationship within team members enable the project manager to make them come together around of the common goals and aims.

Emotional intelligence is the ability of a PM to take into consideration of others' emotional status and feelings. It is important and critical not only because it will contribute motivation of people but also increase productivity along with project success. Kendrick (2014, pp.290-291) believes that emotional intelligence increases productivity by providing a productive working platform. Emotional intelligence also enables the project manager to deal with all kind of tough people. (Kendrick, 2014, p.289)

To ensure project management and benefits realization management processes are getting implemented effectively, empathy and emotional intelligence will be an essential skill to cope with difficult people.

2.2.1.6 Time Management Skill

According to literature, time is accepted as an essential success criterion for a project since completing the project on or before the targeted deadline will maximize the profit. Time criteria in the construction industry is accepted as highly crucial for both client, stakeholders, and contractors. Consequently, this

skill is considered as an important ability of a project manager to ensure the project is kept on track during the project life cycle.

Time management skill of a PM is related to the ability to set priorities and timeline. PM is expected to have effective time management skill to organize his calendar with prioritization. (Rowe, 2015, p.192; Owen, 2014) Tracking critical activities and ensuring all those are meeting with a planned deadline is highly crucial for a project. (Rowe, 2015, p.192; Abdel-Razek, 2012) On the other hand, PM should also consider the float for the rest of the activities, having known the fact that an unexpected situation may occur anytime in the construction sector. (Rowe, 2015, p.192) Gray and Larson (2008) highlight the importance of a time management skill of a PM as a key characteristic. Owen, (2014,p.193) emphasizes that the project manager should have his list to do with prioritization.

To have successful project management and benefits management process, PM is supposed to have effective time management skill to set priorities, check and monitor the processes periodically to reassure benefits are getting realized as planned and in line with strategic preferences to meet organizations strategic targets. (Cooke-Davies, 2002; Nogeste, 2006).

2.2.1.7 Change Management Skill

Change management in the construction project is a process of accepting or declining a change in a project depends on the pros and cons. Underwood (2005) points out that benefits realization and project success is mainly depending on effective change management process. Legris and Collette (2006) highlight the fact that project success and benefits realization throughout the project are linked to the successful integration of the change management process.

Thorp (1998) clarifies the change management as a holistic approach to change the current state to the desired state to meet desired objectives. Reiss et al. (2006) define change management in 2 levels,

micro-level change management due to new technology involvement in the process and macro-level change management due to the new ideas.

Dharmaraj et al. (2006, p.512) explain the change management process as a tool to manage changes for the project. According to Prosci (2004b), change management is such a tool to manage and control changes in a project plan or a strategy. Change management skill of a project manager highly critical and important. It can be described as a skill of project manager to delegate members in the change management process effectively and efficiently for the ultimate objectives. (IPMA 2015e, p.185) According to APM (2012, p.8), change management skill is to change the current state of organization to the desired future level.

Thorp (1998) highlights the fact that benefits realization depends on change throughout the process. Thorp (1998) states that only the planned changes can be controlled to take the right course of action. Organizations are in the tendency to have change to improve their performance, profit, and benefits; therefore, change management and related processes getting more essential and critical for organizational development.

Change management is important as it may affect project time, cost, and quality parameters. (PMI, 2004; IPMA 2015e) Bradley (2006) states that organizations invest in change; they change internally and externally to keep continuity in growth and adapt themselves to new evolving environment and expectations. To achieve this, changes should be effectively implemented; new changes should be identified, managed, and implemented to meet the organizational goals. (Ward and Daniel, 2006; Bradley, 2006)

2.2.1.8 Planning Skill

According to the body of literature, planning skill is highly important to monitor changes and benefit realization along with the development of plans. (Cserháti & Szabó, 2014, pp. (Doloi et al., 2011, pp. 687-695)

According to Armstrong et al. (2012, pp. 238-262), planning style of a PM is a matter of process of information. Planning skills of a PM is an ability to gather, prepare and plan to meet desired deliverables throughout the project, in other words, it is the ability to manage the planning, scheduling and controlling process as these are directly related with success of the project. (Leban & Zulauf, 2004, pp. 554-564) According to the literature review, if the projects are large, then planning techniques are mandatory for effective management. (Bourne & Walker, 2004, pp. 226-243).

Planning skill is a trait of a PM to plan, organize, and transfer this skill to the management field. (Gaddis, 1959, pp. 29-97) In other words, planning skill is more related to the character of a project manager on planning and organizing. The planning capability of a PM is the ability to take preventive action before something happens to eliminate problems and crises in advance (Gaddis, 1959, pp. 29-97)

Planning is an essential skill for a PM to receive desired deliverables throughout the project as it is required to establish a way to realize business benefits. (Ward et al., 1996; Bennington and Baccarini, 2004)

2.2.2 Benefit Realization Management

2.2.2.1 Benefit Definition

The word “benefit” shall be introduced as a profit, advantageous or favorable contribution in general. The common understanding of benefit can be defined as a measurable favorable. It is considered advantageous by an organization as a result of its outcome. (Thorp, 1998; Ward et al., 1995) It is related with a positive, perceived outcome by stakeholders. (Bradley, 2006) Ward and Daniel (2006) almost give the same explanation for the description of benefit as profit and advantage of the stakeholders. PMI (2013) considers the benefit as a result of any product, service, behavior or outcome of the action that provides advantages to the targeted beneficiaries.

In literature, there are more specific descriptions given in terms of financial perspective. Glynne (2007, pp. 45-49) considers the benefit as the obtained value of an investment. Similarly Payne (2007) emphasizes the financial contribution and categorizes and searches the benefit in an outcome where strategic changes may happen at macro level affecting program output, or changes may occur at micro/project levels, where those changes create measurable improvements, and financial impact. Consequently realized benefits improve the financial performance.

The standard definition of benefit is measurable advantageous as a result of a positive outcome for one or more stakeholders that contribute objectives. (Jenner, 2012, as cited in Letavec, 2014, p. 3)

According to the literature review, the main characteristics of benefit can be as listed and summarized below:

- should be measurable, that means it is the way how it is getting realized.
- are the improvements due to results

- is perceived differently that means benefit to one stakeholder not necessarily should be the same as the benefit for the others.
- is interconnected with results/ outcomes and strategic objectives
- contributes organizational one or more objectives.

On the other hand, the word disbenefit shall also be well explained to understand the benefits realization management process better. As expected, outcomes may not always be positive but could be vice versa negative and unexpected that leads to disbenefit. (Nogeste and Walker, 2005, pp. 55-68)

Disbenefit is something disadvantage (Soanes and Hawker, 2005), unfavorable, or adverse effects on an investment. (Bannister et al., 2001, pp. 1-11) Ward et al. (1996, pp. 214-225) highlight that disbenefits and its adverse outcome on investment should be further identified and monitored periodically to obtain desired benefits. Having incorporated disbenefits, along with the benefits, will undoubtedly balance financial evaluation and consequently will enable us to get a more beneficial outcome.

2.2.2.2 Benefit Classification

In the literature review, there are different types of benefits have been investigated and discussed depend on various criteria, and these will enable us to have a better understanding of benefit. (Bradley, 2006) Classification is mainly done based on:

- value type of benefit,
- organizational / business impact which are mainly related with strategic, management, operational, functional and support business functions
- unplanned benefits
- actor oriented benefits

2.2.2.2.1 Value Type & Benefit Classification

Scholars mainly categorize benefits using outcomes, whether those outcomes are tangible or intangible. Tangible outcomes are the ones which can be monitored, measured, and controlled, whereas intangible ones are more related to perception. (Nogeste and Walker, 2005, pp. 55-68) The intangible ones can be operationalized through the facilitation process with the help of high to low perception scale or using agreed measures of success or failure. (Nogeste and Walker, 2005, pp. 55-68)

The knowledge, culture and value, reputation, trust, competencies, leadership, and relationship are some of those intangible ones. Ward and Daniel (2006) categorize benefit in the same way and explain tangible benefits as quantitative mostly as a financial measure. Those tangibles benefit, although most considered and defined as financial outcomes, might be quantitative but not financial. Intangible benefits are subjective but considered as necessary as tangible benefits.

Below Table 4 is commonly accepted by many scholars and practitioners (Bradley, 2006; Nogeste and Walker, 2005) that explains value type benefit categorization.

Value Type		Definition	Example	
			Cashable	Non-Cashable
Tangible	Definite	Value may be predicted with certainty	Reduced Cost	Fewer Steps in a process
	Expected	Value may be predicted on the basis of historic trends and high levels of confidence	Increased Sales	Quicker Performance of Tasks
	Anticipated	The benefit is anticipated but its value is not reliably predictable	Lower Insurance Premiums	Greater Customer Satisfaction
Intangible		Maybe anticipated but difficult to substantiate. Proxy measurement of other casually - related benefits may give evidence of realization	Improved image	

Table 4: Benefit Value Types (Modified from Bradley, 2006)

It has been commonly accepted that intangible benefits are as much crucial as tangible benefits and intangible benefits become part of the investment evaluation process. (Linneman and Kennell, 1977, pp. 141-150) In literature, the tangible benefits (hard benefits) are quantitative such as cost, time, and quality that can be converted into financial figures, whereas intangible values (soft benefits) are subjective and difficult to convert those into financial figures but more behavioral.

Below Table 5 explains direct and indirect benefits and the relationship between tangible and intangible ones related to financial and non-financial objectives.

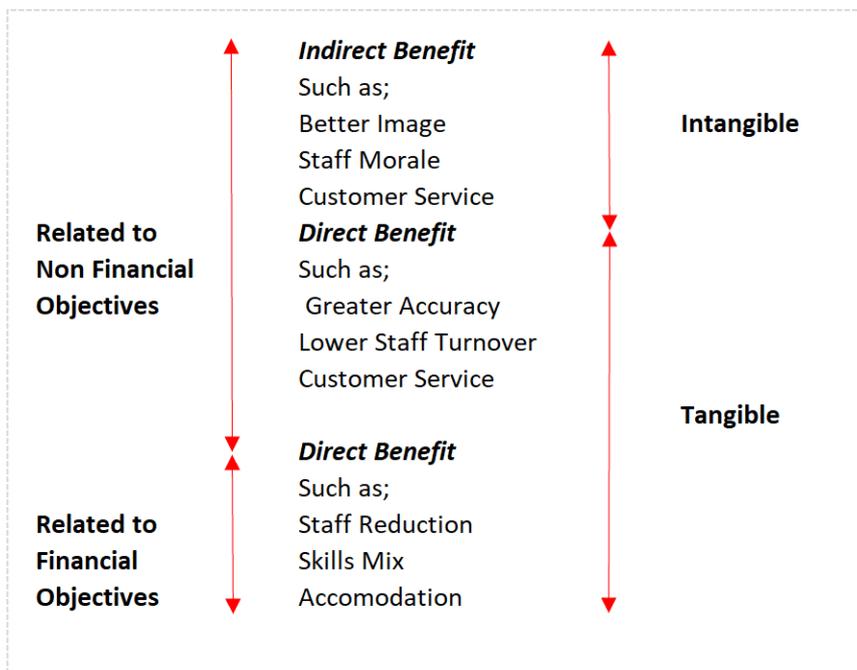


Table 5: Direct and Indirect benefit and the relationship between tangible and intangible benefits related to financial and non-financial objectives. (Modified from CCTA, 2000, pp. 28-29)

Brown (1994, p. 187) clarifies the differences between hard and soft benefits. Hard benefits are easy to measure. Soft benefits are intangible, strategic, indirect benefits, and challenging to measure. Hard benefits are tangible ones usually related to cost and cost reduction, revenue generation that have a particular method of measurements whereas soft benefits are intangible ones that cannot be explained or measured easily in quantitative methods.

According to Nogeste and Walker (2005), intangible benefits provide competitive advantageous and provide consistent relationship between intangible investments and earnings; therefore, intangibles ones nowadays accepted as primary drivers for growth and competitiveness.

2.2.2.2.2 Business and Organizational Impact & Benefit Classification

The benefit is also grouped in literature by keeping them categorized in the primary levels of organizations/business functions which are usually tangible benefits. (Farbey et al., 1993, pp. 12-22) Such categorization aims to provide a better understanding of benefit within organizational / business functional levels. Such classification is detailed in strategic, management, operational, functional and support levels of organizations (Farbey et al., 1993, pp. 12-22) and those proposed benefits are listed as per below Table 6.

Strategic

- Support for the organization's strategy or vision
- Long or short term viability of the organization
- Provide customers with unique value proposition
- Desire to be seen to be innovative
- Permit new business models
- Permit new forms of organization
- Build barriers to entry
- "Lock in" customers
- Geographic or market expansion

Management

- Increased agility
- Better control through improved information
- Growing the skills of workforce
- Meeting the highest professional standards
- Ease of operation, allowing use by less experienced staff
- Improve the quality of working life
- Existing systems have become inadequate
- Less crises
- Flatter organizational structure

Operational

- More effective use of existing IT and systems
- Improved quality at reduced cost
- Improved turmaround time
- Reduced headcount
- Reduction in property costs
- Increased income from better quality products
- Timeliness and accessibility of data

Functional & Support

- Employee self service
- Improved recruitment and retention process
- Provision of infrastructure systems
- Improved communication and collobration opportunities
- Adoption of/ adherence to standards
- Compatibility with customers' and /or suppliers' systems
- Enforcement of regulatory or legal requirements
- Identification/prmulgation of best practice
- Implementation of metrics
- Production of standard reports
- Business continuity / disaster recovery

Table 6: Categorization of Benefit (Modified from Farbey et al., 1993)

Categorization of benefit with business and organizational impact is further explained by Bradley (2006, pp. 2-20) as in this type of classification benefit should be in line with productivity, growth and risk elimination and control. He also adopts the Cranfield Grid / Boston Matrix in benefits realization management (BRM) approach and proposed below Table 7 to present the benefit classification by business impact.



Table 7: Benefit Classification by Business Impact (Modified from Bradley, 2006)

There are some other categories studied in the literature review. Bradley (2006) mentions about **Stakeholder Classification** as the stakeholder will be the one experiencing the benefit/disbenefit impact. He also adds **General Benefit Category** that covers benefits such as profit increment, cost reduction, productivity, etc. **The particular category** is another category he includes in his list like teaming, decision-making. **Change Type** is another category where the benefit shall be identified depending on the contribution of the benefit, which is observable, measurable, quantifiable, and financial. (Ward and Daniel, 2006)

Observable: Based on initial set up criteria evaluation is getting done by experienced observers.

Measurable: Evaluation is getting done based on suitable measurement technique.

Quantifiable: The change amount is getting forecasted by calculation.

Financial: Benefit of financial value is getting calculated by applying a suitable formula, cost/profit.

2.2.2.2.3 Unplanned Benefits

Scholars and practitioners emphasize that there is an unplanned benefit as well as the planned benefit that arises due to change implementation or due to the achievement of planned benefits. (Farbey et

al.,1999, pp. 238-252) It is commonly discussed and agreed that anticipated benefits are more related to tangible and hard benefits, whereas unplanned benefits are more qualitative and intangible/soft benefits.

2.2.2.2.4 Benefit Classification based on the Actor-Oriented Approach

This approach was first proposed in health service in 1993 to classify the benefits. (Mantzana and Themistocleous, 2004, pp. 265-278) Actor refers for users of the system in electronic health care records. This approach is modified later in investment projects, and actors were explained with the main four categories, which are providers, acceptors, supporters, and controllers. (Mantzana and Themistocleous, 2004, pp. 265-278) In addition to these four categories, Mantzana and Themistocleous (2004, pp. 265-278) further classify the actors with two dimensions, which are human and organizations. The benefit of such categorization is to improve and provide detailed analyze, effective decision-making process by providing different focus on the actors to develop different suitable strategies. (Mantzana and Themistocleous, 2004, pp. 265-278)

2.2.2.3 Benefits Realization and Management

To understand the term “benefits realization management,” we should first clarify “benefits realization,” which stands for achievement. In literature, commonly accepted description of benefits realization is positive contribution due to a change. If the factor of “management” is added, then the general definition of benefits realization management becomes the management process of realized benefits due to change.

Among the literature, there are some scholars who used the term “benefits management” (Zwikael & Chih, 2014, p. 1) whereas some others used benefit realization management. (Serra & Kunc, 2015, p. 53; Smith et al., 2008, p. 1442) Both terms are getting used interchangeably and synonymous. (Laursen & Svejvj, 2016, p. 736)

Benefits realization management (BRM) is defined by Farbey et al. (1999) as a process of control for the realization of benefit outcome as well as the unexpected ones. Bradley (2010) defines BRM as “the process of organizing and managing, so that potential benefits arising from investment in change, are achieved.” Ward & Daniel (2006) describe benefit management (BM) in IS/IT as illustrated in below Figure 2.

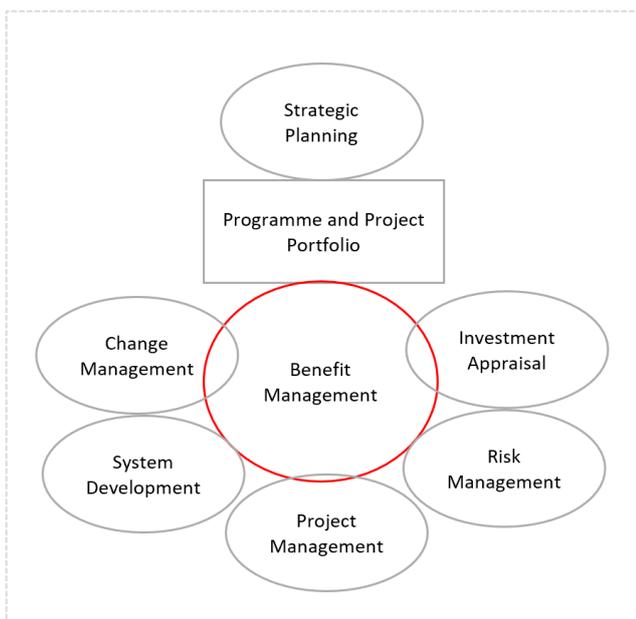


Figure 2: Context of Benefit Management (Ward & Daniel, 2006)

Reiss et al. (2006) explain BRM as “the process for the optimization or maximization of benefits from organization change programmes.” Lin and Pervan (2001, pp. 22-24), describe benefits management as a kind procedural approach on how a realized benefit evaluation shall be managed through capital investments.

There are different definitions of BRM considering various fields, but it is commonly accepted as a kind of process that realizes and manages the planned benefits due to a change. Yates et al. (2009, p. 224) iterate almost the same definition. PMI (2017, p.3) describes BRM as a process that starts with the

identification of benefits that needs to be ensured during execution stage to realize and sustain those planned benefits at the project completion and even after project completion.

In the body of literature, project success terminology and success criteria have been getting replaced with BRM approach. Till the 1980s, the project success was explained using the iron triangle which are time, cost, and quality parameters whereas after 1980s beyond iron triangle, project success criteria such as benefit was added. (Ika, 2009, p. 11) BRM was developed in between the 1980s to 1990s to understand the return of investment of realized benefits in IT sector. (Bradley, 2006) Effective from 2000s, BRM takes more attention in literature with compare to earlier weak success definition. (Laursen & Svejvig, 2016, p. 740)

Reiss et al. (2006) define the connection between projects and benefits as projects have specific outcomes, and those outcomes lead and generate the internal momentum to obtain desired benefits. Thorp (1998) argues that there are mainly three characteristics of benefits realization management. He points out that benefits are not always aligned with the project delivery. He also emphasizes that benefits are not always happening as per initial plans and he firmly believes that benefits realization is a continuous effort as the intermediate results shall be checked and evaluated and the next potential routes should be selected dynamically. (Thorp, 1998)

Remenyi and Sherwood-Smith (1998, pp. 81-98.) state that one of the fundamental characteristics of benefits realization management is to increase the predictability of benefits. Koskela and Kagioglou (2007, pp. 45-52) support this argument by referring suggestion of Aristotle to define the result and apply “back to forward” process by asking how, why, and what. Zwikael and Smyrk (2011) state that to manage and achieve desired outcomes, there must be a structured evaluation process.

The ultimate aim of BRM is to support organizations to achieve the desired values based on organizations objectives and strategies. (Serra & Kunc, 2014) As the strategies are set for ultimate objectives, Serra & Kunc (2014) suggests to detail the initial strategies, make it measurable and ultimately manageable, therefore suggest below Figure 3 for the value gap i.e., current value vs. desired value.

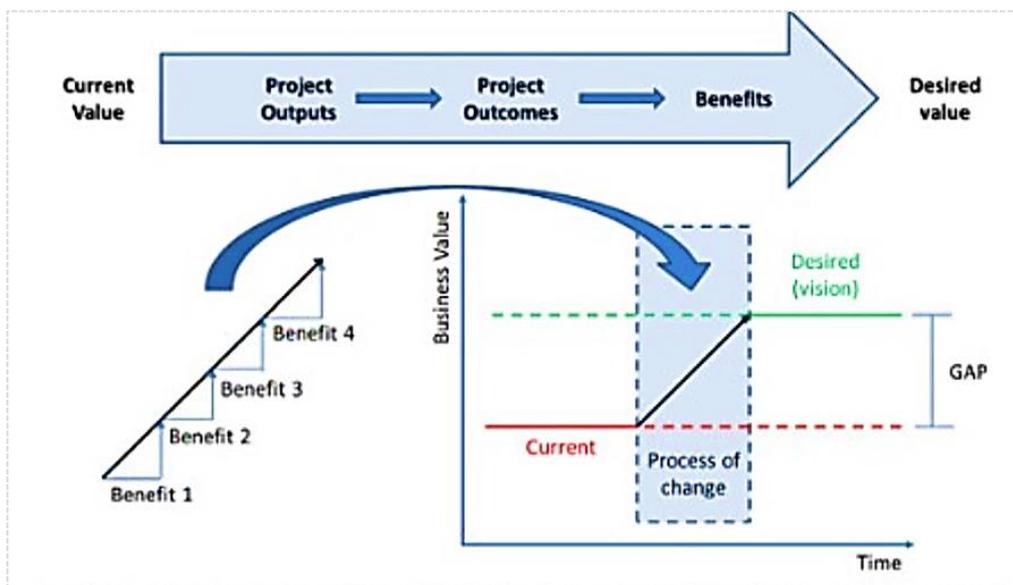


Figure 3: Value Gap adopted from Serra and Kunc (2014)

Having known the fact that benefits are business value increments (Zwikael & Smyrk, 2011), value definition for success is then strongly related with project/program deliverables along with their targeted benefits. (Serra & Kunc, 2014) Therefore Serra and Kunc (2014) describe BRM as a process to define the value gap or the gap between initial strategy & plans vs. execution outcomes.

Zwikael and Smyrk (2012) highlight the differences between output and outcome as the outcome is a measurable effect due to a change when output is arisen due to stakeholder involvement. Zwikael and Smyrk (2012) state that outcomes represent a change in the organization, not like output, and eventually serve business benefits. Below Table 8 provides further clarification for output vs. outcomes.

Characteristic	Output	Outcome
Intention	What is to be delivered?	What effect is being sought?
Form	Artefact	Measurable end effect
Specified by a ...	Set of values for all critical fitness-for-purpose features	Set of specific attributes (characteristics)
Labeled with a ...	Noun	Participial adjective
Creation mechanism	Production or delivery	Generation or realization
Certainty	Production can be guaranteed	Generation cannot be guaranteed
Manageability	Production can be controlled	Generation can only be influenced
Measurement	Through fitness-for-purpose features measured in quality tests	Through one or more measures (with defined units and dimensions)
Tangibility	Tangible	Intangible (but measurable)
Appearance	Impossible without execution of process	In certain cases possible – even if process is not executed
Lead time	Available immediately after process is executed	Delayed until some time after execution of the process
Example	A suite of re-engineered hospital processes	Reduced waiting time for elective surgery

Table 8: Output vs Outcomes adopted from Zwikael and Smyrk (2012)

Reference to the last example given in the above table, having a project output “a suite of re-engineered hospital process” will provide an output, which is reduced the waiting time that is a positive change and create positive value in a business that can be measurable. Ultimately, benefits realization is a process that needs to be managed to review project outputs concerning outcomes and consequently, with business benefits.

Reference to the technique of benefit mapping suggested by Ward and Daniel (2006), supported by Thorp (2007), and Bradley (2010) benefits realization starts with projects and extends to business objectives as per below Figure 4.

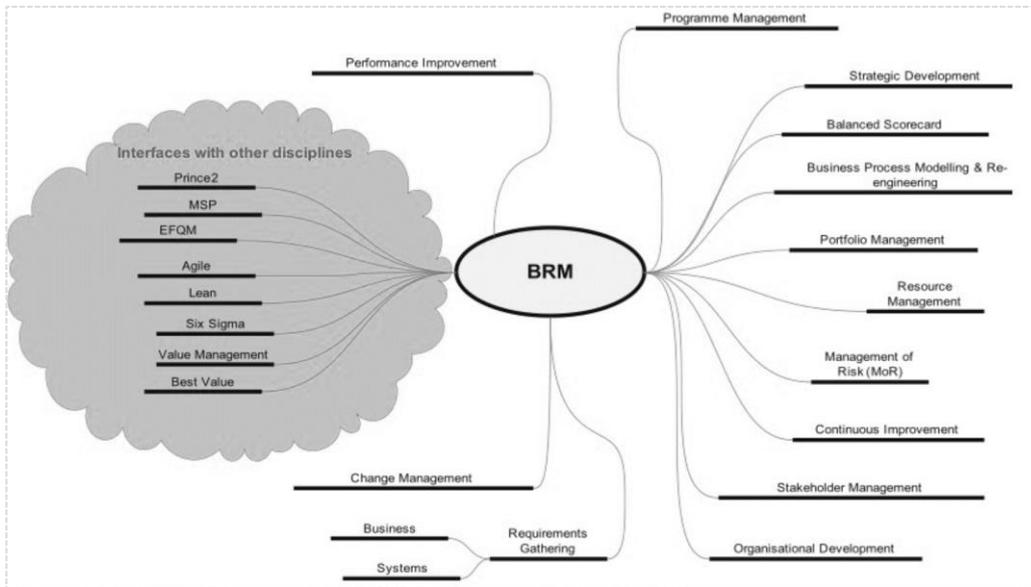


Figure 5: BRM relation with other management techniques (Bradley, 2006)

Bradley (2006) also emphasizes that BRM is at the center of all other management disciplines and connect those via change as per Figure 6.

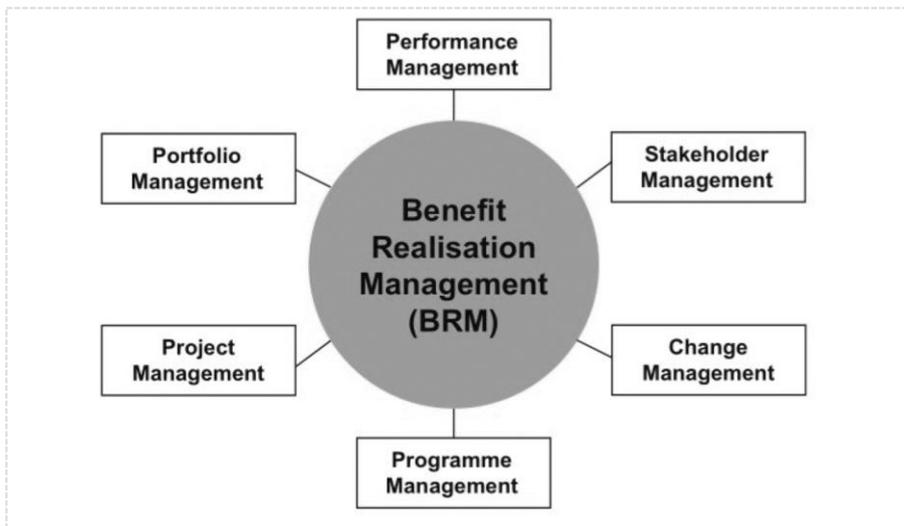


Figure 6: BRM and Other Management Disciplines (Bradley, 2006, p.25)

Although BRM has not yet completed its development other than IT (Breese, 2012, p. 348) as the primary BRM investigation takes place till date, lack of consistency in the description of BRM (Breese et al. 2015, p. 1438) and no formalized benefit identification process yet established. (PMI, 2016a, pp.

7-13) Nowadays organizations are showing great interest on the implementation of BRM process through project life cycle. (PMI, 2017, pp. 3-8) Although the majority of organizations' maturity level of benefits realization has not yet well developed, in all type of organizations and different disciplines and professions, BRM is becoming more and more popular. (Breese, 2012, p. 341)

2.2.2.4 Benefit Realization Management Approaches, Models and Adaptation

Considering the fact that the importance of BRM has been getting recognized by organizations since 1995, different BRM approaches and models have been proposed and developed in order organizations to identify, monitor and achieve their initially planned benefits. (Yates et al., 2009, p. 224) Different approaches have been accepted for the BRM process. (PMI, 2017, p. 8) Different processes have been developed by scholars or applied by practitioners in one or different phases of BRM. Throughout the literature review, within those different approaches and models, the main difference is mainly due to the difference in their processes, roles & responsibilities, and characteristics.

The models and approaches from the literature review are shortlisted and detailed as below:

2.2.2.4.1 Active Benefit Management (Leyton, 1995)

Clarifies the benefits management process flow due to organizational and business change.

According to Leyton (1995), overall benefits management process starts with business change along with strategy; then it is followed by the implementation process, and the realization of business change supports all these processes.

2.2.2.4.2 The Cranfield Process Model of Benefits Management (Ward et al., 1996)

It emphasizes monitoring of benefits as a continuous process throughout the project life cycle. The process starts with benefit identification for the potential benefits then plan is structured and executed, and the outcomes are evaluated. (Ward et al., 1996, pp.214-225) Below Figure 7 clarifies the overall flow within this process, phases, and relationships along with the process.

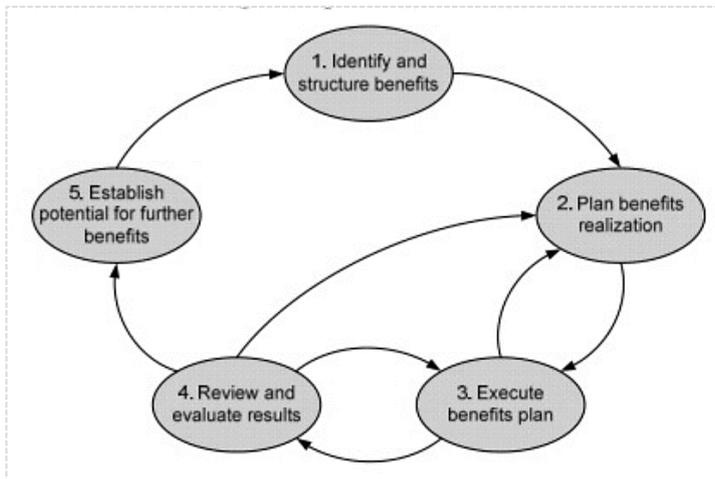


Figure 7: The Cranfield process model (modified from Ward and Daniel, 2006)

Step number four which is benefit monitoring process evaluates and compares results with step number two which is the plan benefit realization along with step number three which is the execution of benefits plan and assess the changes which might potentially affect the planned benefits eventually. Monitoring the benefits process is considered as essential to earlier highlighted issues which may adversely affect benefit deliverables as well as identification of new benefits.

2.2.2.4.3 The Benefits Realization Approach (Thorp, 1998)

It proposes not only project management but business program management and portfolio management in a well disciplined and structured way to have more predictable and consistent business results as it is mainly the business-oriented process.

As per below Figure 8 proposed by Thorp (1998), the process is set up based on full cycle governance considering the project, program and portfolio management, and it emphasizes responsibilities, and management of change. This proposed process enables organizations to select the management strategy as well as the definition, optimization of benefits by keeping such benefits in line with business strategy. (Thorp, 1998)

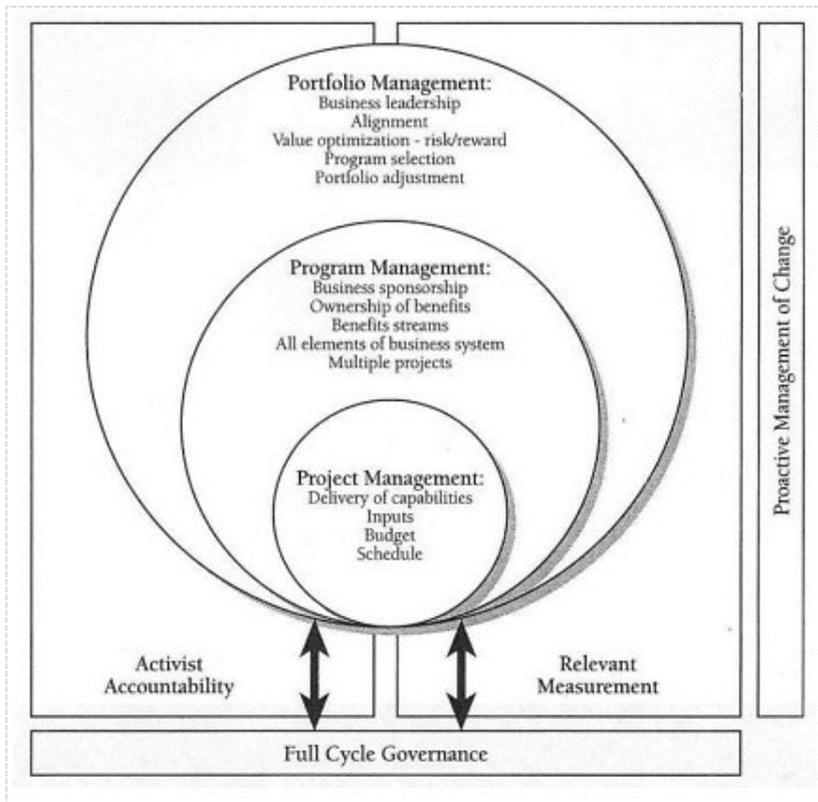


Figure 8: Benefits Realization Approach (Thorp, 1998)

2.2.2.4.4 Active Benefit Realization (ABR) (Remenyi & Sherwood-Smith, 1998)

Active Benefit Realization provides continuous evaluation process for managing and evaluating benefit realization iteratively by direct participation of primary stakeholders to support business and organizational goals and expected outcomes.

The process involves following steps mentioned below Figure 9. Considering the fact that the process is based on a participative approach, accountability should be well defined, and primary stakeholders should be well identified. The expectation from primary stakeholders is to have time to participate in the entire process to eliminate surprises for stakeholder at the end of the project.

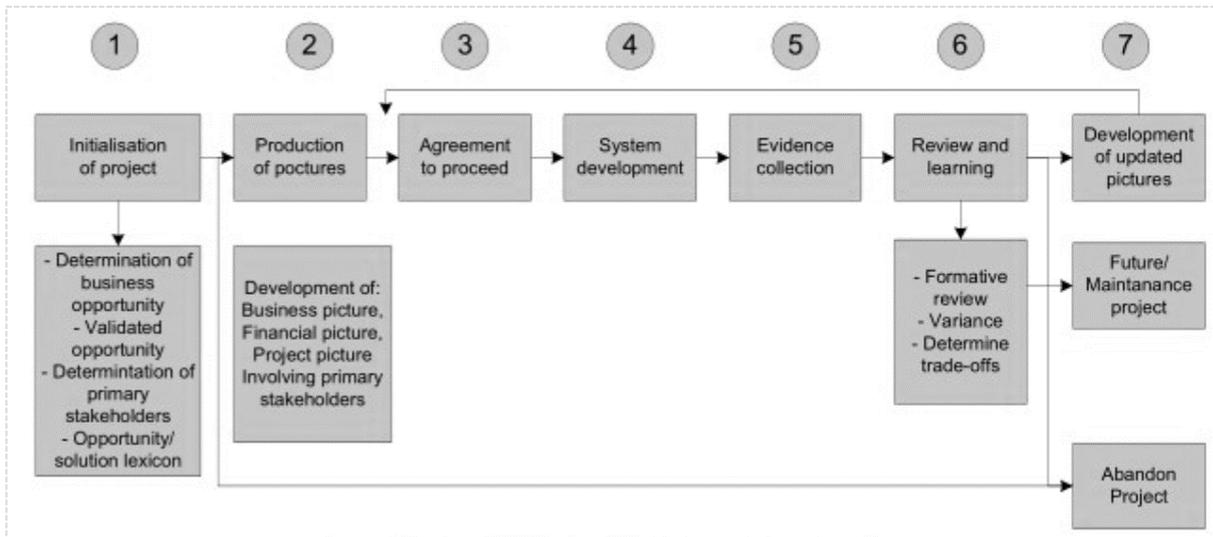


Figure 9: ABR process (Remenyi & Sherwood-Smith, 1998)

ABR proposed a reiterative method using evaluation to make sure progress is in line with expectations to ensure business benefits are realized.

Roles and responsibilities along with ABR are illustrated as per below Table 9

Roles	Responsibilities
Line managers and end users	Responsibility for making the system succeed
Accountants and financial officers	Responsible for ensuring the investment of the organizations resources are controlled in terms of corporate policy
Information systems people	Responsible for bringing technical expertise to information systems development and subsequent management

Table 9: ABR - Roles and responsibilities

2.2.2.4.5 The Life cycle of ICT investments (Swinkels, 1999)

The Life cycle of ICT investment approach is proposed by Swinkels (1999) with five phases, which are described in below Figure 10. Roles and responsibilities are distributed between responsible managers.

The main stages are illustrated below:

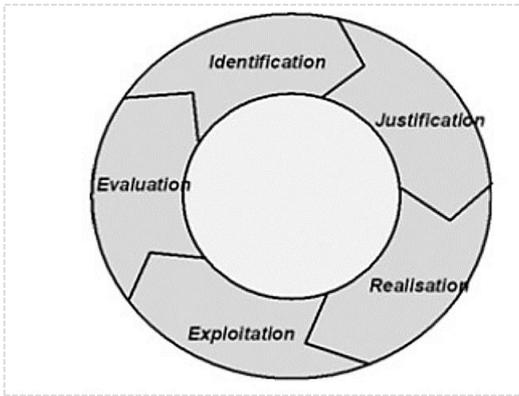


Figure 10: The life cycle of ICT investments (Swinkels, 1999)

2.2.2.4.6 The IT Benefits Measurement Process (Andresen et al., 2000)

In this framework, the benefit is getting driven due to system change or innovation implementation by keeping it in line with business strategy. (Andresen et al., 2000, pp. 57-72)

In this process, benefit identification takes place in coordination with business performance, effectiveness, and efficiency. In this process, there are eight main stages which are in the loop of benefits identification, benefit realization, and evaluation by keeping the importance of responsibility assignment in this loop.

2.2.2.4.7 Towards Best Practice to Benefits Management (Ashurst & Doherty, 2003)

According to Ashurst & Doherty (2003, pp. 1-10), benefits realization is a continuous process within the organization and shall be applied to any project. The flow of this process is illustrated by Ashurst & Doherty (2003, pp. 1-10) as per Figure 11. The process involves benefit identification, benefits delivery, and benefits reviews along with the projects within the organization. External factors impact has not been emphasized in this process, and the roles and responsibilities are not very clear.

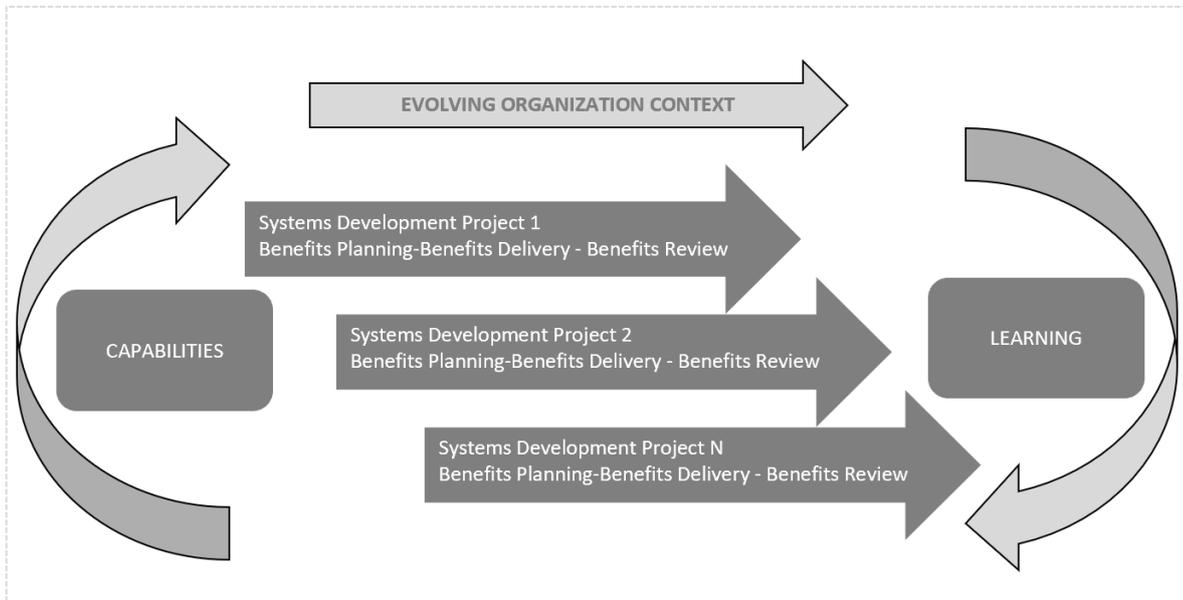


Figure 11: Towards best practice to Benefits Management
 (Modified from Ashurst and Doherty, 2003, pp. 1-10)

2.2.2.4.8 The Gateway Process

The Office of Government Commerce (OGC) is an independent governmental department in UK. OGC publications aim to give UK Government view on management principles and support public organizations to improve the success rate of their projects and programmes. The process contains potential benefit identification, planning, modeling, and tracking outcomes. Below Figure 12 illustrates the primary management process:

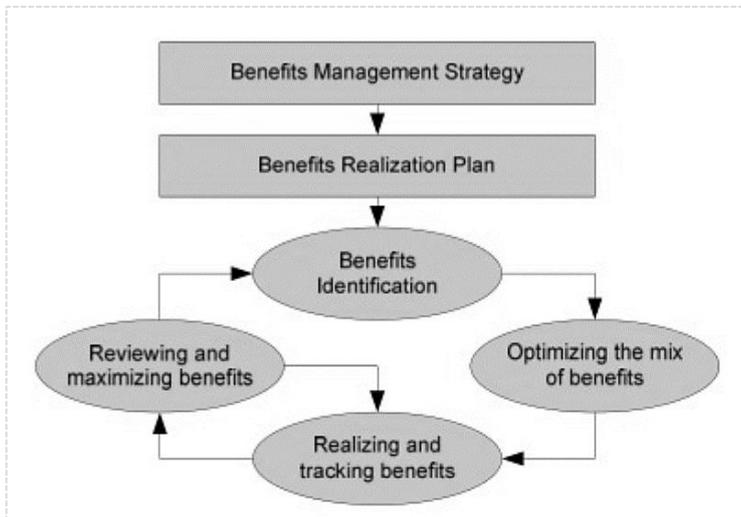


Figure 12: Benefits Management process (OGC, 2003)

OGC (2003) clarifies benefits management as along with the business change, business objectives are getting broken into more measurable benefits having proper monitoring and tracking over those benefits. It simply maps the steps of fundamental management process explained in Managing Successful Programmes (MSP) and OGC.

The ultimate aim of OGC is to achieve the desired business outcome by keeping the focus on identified benefits aligned with business goals as described in Figure 13 OGC Gateway Process

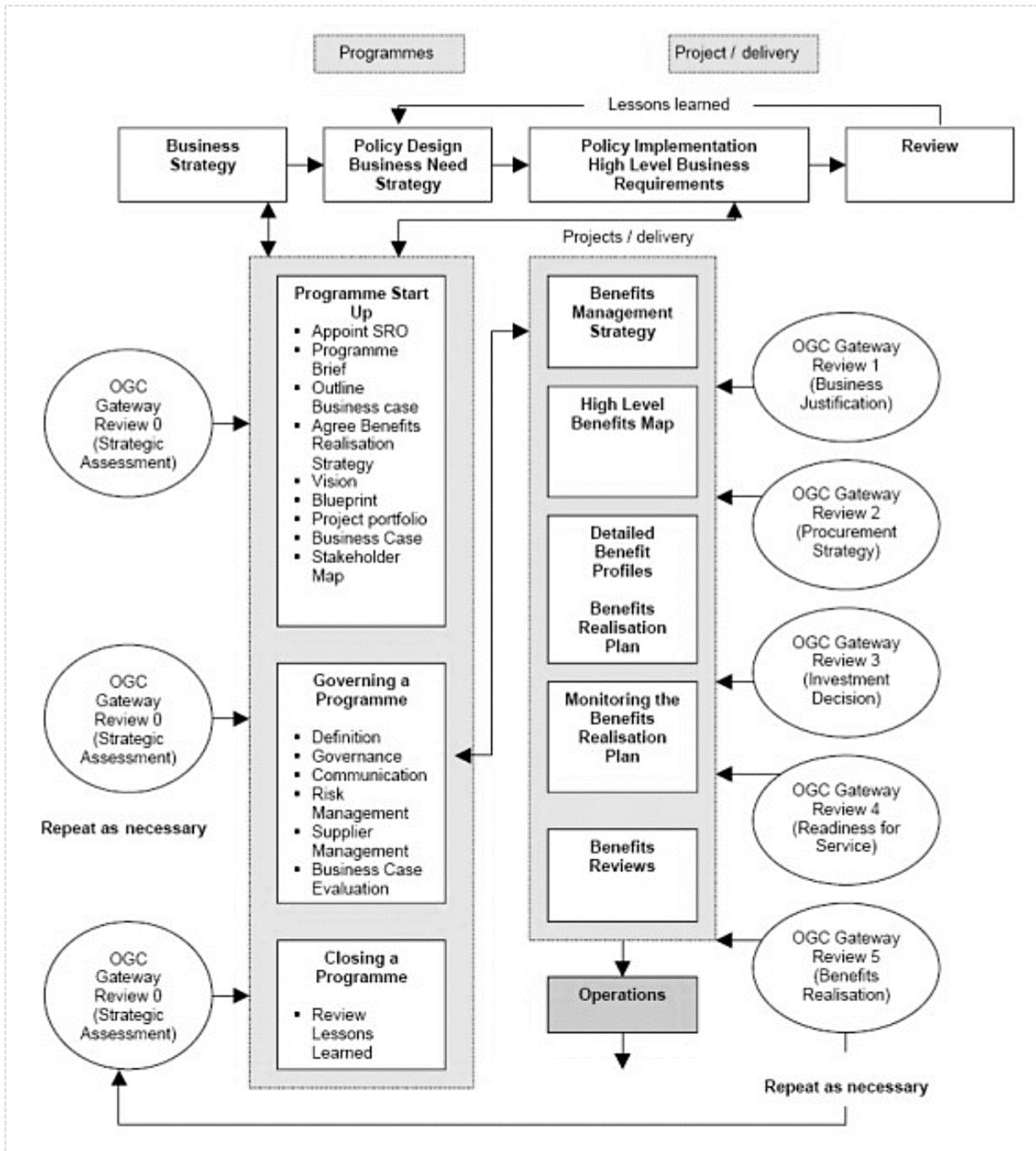


Figure 13: Gateway Process OGC (2004)

The main phases of this process are illustrated below Figure 14.

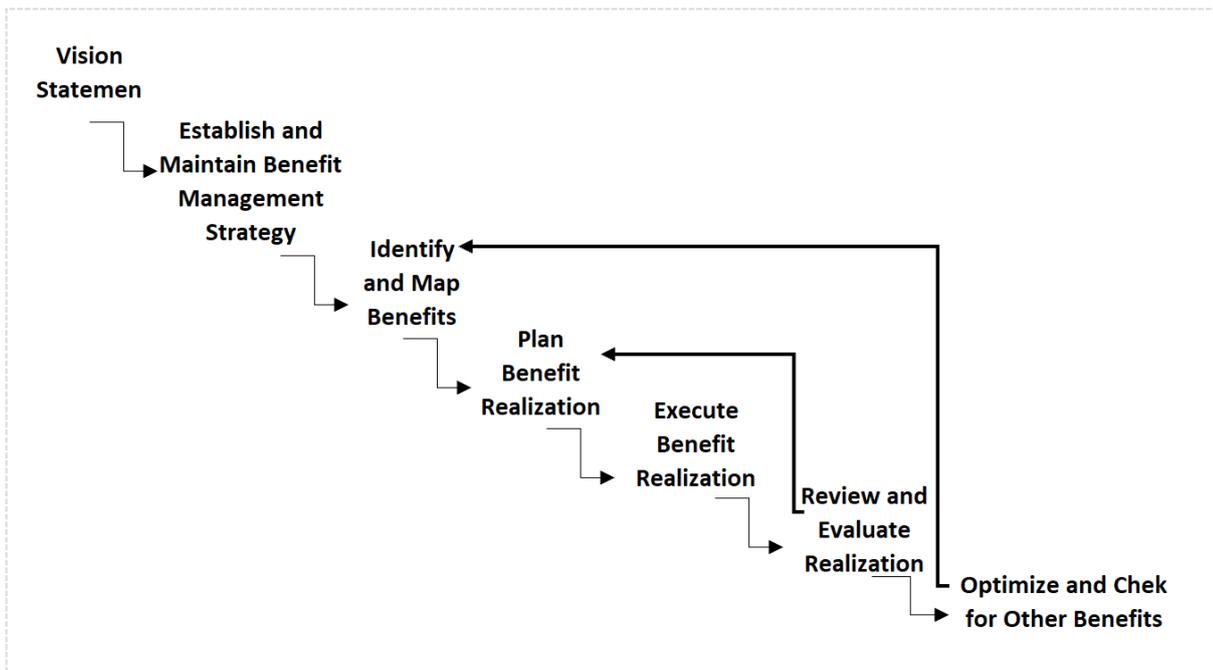


Figure 14: Benefits Management Process (Modified from OGC, 2007a, Bradley, 2006)

The leading roles and responsibilities are well defined as per below Table 10

Roles	Responsibilities
SRO – senior responsible owner	Owens the Benefits Management Strategy and is responsible for Benefits Realization Plan
Program Manager	Oversees / prepares the Benefits Realization Plan and ensures it is aligned with Program Plan and Business Case
Program Office	Acts as the information hub for tracking and progress-chasing benefits, calling reviews and communicating results
Business Change Manager	Realizing benefits; Agreeing profile, impact analysis, quantifying, risk assessment
Project Manager	Defining benefits in PID(project initiation document), delivery of enablers to time, quality and costs
Assurance/validation	Usually carried out by third party individuals not directly involved in the Business Change Program

Table 10: OGC Roles and responsibilities (OGC, 2008)

2.2.2.4.9 Project Benefits Management (Bennington & Baccarini, 2004)

The process is proposed along with the report and contains benefit identification, benefits realization planning, benefit monitoring, and benefits realization. In this approach, responsibilities are still not clear while delivering benefits.

2.2.2.4.10 Benefits management in the Handbook of Programme Management

(Reiss et al., 2006)

This model emphasizes the benefits management process based on the realization of benefits along with the projects. (Nogeste & Walker, 2005). Benefits management is management and monitoring of benefits before and after implementation, by accepting a relationship between benefits and projects along with benefit hierarchy. (Reiss et al., 2006) (Figure 15)

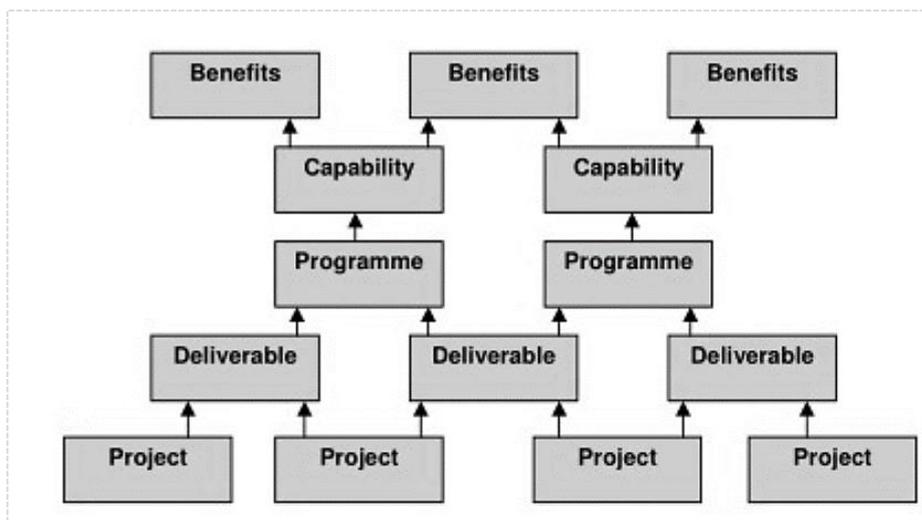


Figure 15: Benefit Hierarchy (Nogeste and Walker, 2005, Reiss et al., 2006)

As per benefit hierarchy, one project deliverable can also be another project's deliverable. There are multiple relationships from project to benefit path. As per Nogeste and Walker (2005), projects contribute deliverables in a programme that creates capabilities to deliver benefits.

2.2.2.4.11 Managing Successful Programmes (MSP) (Office of Government Commerce, 2007)

MSP is similar to OGC describes the view of the UK government on the management process. Benefits management is considered as a continuous flow along with the program where benefits are driven through capabilities that are the outcome of project deliverables. It emphasizes identification, measurement, and tracking processes as well as responsibility assignments.

2.2.2.4.12 The Benefits Realization Capability Model (Ashurst et al., 2008)

The model is proposed throughout the literature study by having study over 25 IT projects. This approach is a stakeholder-oriented approach and contains four main stages, which are benefit planning, benefit delivery, benefits review, and exploitation. (Ashurst et al., 2008, pp. 352-370).

2.2.2.4.13 Benefits Management Lifecycle (Melton et al., 2008)

This approach investigates project benefit process with three stages that are benefit concept, benefit specification, and benefit realization. The responsibilities are mentioned but no clear assignment except project sponsor as considered as main responsible for benefits realization.

2.2.2.4.14 Benefits Realization and Management Framework (Yates et al., 2009)

This approach has been tested in the healthcare industry, along with case studies. The process contains four phases as benefits management strategy and realization, benefit profile and mapping, plan of benefits realization, benefits evaluation, and review. (Yates et al., 2009, pp. 223-232) Although the process emphasizes stakeholders involvement and interaction, the roles and responsibilities are not very well clarified.

2.2.2.4.15 Operation of Realizing Benefits in Information Technology (ORBIT)

(Khampachua & Wisitpongphan, 2014)

This approach is proposed in Thailand for the service at Dairy Farming Organization. The process concentrates mainly on users and their involvement and interaction for the main phases described as planning, realization, exploration, and evaluation. The roles and responsibilities of the stakeholders within the case study are well defined, but responsibilities are not holistically explained within the project. (Khampachua & Wisitpongphan, 2014, pp. 254-260)

2.2.2.4.16 Benefit Realization Management process (Letavec, 2014)

Five phases of this process described as benefit identification, analysis, and planning of benefit, delivery of benefit, the transition of benefit, and benefits continuity. The roles and responsibilities of stakeholders in this process are well defined.

2.2.2.4.17 Benefit Management Process (PMI, 2006)

The approach proposes main phases of the process as benefit identification, analysis, planning, realization, and transition.

2.2.2.4.18 Benefits Management Approach (APM, 2009a)

This method provides a framework of benefit modeling, profiling, benefits strategy, benefits management plan, baselining, targeting, and review processes.

2.2.2.4.19 Multi-Objective Realization Method (MORM) (Barclay and Osel-Bryson, 2009)

The main aim of this method is to highlight the strategic contribution of the programme to the stakeholders by having a loop of 4 processes, which are identification, definition, analysis, and realization. (Barclay and Osel-Bryson, 2009, pp. 74-93)

2.2.2.4.20 Change Management Process for Benefits Realization (Bradley, 2010)

The method proposes a continuous process of benefits identification, changes that require for objective accomplishment describes necessary initiatives to make the changes to optimize and manage those initiatives to gain the benefits. (Bradley, 2010)

2.2.2.5 Common Stages Accepted for BRM Processes

Reference to the literature review, there are four typical phases along with the BRM methods, which are:

1. Benefit Identification
2. Benefit Realization Planning
3. Execute Benefit Realization Plan & Monitor
4. Benefit Evaluation & Establish Potential for Further Benefits

These are the primary, commonly accepted tools and techniques which are detailed and discussed in the following sections. These main elements and benefits management process life cycle has been illustrated by Payne (2007) in below Figure 16.

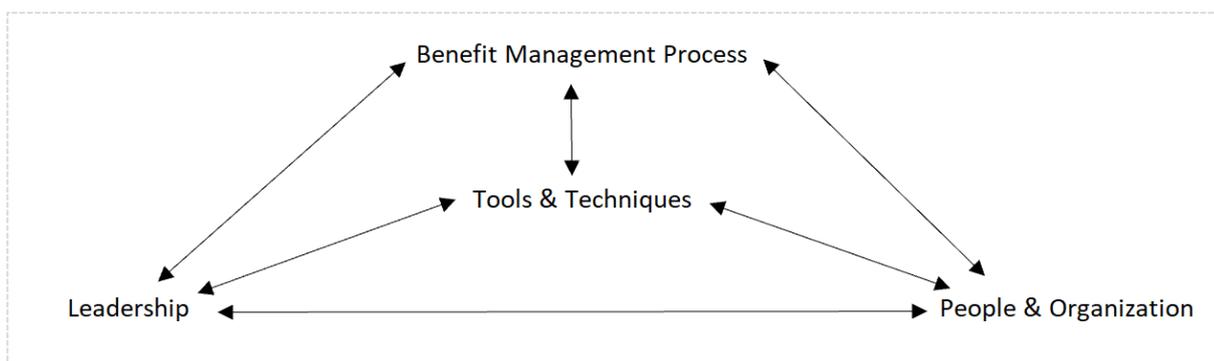


Figure 16: Benefits Management Main Elements and Cycle (Payne, 2007)

Reiss et al. (2006) support the idea that benefit should be measured with some techniques along with some specific procedures as those should be in place to measure, report and respond during the management process. Ward and Daniel (2006) provide the steps and details of the processes in Figure 17.

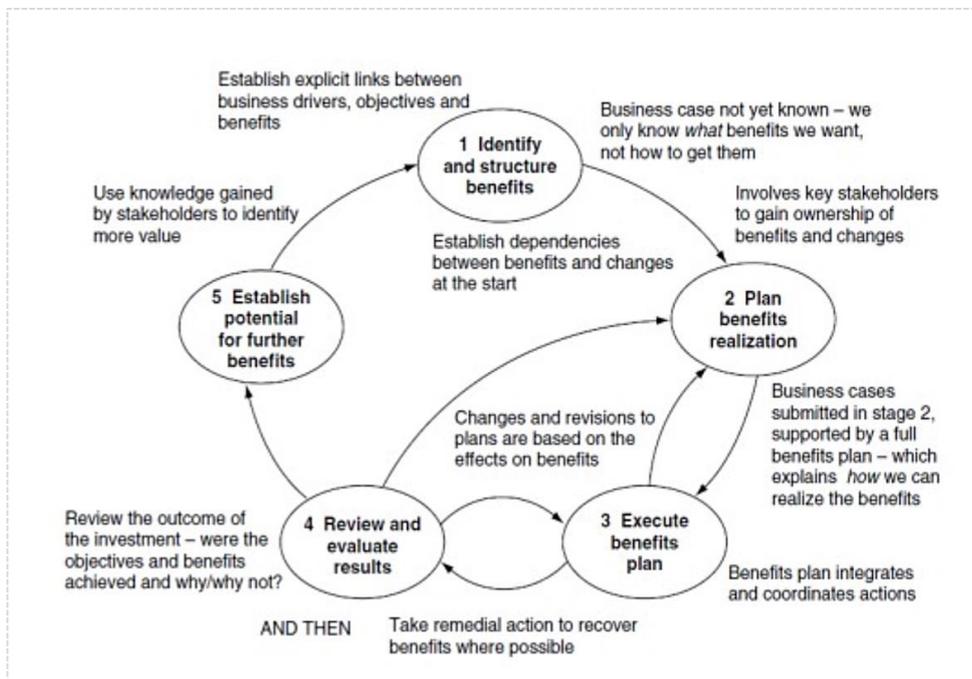


Figure 17: Benefits Management Process and Stages (Ward & Daniel, 2006)

2.2.2.5.1 Benefits Identification

In the BRM process, benefits identification is considered as the first and the most essential stage. (Chih & Zwikael, 2015, p. 352) Chih and Zwikael (2015, p. 352) state that identified benefits have to be in line with business strategies and objectives and should be cross-checked with performance reviews along with the projects. (Ashurst & Doherty, 2003, pp. 2-3; Artto et al., 2008; Morris and Jamieson, 2005)

It is necessary to include all stakeholders to identify the desired benefits. (Remenyi and Sherwood Smith, 1998; Bennington and Baccarini, 2004) It is found highly crucial at the benefits identification

stage to involve stakeholders in order to have brainstorming along with the meetings, interviews, and workshops not only for identification purpose but also for clarifying what is expected to be realized. (Remenyi and Sherwood Smith, 1998; Bennington and Baccarini, 2004) Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders. (Glynne, 2007; Breese, 2012; Norris,1996)

It is commonly accepted by scholars and practitioners that there must be structured benefit profiles with pros. and cons. in order to define and understand each benefit and disbenefit, the way of measuring benefit, its financial impact, interaction of identified benefits with other benefits and business plans & strategy, when it is expected to happen, what it depends on. (Bradley, 2006; CCTA, 1999; Farbey et al., 1999; Reiss et al., 2006; Ward and Daniel, 2006; Thorp, 1998) This defined structure will explain the relationship of benefits, business change and business effect. (Sakar and Widestadh, 2005)

Letavec (2014, p. 51) points out the importance of benefits identification, its process and structure. Remenyi & Sherwood-Smith (1998, p. 83) add primary stakeholder identification thus identification process along with strategy develops benefits realization process. (Yates et al., 2009, p. 230)

Structured benefit profile is an ongoing process, and along with the route and change implication, it must be reviewed and modified where necessary. (CCTA, 2000).

Along with the business change, business objectives are getting broken down into more measurable identifiable benefits in order to have proper monitoring and tracking over those benefits. (Payne, 2007; OGC, 2003; Reiss et al., 2006)

In literature review, benefits identification and quantification have been considered as a continuation of the definition of success where benefits are getting listed, detailed and prioritized. In general practice, first benefits are categorized concerning benefit owners and stakeholders and then categorized based on

whether financial or non-financial. Financial evaluation can be easily quantified and prioritized. Non-financial benefits can be qualitative or quantitative where quantitative values can be measured and evaluated easily, whereas qualitative are the ones difficult to measure but subjective. OGC(2003) highlights the difficulty and importance of definition and quantification stage of benefits.

2.2.2.5.1.1 Project Target Benefit Characteristics

According to the literature review, there must be specific criteria for benefits identification to ensure realization. (Cooke-Davies, 2007)

Strategic Fit: Identified benefits should be aligned with organizational and business strategic goals. (Artto et al., 2008, pp. 4-12; Morris and Jamieson, 2005, pp 5-18)

Target Value: Benefits should be well defined in order not to have different interpretation by stakeholders (Breese,2012, pp. 341–351; Norris,1996, pp. 193-223) and to maintain this there must be target value defined at the beginning stage of each benefit.

Measurability: Another commonly accepted characteristic is measurability of benefits, as Cooke-Davies (2007) states that target benefits should have commonly taken measures, and these measures should allow future assessment and evaluation of benefits. (Zwikael and Smyrk, 2012 pp. 6-22)

Realism: Identified Benefits should be realistic. (Jenner, 2009; Ward and Daniel, 2006)

Target Date: Target date should be specified to monitor and evaluate benefit realization. (Breese, 2012)

Accountability: Identified benefits should have a clear owner and the line of responsibility. (Zwikael and Smyrk, 2011; Olsson et al., 2008, pp. 39–46)

Comprehensiveness: Benefits should be considered and evaluated holistically with pros and cons to define and understand each benefit and disbenefit. (Breese, 2012, pp. 341–351; Jenner, 2009; Henderson and Ruikar, 2010, pp. 309–327)

Finally, benefits are collected, and planned benefits are listed in benefit register to review, measure, and follow up those benefits by intercommunicating during project/program life cycle, which will be further detailed in the following sections.

2.2.2.5.2 Benefits Realization Planning

Benefits Realization Management process is getting formalized with benefits planning as quantification, identification of benefit matrices, KPIs, and process of benefit monitoring take place at this step. (Letavec, 2014, pp. 10-67; Remenyi & Sherwood-Smith, 1998, p. 89)

Benefit planning supports the realization of benefits within the benefits realization management process. (Letavec, 2014, p. 61) Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members who are in charge of delivering benefits as well as receiving benefits. (Khampachua & Wisitpongphan, 2014, p. 257)

According to PMI (2013), benefits planning is a set of activities to identify when and how the planned benefits will be realized to ensure that expected benefits are fully delivered within the specified life cycle.

The benefits planning process provides a general plan for benefit and business case for the investment that is supposed to be submitted for high-level management approval. Benefit planning clarifies responsibilities, accountability, time, allocation of resources along with expected outcome by showing the interconnected relationship, which is crucial for achieving the desired outcome and objectives. In this stage, benefits are measured and changes are identified.

Responsibilities are getting allocated within stakeholders considering deliverables and receivers to finalize benefit plan for investment case. Critical questions for benefits planning stage are clarified by Ward & Daniel (2006) in below Figure 18.

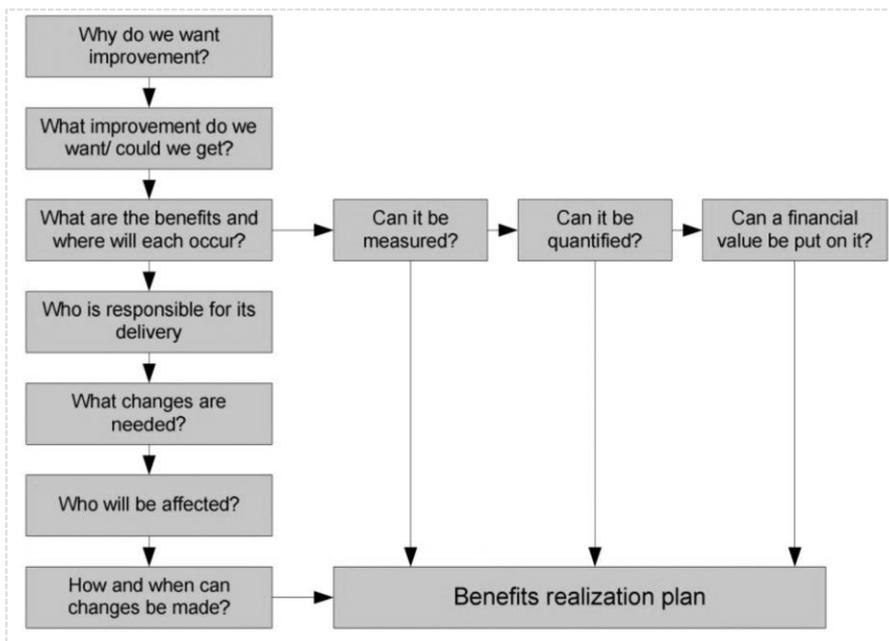


Figure 18: Key Questions for Benefits Planning Stage (Ward & Daniel, 2006)

After identification of roles and responsibilities of stakeholders, the following step is to identify the changes required for benefits realization, which leads to ultimate objectives. Benefit dependency network is established to clarify this interrelation for this propose by Ward & Daniel (2006)

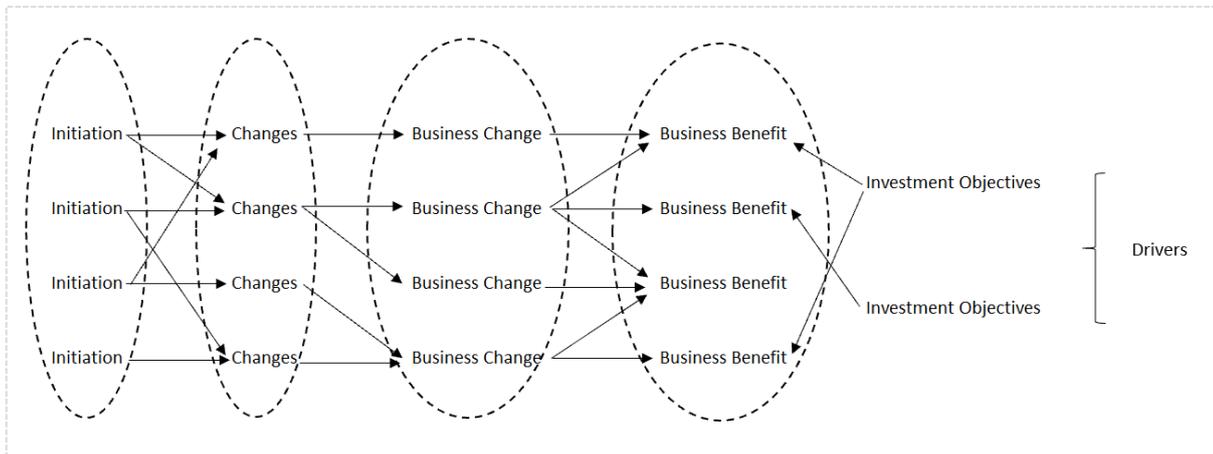


Figure 19: Benefit Dependency Network (Modified from Ward & Daniel, 2006)

As per Figure 19 proposed by Ward & Daniel (2006), this network structures the process iteratively as changes are identified to evolve business benefits to meet investment objectives. In literature, those changes are listed as technology changes, business change, and enabling changes. Technology changes refer to introducing new technology to the organization; business changes refer to exploring new ways of processing and enabling changes to refer to launching a new system within the organization to carry out the work. Therefore, benefits management plan clarifies the way how to manage and receive benefits through business investments due to business change. (OGC, 2003)

It is commonly accepted in the literature that without benefit planning, it is difficult to establish a way to realize business benefits. (Ward et al., 1996; Bennington and Baccharini, 2004) Due to this reason, benefit plan should be prepared and set up before project initiation. (Bennington and Baccharini, 2004)

Benefit planning should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit, what are the interrelation of this benefit with other project output and what is the list of actions of stakeholders to make sure benefit is getting realized. (Bennington and Baccharini, 2004; Lin and Pervan, 2001; Ward et al., 1996)

Quantification process takes place at the planning stage as according to Thorp (2001) process cannot be managed if not measured; therefore, measurement is vital to do proper planning that will ensure appropriate management process. Thorp (2001) highlights the required criteria for the measurement as;

- to make sure the measurement system is available
- to make sure the right data is measured
- to make the sure measurement is getting done in the correct way
- to ensure the measurement is involved in the decision-making process before action.

Key Performance Indicators (KPI) are quantifiable measurements and should be planned at this stage to reflect the benefits of investment. KPI helps to define the way of measuring progress. (Lin and Pervan, 2001) Developing KPIs for the measurement of benefits;

- enables stakeholders to verify if the benefits are delivered or not,
- helps to identify project benefit to what and when to measure
- clarifies required action against measured benefits,
- clarifies responsibilities for measured benefits

Bennington and Baccarini (2004) highlight the fact that PMs pay more attention to measurable outputs; therefore, the main tendency in project management is to define benefit in quantifiable terms.

According to scholars and practitioners, it is stated that although benefit measurement process is found complicated and difficult by some practitioners, it is merely because of BRM process has not been applied at all or it is applied at a very late stage. Therefore BRM is must and there is no alternate to BRM. Below Figure 20 illustrates measurement difficulties where the BRM process is not applied at all or lately used:

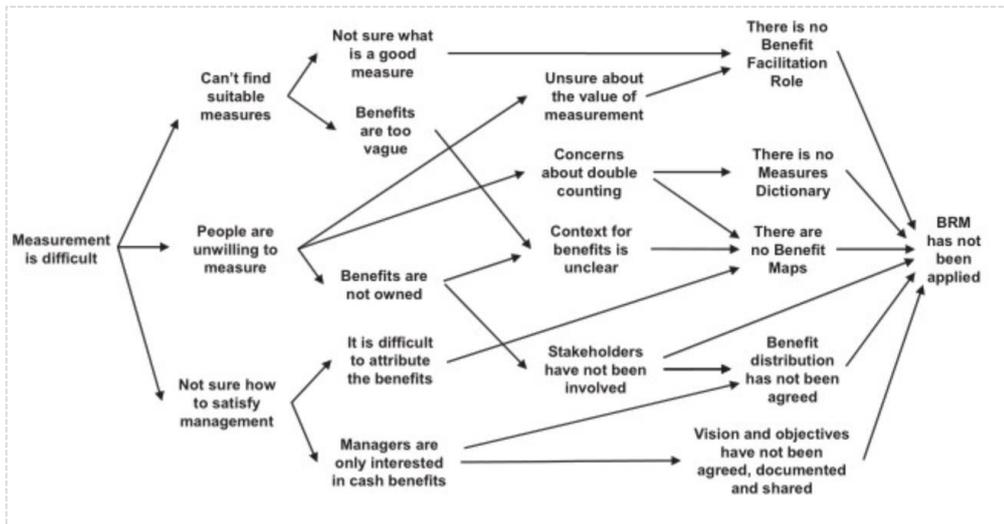


Figure 20: Measurement difficulties

2.2.2.5.3 Execute Benefits Realization Plan & Monitoring

After benefit realization plan, execution and monitoring is the next stage to assess whether the project and outcomes are in line with initial benefit realization plan and to check whether there is any consequence due to any internal or external changes. (Ward et al., 1996)

Execution and monitoring benefit realization plan is a crucial stage to ensure desired benefits are realized and it is the phase where newly evolving benefits are captured and incorporated. (Bennington & Baccarini, 2004, p. 22)

Benefits review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learned. (Ashurst and Doherty, 2003; Andresen et al. 2000)

Andresen et al. (2000 p. 64) state that benefits have to be monitored and recorded for proper expected comparison concerning the initial plan to finalize post benefit review and learning processes.

According to Bartlett (2006), benefit monitoring is a long process and provides maximum profit as long as it starts with planning and ends with realization and documentation stages. Although it is a crucial step to follow, most organizations do not follow review and monitoring stages due to their lack of experience in business expectations, less focus on stakeholders expectations, paying more attention to results instead of evolving benefits, lack of experience on the overall management process, resistance to changes required for benefit realization. (Bennington and Baccharini, 2004)

Overall BRM process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets. (Cooke-Davies, 2002; Nogeste, 2006)

2.2.2.5.4 Benefit Evaluation and Establish Potential for Further Benefits

Benefit evaluation is an evolving process and recently getting discussed. (Bradley, 2006; Ward and Daniel, 2006) Benefit evaluation is the stage where planned benefits are evaluated whether those are realized or not. (Khampachua & Wisitpongphan, 2014, p. 257) Ashurst et al. (2008, p.9) state that the evaluation process is not only limited to project completion, but some may arise during the operational period. Regardless of where evaluation takes place, the general acceptance for the advantage of the benefits evaluation process is the generation of lessons learned, and how that valuable feedback is implemented in future projects. (Ashurst et al., 2008, p. 9; Ashurst & Doherty, 2003, p. 3)

In summary, the benefits review and evaluation process assesses whether initially targeted benefits are realized or not. If not then this process helps to identify what are those outstanding ones and focuses on the actions to be taken to deliver those outstanding benefits, and creates a library for lessons learned to implement the same in future projects effectively to maximize the benefit realizations. The evaluation process will also contribute the unexpected benefits identification. This is the stage where stakeholders shall also be involved for the benefit of future projects with their input.

During the evaluation process as it is explained earlier, the intention is to check whether benefits are realized or not and if not to take corrective action to make it happen which is one of the main objectives of the evaluation process. It is also essential to check for opportunities for further benefits. The evaluation process is identified by Ward & Daniel (2006) as a review of realized benefit, taking action over outstanding ones, generation of lessons learned for future investments and preparation of report describing further potential benefits that can be considered for future projects. (Figure 21)

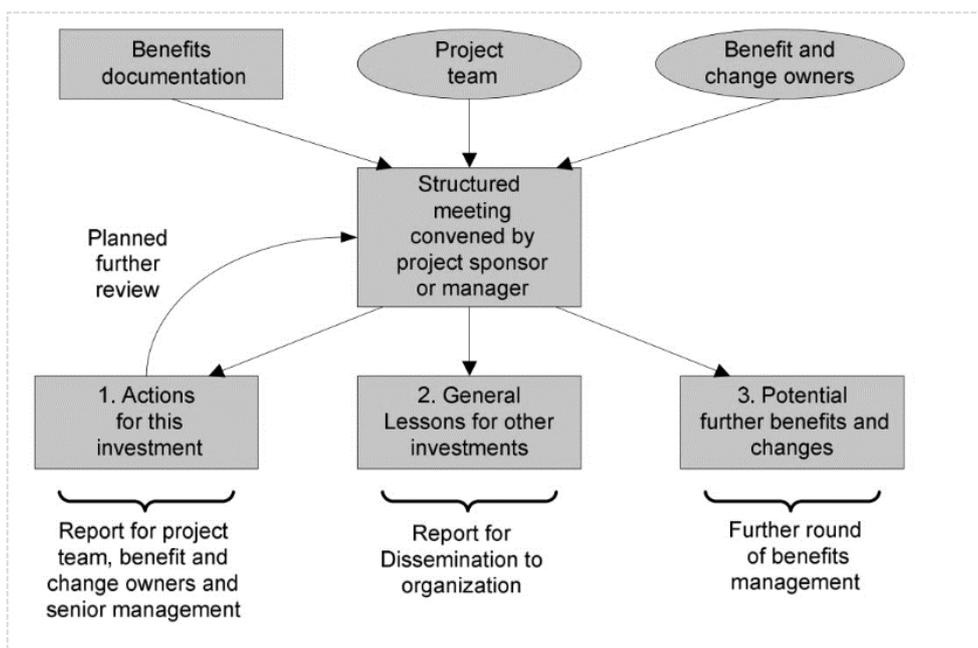


Figure 21: Benefits Review Process and Exploring Further Benefits

(Ward & Daniel, 2006)

2.2.2.5.4.1 Value Assessment

Suggested by Thorp (1998) as a value assessment techniques to explore whether we are doing rights things with the right way and whether it is getting completed to reach for targeted benefits.

2.2.2.5.4.2 Summative Assessment

This assessment based on the accountability of people on summative activities. Farbey et al. (1999) highlight the fact that this type of assessment is working where there is stability as in case of any drastic change it does not work since the accountable people will have no more extended control.

2.2.2.5.4.3 Formative Assessment

Formative assessment focuses on organizational learning as the lessons learned should be kept at the organization level in order not to repeat mistakes. (Farbey et al., 1999) This is a holistic type of evaluation to take a picture of the overall learning level rather than isolated individual level. (Remenyi and Sherwood-Smith, 1998)

2.2.2.5.4.4 Post Occupancy Assessment (POE)

The post-occupancy assessment checks whether the end users' needs and expectations are met and satisfied. (Zimmerman and Martin, 2001, pp. 168-174) It was proposed by Zimring and Reizenstein (1980) but its roots extend till the 1960s as it was practiced at Royal Institute of British Architects for the plan of their work. (Turpin-Brooks and Viccars, 2006, pp. 177-196)

In this assessment method, depending on the availability of resources, three primary levels are considered, which are initiative, execution, and evaluation of result phases. (Preiser, 2001, pp. 456-459.) Below Figure 22 proposed by Turpin-Brooks and Viccars (2006, pp. 177-196) shows the level of POE.

Level of POE	Aims	Methods	Timescale
Indicative	Assessment by experienced personnel to highlight POE issues	Walk through evaluation. Structured interviews? Group meetings with end-users? General inspection of building performance? Archival document evaluations?	Short inspection period
Investigative	In-depth study of the building's performance and solutions to problems	Survey questionnaires and interviews. Results are compared with similar facilities. Report appropriate solutions to problems	From one week to several months
Diagnostic	Show up any deficiencies (to rectify) and collect data for future design of similar facilities	Sophisticated data gathering and analysis techniques Questionnaires, surveys, interviews and physical measurements	From several months to several years

Figure 22: Levels of POE (Turpin-Brooks and Viccars, 2006, pp. 177-196)

The benefits of POE have been commonly accepted, and it is strongly suggested to have POE as a standard process involved in the management plan to realize desired benefits. (Zimmerman & Martin, 2001)

2.2.2.6 Benefit Management Roles and Responsibilities

The Business users and managers are the main responsible parties for management and realization of benefits. (OGC, 2003) Although project owner has the ultimate responsibility for the benefit delivery, the concerned line managers hold the responsibilities for the expected benefit delivery at first level. (OGC, 2003)

Reiss et al. (2006) argue that programme directors are the ones holding the overall responsibility in terms of setting out the entire strategy to maximize benefits realization by ensuring the required resources are allocated. Reiss et al. (2006) also emphasize the fact that although overall responsibility and strategy with the director, the real responsible parties ensuring for benefits realization are users and line managers. He also highlights the fact that benefits realization management process should be handled separately from project management as the main focus of PMs is to see the finish line and they do not have the mindset to ensure and run BRM process.

According to Ward et al. (1996), stakeholders should be involved and responsible. The acceptance for the roles and responsibilities will be as follows. Change managers are the one responsible for identification and definition of benefits, Programme Manager / Programme Support Officers are the ones responsible for planning, and review/monitor, line managers responsible for the actual realization of benefits and assessment shall be done by individuals with solid knowledge & experience in the related business area to make an accurate evaluation. (CCTA, 1999)

2.2.2.6.1 Governance

It is required to have an agreed and approved governance model to clear ownership and responsibility/accountability for the BRM process for the required review and evaluation. (Ward and Daniel, 2006; Glynne, 2007)

Glynne (2007) suggests a governance model of BRM in below Figure 23:

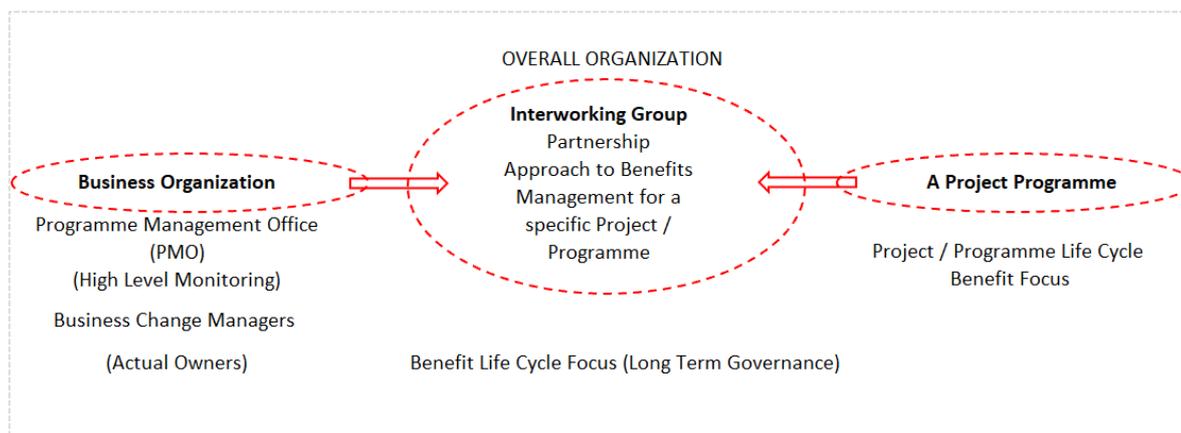


Figure 23: Governance Model for BRM (Modified from Glynne 2007)

Importance of governance of BRM has been highlighted by Cooke-Davies (2002) by stating the fact that governance structure should be at the project and organizational level by running entire decision-

making process through business case by keeping BRM as an internal mechanism of the management process.

2.2.2.7 BRM Relation with Other Management Disciplines

2.2.2.7.1 Programme / Project Management

Reiss (2000) defines the programme as a combination of benefits that deliver benefits. The BRM is a structured process for the identification, measurement, monitor, and review of benefits that come out due to change in programmes. According to Reiss et al. (2006) benefits are not getting delivered by projects, but projects generate deliverables, programmes hardly generate benefits but along with projects involved in the programme, projects deliverables all together will enable to deliver desired benefits in programmes. BRM intention is to deliver business benefits with the help of programme, and one of the main success criteria for each programme will be whether planned benefits are realized or not.

In the programme management life cycle, once the projects are commenced to expect planned deliverables, capability is created within an organization that delivers the desired benefits. In other words, business uses those built capabilities to realize planned benefits.

Reiss et al. (2006) highlight the close interrelation between benefits and portfolio management as benefits are as a result of deliverables of each project and should be strategically in line with the portfolio. Glynne (2007) highlights the fact that benefits are important parameter to initiate/invest in a new project, programme, or portfolio. Parr and Williams (2007) state that BRM is highly critical and vital to meet strategic objectives through projects. Cooke-Davies (2002) emphasizes that to receive benefits by organizations, project management, and operation management should work

collaboratively. To achieve this, PM should ensure operation team is involved during the execution stage to assure the operation expects desired benefits. (Nogeste and Walker, 2005)

Common acceptance in the literature review is the necessity to integrate the BRM process in project management life cycle. (OGC, 2003; Cooke-Davies, 2001; Ward et al., 2006) Cooke-Davies (2001) believes that BM should be fully integrated with the project management process. Reiss (2000) proposes below table of definition for benefits, project and programme relationships. (see Table 11)

DIRECT: projects with direct benefits

ENABLING : projects that deliver no direct benefit but which are vital to the delivery of a whole range of benefits from other projects

PASSENGER: Projects that can only add benefits expected from other projects.

SYNERGISTIC: a group of projects each of which makes no (or only a small) contribution unless combined into a programme

Table 11: Project Classification in terms of Benefit (Reiss, 2000)

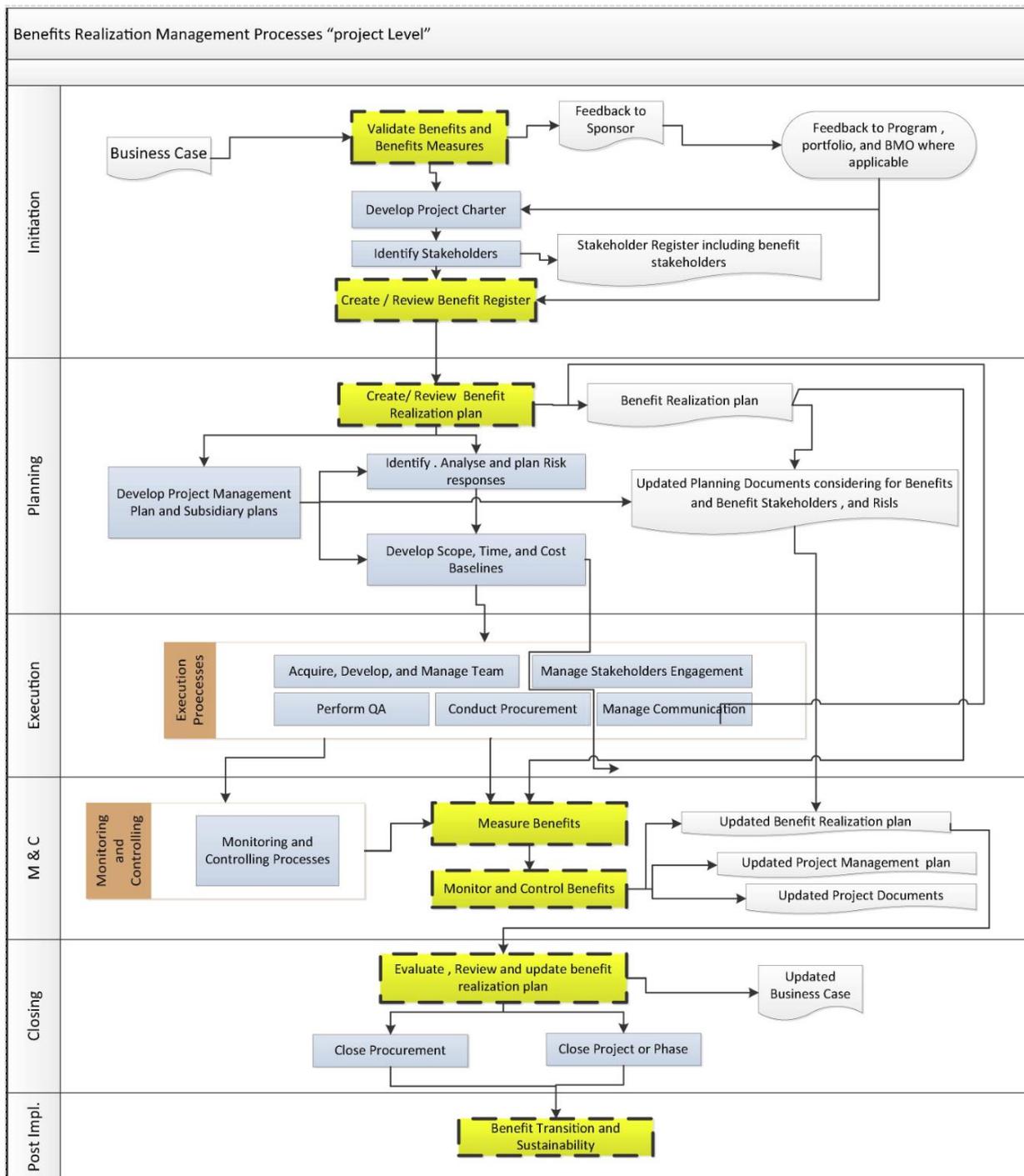


Figure 24: Interaction between BRM and PM: Benefits Realization Management Process and Project Manager’s responsibility. (Mossalam & Arafa, 2015)

Figure 24 provides details the interaction between BRM and Project Management: Benefits Realization Management Process and Project Manager’s responsibility. (Mossalam & Arafa, 2015)

2.2.2.7.2 Change Management

Thorp (1998) explains the change management as a holistic approach to change the present state to the desired state to meet the desired objectives. Reiss et al. (2006) define change management in 2 levels, micro-level change management due to new technology involvement in the process and macro level change management due to the new ideas.

Thorp (1998) highlights the fact that benefits realization depends on change throughout the process.

Thorp (1998) states that only the planned changes can be controlled and enabled to take the right course of action. As a well-known fact that organizations are in the tendency to have change to improve their performance, profit, and benefits, therefore change management, and related processes are getting more essential and critical for organizational development.

Bradley (2006) states that organizations invest in change; they change internally and externally to keep continuity in growth and adapt themselves to new evolving environment and expectations. To achieve this, changes should be effectively implemented; new changes should be identified, managed, and implemented to meet the organizational goals if necessary by adopting the revised corporate strategy. (Ward and Daniel, 2006; Bradley, 2006)

The relationship between change and benefit has been detailed by Reiss (2000) as changes affect the ability of the project in terms of deliverables. Below Figure 25 provides further clarification on benefit, change, time, and productivity concept.

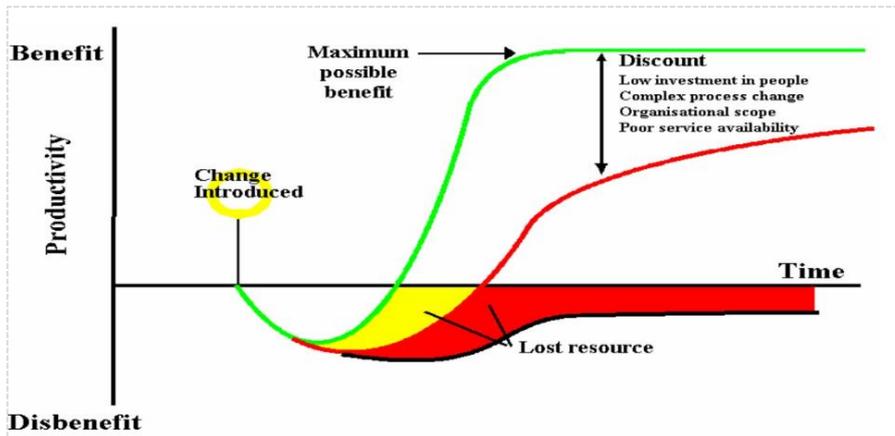


Figure 25: Benefit – Change – Time – Productivity (NHS, 2007)

2.2.2.7.3 Performance Management

Organizations, especially after the 1980s, started focusing on performance and productivity parameters to increase the return of benefit. Therefore organizations begin to pay more attention to performance management and its requirements. Although there is an increasing trend, Waal (2006) states that more than half of those organizations are getting failed as it is being overlooked. Waal (2006) develops and proposed below performance management development cycle:

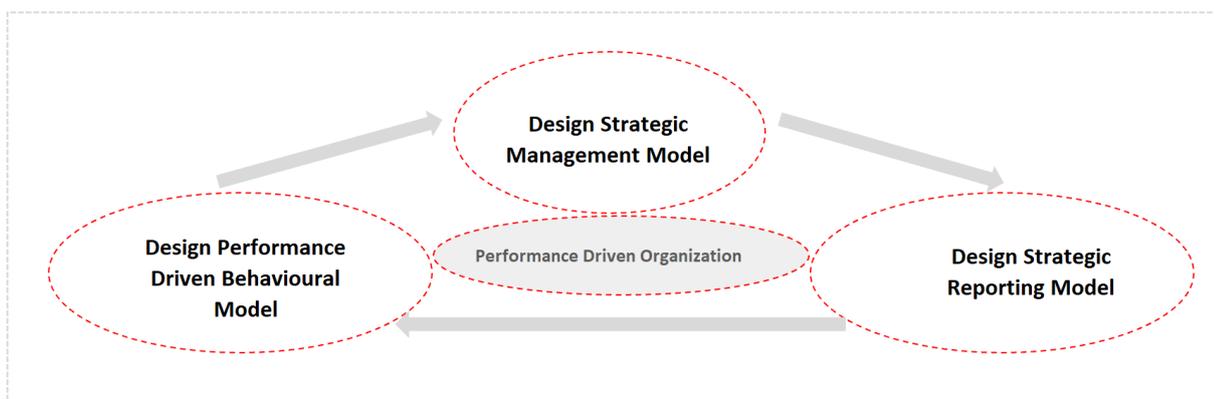


Figure 26: Performance Development Management Cycle (modified from Waal, 2006)

Performance measurement and management process enable organizations to adopt and implement a benefits realization strategy. (Sedera et al., 2001) Scholars proposes performance measurement models as listed in below Table 12. (Sedera et al., 2001; Neely et al., 2002)

Performance Measurement Models

1. Process performance measurement model
2. Workflow based measurement model
3. Statistical control method
4. The performance pyramid
5. Self-assessment method
6. Performance measurement matrix
7. Balanced Scorecard method

Table 12: Performance Measurement Models (Kaplan and Norton. D., 1996, Neely et al., 2002, Sedera et al., 2001)

2.2.2.7.4 Stakeholder Management

BRM process intention is to manage the benefits realization process to ensure desired benefits are getting delivered with involvement of stakeholders as stakeholders participation is must for all phases of BRM. The increment in the use of stakeholder management is mainly because of globalization. The key to stakeholder management is to ensure all stakeholders are identified and considered during the process. According to Post et al. (1995), below highlighted points are quite essential to understand the BRM process and stakeholder management:

- The benefit flows getting circulated in between stakeholder and organization.
- Multiple connections of stakeholders might happen with organizations and in between stakeholders
- Stakeholders may have more than one role depending on the case as a client at the same time can be an operator or consumer.

- Parameters can be changed during the life cycle or importance of a matter can be more related to one stakeholder and might be less with one another.

Communication is essential parameters with stakeholders as a lack of communication will lead to a lack of understanding. (Hynds and Martin, 1995) Close and transparent communication by providing proper communication management process will prevent many misunderstandings and eliminate mistakes and maximize quality, speed of deliverables by optimizing the benefits realization. Thomas and Thomas (2005) highlight the fact that having close communication with stakeholders will increase teaming and provide integrated management, understanding, and knowledge. Thomas and Thomas (2005) state that excellent communication with stakeholders, active involvement of stakeholders together with trust will minimize the surprises and complains, maximize the end user satisfaction and benefits.

On the other hand, specific difficulties are recognized, along with stakeholder management. Multiple stakeholders involvement with different demand and expectations may cause conflict, which is one of the primary sources of conflict in the construction industry. (Ayuso et al., 2006) Project manager role is to show his interest to all stakeholders equally and effectively to reconcile them. (Olander and Landin, 2005) According to Newcombe (2003) selection/prioritization on whether quality or quantity, long term objective or short term, control or freedom, cost efficiency or jobs are the main problems getting experienced between stakeholders within construction projects.

To have an effective stakeholder management process, Bradley (2006) suggests to have early involvement of stakeholders with effective communication and strategy, keep stakeholder management process alive during the entire project life cycle, and have effective implementation of BRM where stakeholder importance and involvement well addressed.

In addition to all, Ayuso et al. (2006) highlight the necessity of effective communication between stakeholder to stakeholder, stakeholder to the organization, and knowledge integration with stakeholders to maximize knowledge and benefits realization. Kagioglou et al. (2000) state that project success depends on correct information usage at the right time and place with the participation of key stakeholders with effective communication and decision-making process.

2.2.2.8 Issues with Benefit Management Process

In the literature review, the common issues and problems accepted by scholars and practitioners are as listed below:

2.2.2.8.1 Optimism bias Issue

This is considered as one of the main issues in the literature review. Flyvbjerg et al. (2002, pp. 13-15) state that the main problem in BRM is overestimated benefits and underestimated cost factors.

Likewise, Lin and Pervan (2003, p.20) explain the reason of this issue as the main focus is always on how to get the project approval rather than how to deliver project proposed benefits. Also, time and cost underestimation is also repeatedly getting discussed and highlighted. (Chih & Zwikael, 2015, p. 354) Jenner (2009, p. 13) highlights this issue as “optimism bias” by stating the fact that benefits are exaggerated to secure the approval. Flyvbjerg et al. (2005, p. 3-4) state that inevitable delays and cost overruns take place along with unrealized outstanding benefits due to this optimism bias.

2.2.2.8.2 Benefit Categorization Issue & Time Perspective Issue

Although the categorization of benefits varies from author to author, commonly accepted way to categorize benefits as tangible/intangible benefits considering the quantification and short/long-term benefits considering the time perspective. As discussed in earlier sections, tangible benefits are more related with measurable values. (Melton et al., 2008, p. 77) Therefore can be assessed quickly, (Andersen et al., 2006, p. 142) whereas intangible benefits cannot be easily measured therefore it is

difficult to be evaluated. (Melton et al., 2008, p. 78) Benefits are difficult to quantify, and their respected cost cannot be easily justified easily as their effect can be only observed in long term perspective. (Apostolopoulos & Pramataris, 1997, p. 295-296)

The main focus given in literature review with BRM is related with end benefits which are described in terms of short and long term benefits that affect directly one or more organizational objectives. (Serra & Kunc, 2015, p. 55) However, intermediate benefits are not well discussed in literature review as emergent; unplanned benefits can be only assessed within BRM life cycle with benefit monitoring and review stages. (Letavec, 2014, p. 7) Intermediate benefits are the ones help and determine whether the project is kept on track as planned and therefore highly necessary to be identified and highlighted.

Benefits realization may extend beyond the life cycle of a project or program. In such cases, the allocated team is no more on duty. Therefore such benefits are rarely getting reviewed. (Lin & Pervan, 2003, p. 23) Due to this reason, the BRM process should be well structured to address not only short term but also long term benefits. (Breese, 2012, p. 349) According to PMI (2016a, p. 14), short term benefits are not well separated from long term benefits due to the complexity of long term benefits.

2.2.2.8.3 Roles and Responsibilities

The failure in delivering desired benefits is due to not assigning right people to the right roles (PMI, 2016a, p. 13) or lack of clarity on roles and responsibilities in the benefit plan. (Lin & Pervan, 2003, p. 21) Although it is commonly accepted in literature review that planning stage is where accountability of benefit realization is getting specified, there is still no common acceptance for the roles and responsibility distribution which should be fully in charge with end responsible. (Smith et al., 2008, p. 1449) In addition, there is still no consistent view of roles and responsibilities. (Ashurst & Doherty, 2003, p. 7) Moreover, stakeholder involvements and their responsibilities are also not that much clear. (Bennington & Baccarini, 2004, p. 27)

Scholars have different views on the responsibility distribution of BRM process. Zwikael & Smyrk (2015) suggest that the project owner has ultimate responsibility and governance for BRM process as generally, the business benefits take place after the project is over. Chih & Zwikael (2015, p. 358) recommend the involvement of all stakeholders along with end users and Fitzgerald (1998, p. 25) argues that all affected business area involvement is must for the BRM process. Melton et al. (2008, p. 110) suggest that all stakeholders, business sponsors, owner of benefits, project managers, change managers, and customers should be part of the BRM process. PMI (2016a, p. 7) recommends that responsibilities should be distributed in between executive team, business owners, and PMs.

Due to a different view on the assignment of roles and responsibilities, this topic is considered as yet to be completed with future findings and should be further developed in the literature review.

2.2.3 Knowledge Gap in previous research

Contribution of soft skills of project managers on benefit realization and project success is a developing concept, and although there are some empirical studies independently done on soft skills concept and BRM process, those concepts are not fully developed and detailed yet. Moreover, the relation between soft skills of PMs and BRM process has not been studied.

The concentration in literature is mainly on hard skills and knowledge of PMs rather than soft skills. Also, the concept of benefits realization is evolving and superseding the idea of weak project success understanding. Therefore we have found a gap in the literature as the contribution of soft skills of PMs on benefit realization management process is not yet touched and well developed yet in the construction industry in UAE.

This study intends to explore below-listed research gaps to develop the literature accordingly:

- Necessity to investigate the soft skills of project managers on benefit realization management process in construction industry in UAE.
- Shortage of empirical studies conducted on soft skills required by project managers in relation with benefit realization management process in construction industry in UAE.
- Necessity to investigate and develop soft skills of project managers for successful benefit realization management process in construction industry in UAE.

This study explores selected superior soft skills of PMs which are commonly accepted by scholars and practitioners and emphasize the contribution and influence of those skills on benefit realization management process in the construction industry in UAE.

2.2.4 Summary of Theoretical Framework

According to the literature review, there are specific soft skills and personal traits of PMs that contribute projects. (Perreault, 2004, pp. 23-24) Along with this research, soft skills are selected according to scholars and practitioners which are communication, leadership, conflict management & negotiation skills, teaming and motivation skills, empathy / emotional Intelligence, time management skill, change management skill and planning skill that are firmly accepted soft skills in literature. Then these selected soft skills are narrowed concerning the BRM process. In other words, the major ones in correlation with benefits realization management process will be selected and considered as independent variables. Contribution of those selected soft skills on BRM process and related BRM phases which are also commonly accepted in literature “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” will be considered as dependent variable in order to test the hypothesis of this study.

Communication skill of PMs is found highly crucial for projects. Effective communication in between all involved team members and stakeholders is must for successful benefit realization management process. Therefore communication is considered as one of the critical soft skills of project managers (Muzio et al., 2007,p.32) and PMs are expected to be good communicators. (Gibson et al., 2012, pp.432) PMs are expected to be at the center of the communication system to ensure information is clear and getting distributed between stakeholders and team members effectively and efficiently.

Another highly important soft skill of the project manager is leadership skill. (Muzio et al., 2007,p.32) Literature review separates management and leadership as management more on the side of planning, implementing, monitoring, and controlling but leadership more on being an idol, motivating, coaching to reach a common goal. (Anantatmula, 2015, p.14) PMs, by being leaders of their team should create and apply different methods (Iyengar,2013, pp. 31-39) and keep their team concentrated on the main aim and objectives. (Sukhoo et al.,2011,p.695)

Conflict management skill is another essential skill of a PM. Conflict cannot be eliminated or dismissed in construction projects due to the complexity; therefore, the most useful approach would be the way how to cope with the arisen conflict. It is important to note that dispute should be resolved and addressed at its early stage. Kendrick (2014, p.35) highlights the importance of early detection of conflict. The main reason for the problem should be openly discussed and brainstormed to find the most effective resolution. (Kendrick, 2014, p.35)

Project managers require negotiation skill at different phases in different ways. PMs are expected to be an excellent negotiator to select the best option for the benefit of the project throughout the negotiation process. (Verma, 1996, p.145)

Teaming and team building skill is one of the commonly accepted soft skills of project managers in the literature review. Teaming ability of project managers will directly contribute to the performance of the team. Performance measurement and management process enable to adopt and implement a benefits realization strategy. (Sedera et al., 2001) Therefore these skills of PMs are one of the core behavioral competencies.

Kendrick (2014, pp.289-291) believes that emotional intelligence is one of the crucial factors that increase productivity by providing an effective working platform. Emotional intelligence also enables the project manager to deal with all kind of people as projects are getting carried out with the involvement of different trades and people. (Kendrick, 2014, p.289)

Another essential skill of PMs is time management skill. Time should be utilized wisely as priorities are different throughout the project life cycle. (Larson and Gray, 2012, p. 361)

Change management skill is highly stressed in the literature review. Dharmaraj et al. (2006, p.512) explain that the change management process is a tool to manage changes for the project at a strategic level. According to Prosci (2004b), change management is a tool to manage and control changes into a project plan or a strategy. Therefore change management is a critical skill of project managers to ensure benefits are getting maximized throughout the projects.

According to literature review, planning techniques are required for effective management. (Bourne & Walker, 2004, pp. 226-243) Planning skill is a trait of a project manager to plan and organize to transfer this skill into the management field. (Gaddis, 1959, pp. 29-97) In other words, planning skill is more related to the character of a project manager on planning and organizing. The planning capability of a PM is the ability to take preventive action before something happens to eliminate crises. (Gaddis, 1959, pp. 29-97)

Motivation is another important soft skill of project managers. Gray and Smeltzer (1990, pp. 470-504) highlight the importance of the project manager's motivation skill requirement for the effective and efficient performance of the team members. It is noted that motivation is the source of innovation and creative ideas of team members. (Gray and Smeltzer, 1990, pp. 470-504)

The ultimate aim of BRM is to support organizations to achieve the desired values based on organizations objectives and strategies. (Serra & Kunc, 2014) Although the majority of organizations' maturity level of benefits realization has not fully developed, in all type of organizations and different disciplines and professions, BRM is becoming more popular. (Breese, 2012, p. 341)

After having seen that both of these concepts, i.e., soft skills set of project managers and benefit realization management process are evolving topics and not well developed in the literature review, this study is created to investigate the relationship in between selected soft skills of project managers and BRM process. This empirical study will provide a better understanding of literature and motivate future researchers on the subject of contribution of selected soft skills of project managers on the BRM process.

2.2.5 Limitations

This study is limited with selected soft skills only. Selection is based on soft skills high correlation with the BRM process. However, this research study shall be further developed by future researchers considering other soft skills and personal traits of PMs in regards to the BRM process and phases.

This study is limited within the territory of UAE and limited only with the construction industry and therefore cannot be generalized with other sectors. Participant of this research are 100% UAE residents; therefore this study is more relevant to UAE.

In the field of project management, skills of PMs are described as the right combination of soft and hard skills. However, in this research, only soft skills are investigated. Therefore this research can be further developed by researchers considering hard skills set of project managers in addition to soft skills. It is important to note that mediating variables are not considered but shall be considered in future researches.

2.2.6 Conceptual Framework

Along with this study, soft skills of project managers are getting analyzed over selected significant soft skills which are firmly accepted in literature and found highly correlated with BRM process as a result of a pilot study conducted for this research discussed in chapter 4 which are communication skill, leadership skill, change management skill, and planning skill. Therefore these skills are considered as independent variables of this study.

Contribution and influence of those soft skills are examined on the BRM process and related BRM phases which are also commonly accepted in literature as “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” which are considered as dependent variable to test the hypothesis of this research which are listed in the following section.

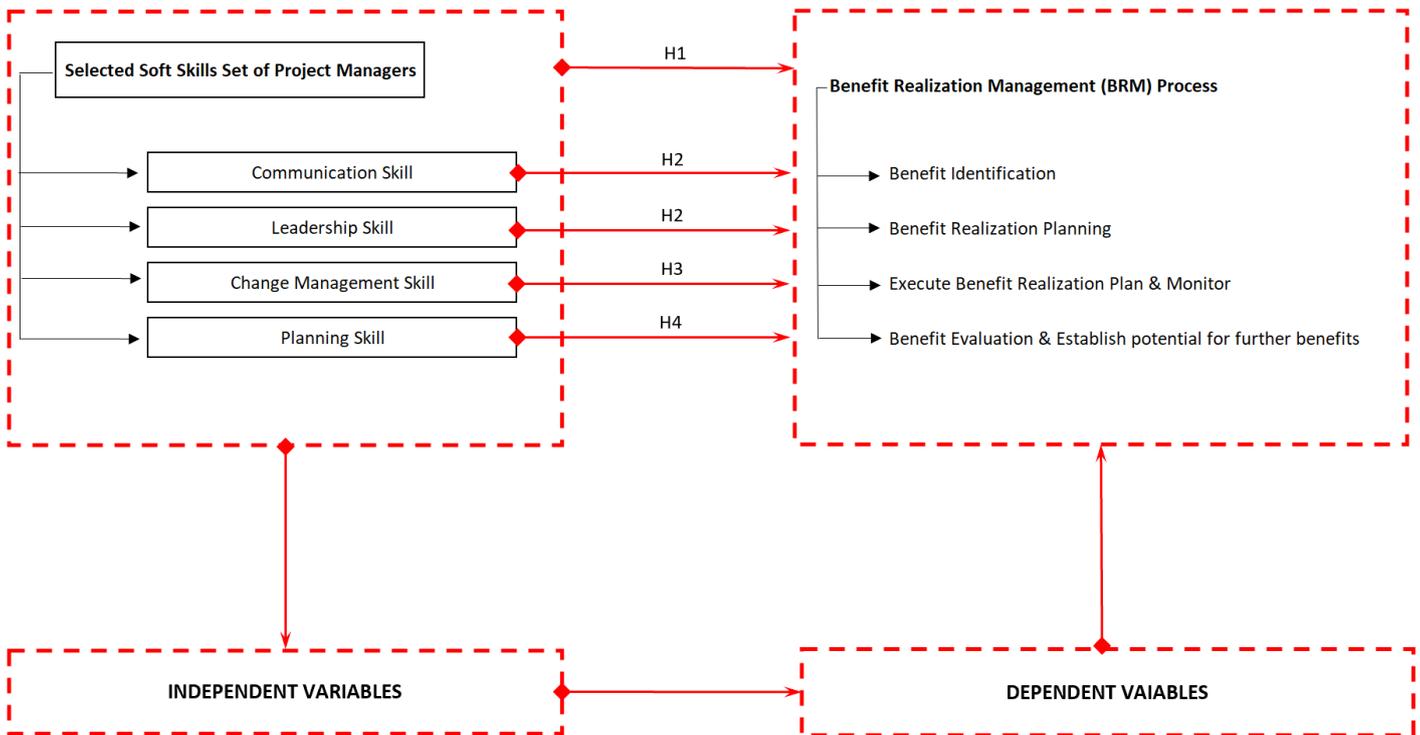


Figure 27: Conceptual Framework

2.2.7 Hypotheses

Reference to the literature review and conceptual framework, in order to address the aim and objective of this study, below-listed hypotheses are developed and proposed to explore the contribution of selected soft skills set of PMs on BRM process and related phases.

H1: There is a significant influence of selected soft skills of a project manager on benefit realization management process

H2: There is a significant influence of communication skill of a project manager on benefit realization management process

H3: There is a significant influence of leadership skill of a project manager on benefit realization management process

H4: There is a significant influence of change management skill of a project manager on benefit realization management process

H5: There is a significant influence of planning skill of a project manager on benefit realization management process

Chapter 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter starts with research design selection, philosophy, and approach as a descriptive research design are chosen with a quantitative approach. Later in this chapter, strategy and style of this research are detailed, and survey design is provided. A structured questionnaire is appended as Annexure B. In this chapter, the units of analysis, data collection, and analysis, as well as ethical consideration, validity & reliability are also discussed and detailed.

3.2 Research Design

Along with this study, soft skills of project managers are getting analyzed over selected major soft skills set, communication, leadership, change management skill and planning skill which are firmly accepted soft skills in literature review and found positively correlated with BRM process and considered as independent variables in this study.

Contribution of those selected soft skills on BRM process will be further investigated on BRM phases which are also commonly accepted in literature as “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” which are considered as dependent variables in order to test the hypothesis of this research.

Descriptive research design is considered to explain variations in DV, benefit realization management process by independent variables selected significant soft skills of project managers. Research design is detailed in the following sections.

3.2.1 Research Philosophy

Research philosophy is about how data is collected from the population, analyzed and interpreted. In this paper, while studying the relationship between selected soft skills of PMs and benefit realization management process which are both new phenomena in literature review and quantitative, the positivist paradigm is considered for testing the developed hypothesis in relation with literature review.

3.2.2 Research Approach

In this paper selected soft skills of PMs are investigated concerning benefits realization management process. Each skill factor has been analyzed with regard to the BRM concept. In this study, a quantitative approach is selected while studying the influence of those soft skills on benefit realization management process.

3.2.3 Research Strategy & Questionnaire Design

Descriptive research design is considered to explain variations in the dependent variable, benefit realization management process by independent variables, selected soft skills of project managers. A questionnaire with quantitative six-point Likert scale is chosen as a research tool to gather the required data along with non-probability/convenience sampling for the collection of data through populations.

Structured questionnaires have been distributed within selected consultants and contractors in the construction industry in the United Arab Emirates. Along with the survey, introduction letter provided to describe the propose of this research.

In the first section of the questionnaire, attribute variables are questioned, to get to know general information about participants. The second section is related to the selected soft skills of project managers. The last section questions the concept of BRM process. The participants are asked to

respond according to Likert scale 1-5. (1-strongly agree; 2- agree; 3- neither agree nor disagree; 4- disagree; 5- strongly disagree)

3.2.4 Research Style

Research style is related to the research model of this study regarding the conducted study over project managers. The research model of this study is summarized as per Figure 28.

Research Methodology Model

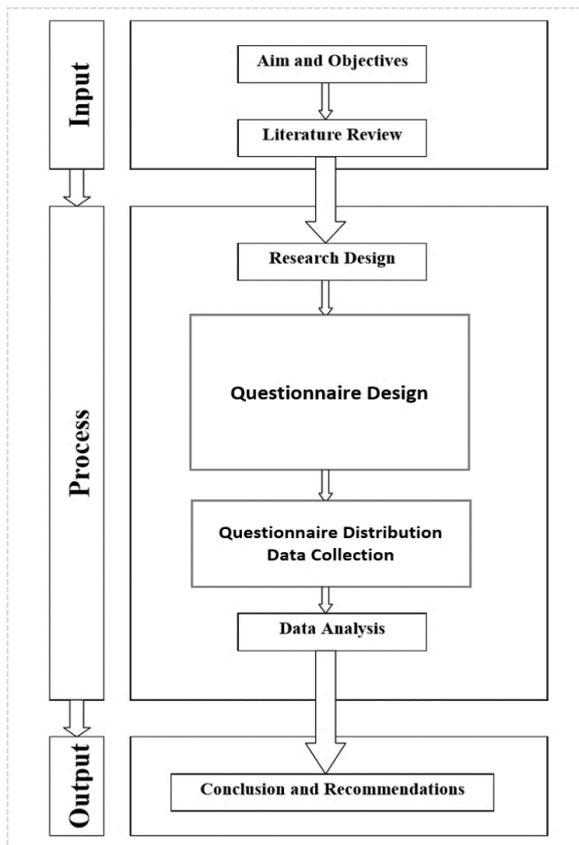


Figure 28: Research Methodology Model

3.3. Research Tool

A structured questionnaire is the research tool while analyzing the relationship between selected soft skills of PMs within selected construction & consultant companies from the construction market in the UAE and benefit realization management process.

3.4. Research Variables

Along with this study, soft skills of project managers are getting analyzed over selected major soft skills set, communication, leadership, change management skill and planning skill which are firmly accepted soft skills in literature review and considered as IV in this study. Contribution of those soft skills on BRM process and related BRM phases which are also commonly accepted in the literature as “Benefit Identification”, “Benefits Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” considered as DV in order to test the hypothesis of this research.

In this study, each independent variable will be investigated and examined in relation to the BRM process as well as global IV relation with BRM process.

3.5. Population of Study

Population of this study is PMs in the construction industry in the UAE.

3.6. Sampling Technique

In the conducted questionnaire, data is collected through the population by using non-probability/convenience sampling technique. The questionnaire is distributed to the selected construction, and consultant companies and responses are obtained only from PMs, Senior PMs., or above managerial positions in the related field.

3.7. Units of Analysis

Construction PMs from the contracting and consultant companies in UAE are the unit of analysis.

3.8. Data Collection

Data collection and selection of the method are highly crucial as the selection of the right way will undoubtedly enhance the quality of the study and outcome. In this research, data is collected through a questionnaire, and questions are generated as per the literature review. Participants are asked to select the answers according to the Likert Scale to get the level of agreement to ensure the intensity of participants' feeling is captured. Likert scale is a suitable way to determine the highly correlated items.

Likert Scale 1-5 distribution:

1-Strongly Agree

2-Agree

3-Neither Agree nor Disagree

4-Disagree

5-Strongly Disagree

Responses are collected based on “drop-pick later” method and questionnaires are only distributed to companies for the attention of construction PMs in UAE. Along with the survey, introduction letter provided to describe the propose of this research. In the first section of the questionnaire, attribute variables are questioned. The second section is related to the selected soft skills of project managers. The last section questions the concept of the BRM process. The participants are asked to respond according to Likert Scale.

Actual data is collected only after conducting a pilot check over 21 construction PMs to complete the questionnaire and select highly correlated IV in relation to the BRM process.

3.9. Ethical Considerations

Along with the questionnaire, anonymity is guaranteed from each participant to avoid any ethical concern.

3.10 Validity and Reliability

Validity is related to the accuracy of instruments. In order to take care of the validity, proper tool, procedures and data analysis are used.

Regarding internal validity, participants positions are verified as PM, previous studies are checked, and regression analysis is used to investigate the relation in between IV and DV. Regarding external validity, the survey is completed by participants in the related field without any interference, participants are selected for the study, and the sound conclusion is provided.

Reliability is related to internal consistency, which is checked and detailed in Section 4.6 by checking the relation of each IV concerning DV and global IV concerning DV by using SPSS and Cronbach's Alpha values.

3.11 Data Analysis

In this research, the Statistical Package for Social Sciences (SPSS) is conducted for quantitative statistical analysis. To interpret the collected data, different analysis, values, and coefficients have been used like mean value, standard deviation, correlation, Cronbach's Alpha, Regression, R Square, etc. that will be discussed in the next chapter.

Chapter 4: DATA ANALYSIS & FINDINGS

4.1 Introduction

Previous Chapters 2 and 3 provide an extensive literature review and details for the method of analysis. This chapter provides data analysis and findings to investigate the relationship between the soft skills of PMs and BRM process. Each skill factor will be analyzed with the BRM concept to test the hypotheses. According to the investigation, the findings and interpretation of results are presented.

4.2 Response Rate

According to literature, there is a general classification depend on the percentage of participants as below:

50% is accepted as adequate,

60% is considered as good and

70% and above is considered as very good. (Mugenda and Mugenda, 2003 ; Saunders et al., 2007)

In this research, 84% of the response rate is collected out of 100 participants, that means this research shall be considered in the very good category.

4.3. Demographic Data / External Respondents Profile

The questionnaire is shared with only consulting & construction companies for the attention of only project managers or above managerial positions.

4.3.1 Gender of Participants

In this research, out of 84 participants without having any missing data, 78 numbers of participants are recorded as male which makes percentage of male participants at the attendance rate of 92.9% and 6 numbers of participants are registered as female that makes percentage of female participants at the attendance rate of 7.1% as shown below Table 13.

Gender of Participants

N	Valid	84
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	6	7.1	7.1	7.1
	Male	78	92.9	92.9	100.0
	Total	84	100.0	100.0	

Table 13: Gender of Participants

Pie Chart Demonstrations on Demographic Statistics – Gender of Participants

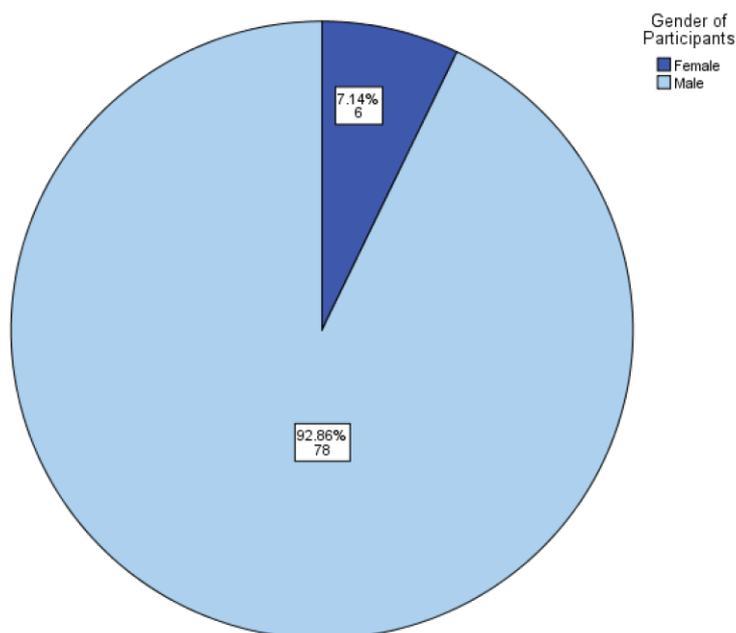


Figure 29: Pie Chart Demonstrations on Demographic Statistics – Gender of Participants

4.3.2 Age of Participants

According to conducted research, 6% of the respondents are in between 25-34, 58.3% of the external respondents are in between ages 35-44, 31% of the external respondents are in between ages 45-54 and 4.8% of the external respondents are +55 age level without any missing data. The detailed information is given below.

Age of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 25-34	5	6.0	6.0	6.0
35-44	49	58.3	58.3	64.3
45-54	26	31.0	31.0	95.2
55+	4	4.8	4.8	100.0
Total	84	100.0	100.0	

Table 14: Age of Participants

Pie Chart Demonstrations on Demographic Statistics for Age of Participants

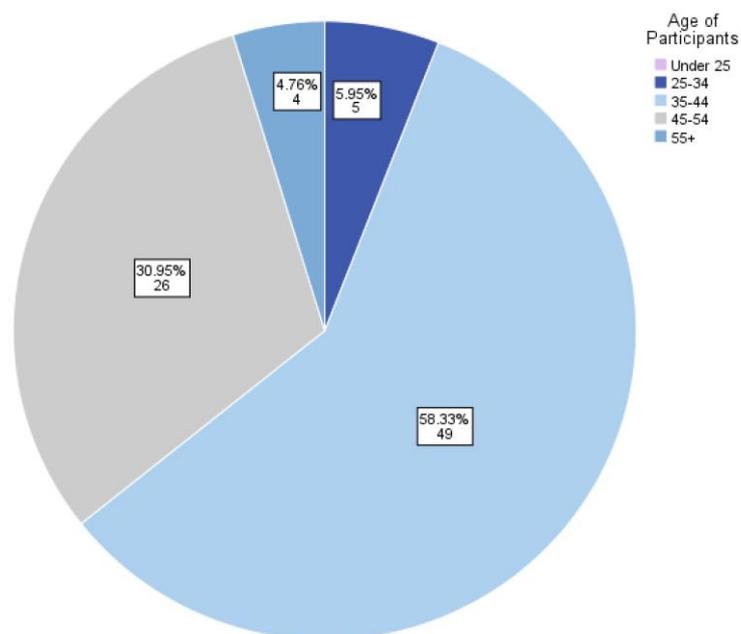


Figure 30: Pie Chart Demonstrations on Demographic Statistics for Age of Participants

4.3.3 Level of Education of Participants

In this research, it is found out that 81% of the external respondents are holding a Bachelor Degree and 19% of the participants are holding a Master Degree or above degrees without having any missing data. The detailed information provided below.

Level of Education of Participants

N	Valid	84
	Missing	0

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor Degree	68	81.0	81.0	81.0
	Master Degree or Above	16	19.0	19.0	100.0
Total		84	100.0	100.0	

Table 15: Level of Education of Participants

Pie Chart Demonstrations on Demographic Statistics for Level of Education of Participants

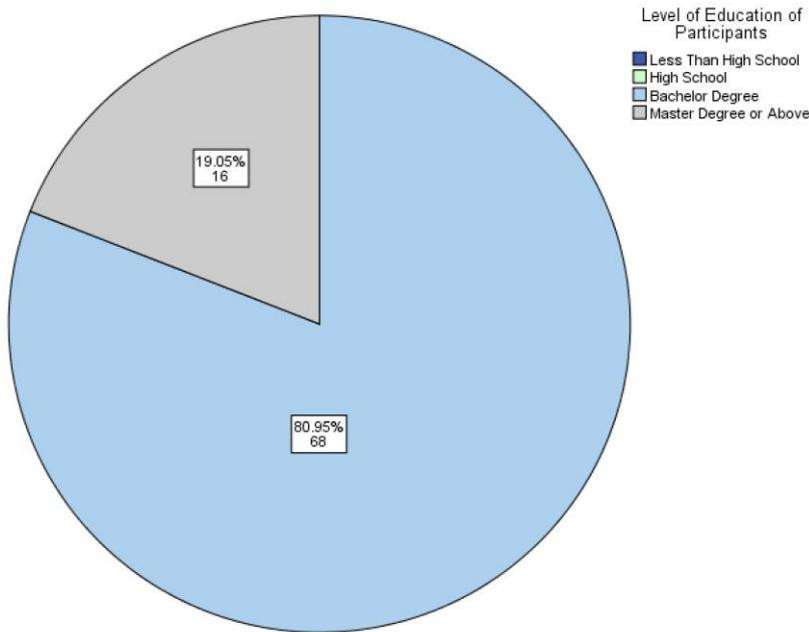


Figure 31: Pie Chart Demonstrations on Demographic Statistics for Level of Education of Participants

4.3.4 Residence of Participants

According to the conducted research, it is recorded that all participants are holding UAE residence without having any missing data as the population is selected from active project managers or above managerial positions working in the construction industry in UAE.

Residence of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid UAE	84	100.0	100.0	100.0

Table 16: Residence of Participants

Pie Chart Demonstrations on Demographic Statistics for Residence of Participants

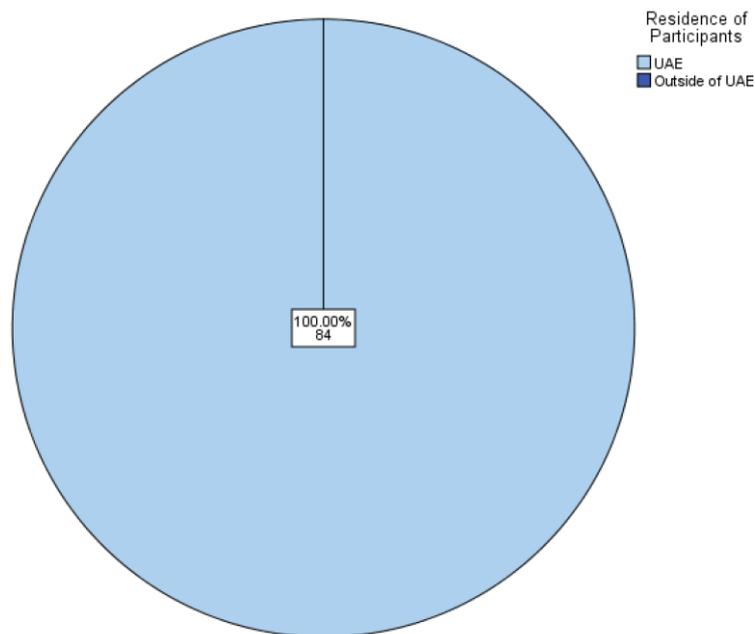


Figure 32: Pie Chart Demonstrations on Demographic Statistics for Residence of Participants

4.3.5 Company Type of Participants

It is recorded that 7.1% of the external respondents are working in the public sector, and 92.9% of the external respondents are working in the private sector without having any missing data as per below table.

Company Type of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Public	6	7.1	7.1	7.1
Private	78	92.9	92.9	100.0
Total	84	100.0	100.0	

Table 17: Company Type of Participants

Pie Chart Demonstrations on Demographic Statistics for Company Type of Participants

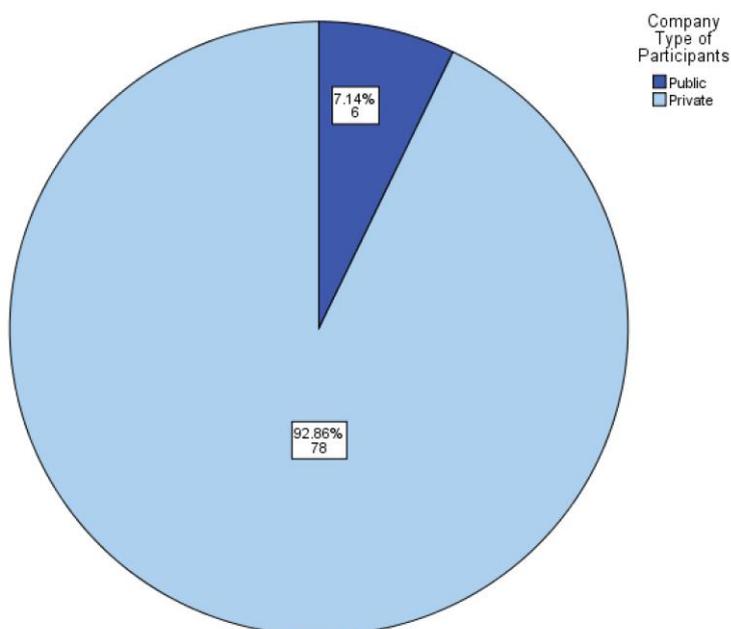


Figure 33: Pie Chart Demonstrations on Demographic Statistics for Company Type of Participants

4.3.6 Job Level of Participants

Reference to research data, it is recorded that without any missing data, 4.8% of the external respondents are at Owner / Executive / C-Level, 32.1% of the external respondents are at Senior Management Level, 59.5% of the external respondents are at Middle Management Level and 3.6% of the external respondents are at Intermediate Level as shown in Table 18.

Job Level of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Owner / Executive / C-Level	4	4.8	4.8	4.8
Senior Management	27	32.1	32.1	36.9
Middle Management	50	59.5	59.5	96.4
Intermediate	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 18: Job Level of Participants

Pie Chart Demonstrations on Demographic Statistics for Job Level of Participants

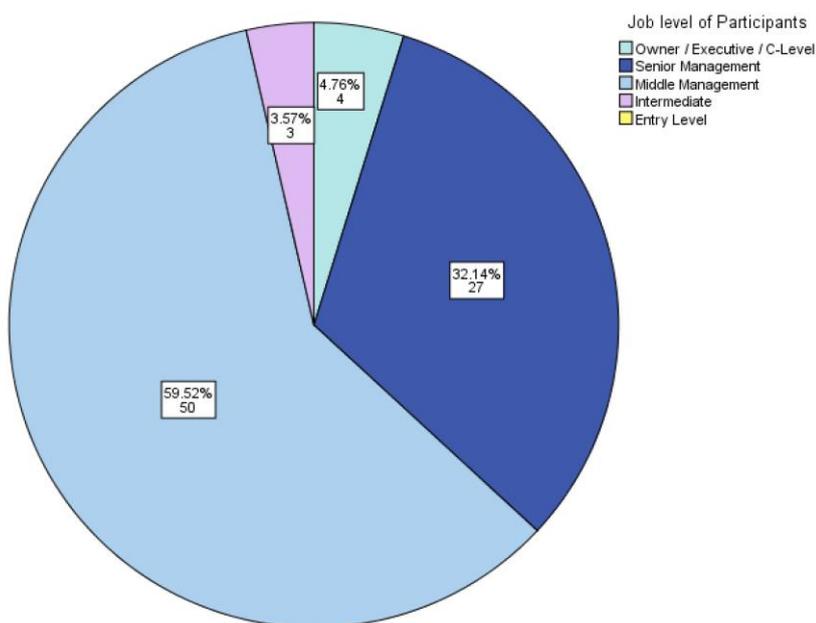


Figure 34: Pie Chart Demonstrations on Demographic Statistics for Job Level of Participants

4.4 Data Summary

4.4.1 Independent Variables, Soft Skill Factors: Items of Soft Skill Factors

Independent Variables are soft skills set of project managers which are selected four factors, Factor 1: Communication Skill, Factor 2: Leadership Skill, Factor 3: Change Management Skill and Factor 4: Planning Skill detailed along with related items as per below Table 19.

Soft Skill Factors		Item Number	Soft Skill Items
Factor 1	Communication Skill	Item 1	Project manager is expected to be a good communicator
		item 2	Communication skill of a project manager is more related with effective speaking and listening
		Item 3	Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders
Factor 2	Leadership Skill	Item 4	Project managers are the influencers by inspiring others with their leadership skill & charismatic personality
		Item 5	Project manager shares his vision with his team and inspire them by creating trustworthy workplace
		Item 6	Project manager courage team members to take initiative and risk by motivating them to be creative and innovative
		Item 7	Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos
		Item 8	Leadership skill of a project manager is ability to cope with internal matters and external strategies
Factor 3	Change Management Skill	Item 9	Project success and benefit realization throughout the project are linked to successful integration of change management process
		Item 10	Change management is a tool to manage and control changes into a project or into a strategy
		Item 11	Change management is a holistic approach the change the current state to the desired state to meet desired objectives
		Item 12	Change management is important as it may affect project time, cost and quality parameters
Factor 4	Planning Skill	Item 13	Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project
		Item 14	Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field
		Item 15	Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance

Table 19: Independent Variables, Soft Skill Factors: Items of Soft Skill Factors

4.4.1.1 Data related to the contribution of communication skill of project managers on the BRM process

First three items are related to the contribution of communication skill of a project manager on the BRM process. Data is collected from 84 participants, and there is no missing data. Statistics of this factor provided as below Table 20.

Statistics				
		Project manager is expected to be a good communicator	Communication skill of a project manager is more related with effective speaking and listening	Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders
N	Valid	84	84	84
	Missing	0	0	0
Mean		1.56	1.73	2.21
Mode		1	1	1
Std. Deviation		.896	.974	1.109
Sum		131	145	186

Table 20: Statistics of Communication Skill Factor

Independent Variable, Soft Skill Factors Item #1

Project manager is expected to be a good communicator

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	55	65.5	65.5	65.5
	Agree	15	17.9	17.9	83.3
	Undecided	11	13.1	13.1	96.4
	Disagree	2	2.4	2.4	98.8
	Strongly Disagree	1	1.2	1.2	100.0
Total		84	100.0	100.0	

Table 21: Statistics of Communication Skill, Item 1

This item tests the level of expectations of participants in terms of contribution of the communication skill of a project manager on the BRM process. 65.5% of the participants in UAE are “strongly agree” with this statement an 17.9% of the participants are “agree” with the statement, 13.1% of the

participants are “undecided”, 2.4% of the participants are “disagree” and 1.2% of the participants are “strongly disagree” with the statement. The total percentage of “strongly agree” and “agree” rates is 83.3%, which shows the participants are in general agreement of this statement. Furthermore, the mode scores 1, at “strongly agree” level and the mean is above mode with score 1.56 that means there is a substantial belief that project manager is expected to be a good communicator.

Independent Variable, Soft Skills Factor Item #2

Communication skill of a project manger is more related with effective speaking and listening

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	44	52.4	52.4	52.4
Agree	26	31.0	31.0	83.3
Undecided	10	11.9	11.9	95.2
Disagree	1	1.2	1.2	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 22: Statistics of Communication Skill, Item 2

This item seeks participants agreement on the relation of communication skill with effective speaking and listening and influence/contribution of those traits on the BRM process. According to the collected data, 52.4% of the participants are “strongly agree,” and 31% of the external respondents are “agree” with the statement. 11.9% of the participants are “undecided” 1.2% of the participants are “disagree,” and 3.6% of the external respondents are “strongly disagree” with the item. The cumulative percentage of “strongly agree” and “agree” rates is 83.3% that proves participants are in general acceptance of the influence of communication skill with effective speaking and listening on the BRM process. Moreover, the mode scores 1, “strongly agree,” and the mean is above mode with rating 1.73, that means there is a strong acceptance of participants with this statement.

Independent Variable, Soft Skills Factors Item #3

Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	27	32.1	32.1	32.1
Agree	26	31.0	31.0	63.1
Undecided	20	23.8	23.8	86.9
Disagree	8	9.5	9.5	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 23: Statistics of Communication Skill, Item 3

This item explores how important for a PM to ask the right question to develop the effectiveness of communication between stakeholders for the BRM process. According to the participants, 32.1% “strongly agree,” and 31% “agree” with the statement. Although 23.8% of the participants are in “undecided” position, 9.5% disagree and 3.6% “strongly disagree,” still the cumulative percentage of “strongly agree” and “agree” rates is 63.1% and yet it shall be considered as participants are in general acceptance of the statement. On the other hand, the mode scores 1, “strongly agree” and mean is above that at the rating 2.21 slightly above agreement that can be interpreted as there is still general acceptance of participants with this item.

4.4.1.2 Data related to the contribution of leadership skill of project managers on the BRM process

Items 4 to 8 are associated with the contribution of leadership skill of a PM on the BRM process. There are 84 participants recorded with no missing data. Statistics of this factor provided as below Table 24.

Statistics

		Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	Project manager shares his vision with his team and inspire them by creating trustworthy workplace	Project manager encourages team members to take initiative and risk by motivating them to be creative and innovative	Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	Leadership skill of a project manager is ability to cope with internal matters and external strategies
N	Valid	84	84	84	84	84
	Missing	0	0	0	0	0
Mean		1.52	1.54	1.61	1.37	1.46
Mode		1	1	1	1	1
Std. Deviation		.828	.857	1.030	.708	.898
Sum		128	129	135	115	123

Table 24: Statistics of Leadership Skill Factor

Independent Variable, Soft Skills Factors Item #4

Project managers are the influencers by inspiring others with their leadership skill & charismatic personality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	64.3	64.3	64.3
	Agree	20	23.8	23.8	88.1
	Undecided	6	7.1	7.1	95.2
	Disagree	4	4.8	4.8	100.0
	Total	84	100.0	100.0	

Table 25: Statistics of Leadership Skill, Item 4

This item measures the level of agreement of participants on the statement of project managers are the influencers with their leadership skills and explores contribution of this statement on the BRM process. Reference to collected data in UAE, 64.3% of the participants are “strongly agree” with this item, and 23.8% of the participants are at “agree” position. Undecided participants are 7.1% level and disagree participants are at 4.8% level. Cumulative percentage of “strongly agree” and “agree” rates is 88.1% that clarifies participants significantly agree with this item. The item occupies the mode of “strongly agree,” 1 and the mean is slightly above 1 at score 1.52 that show a high rate of acceptance of participants as per the collected data.

Independent Variable, Soft Skills Factors Item #5

Project manager shares his vision with his team and inspire them by creating trustworthy workplace

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	20	23.8	23.8	88.1
Undecided	5	6.0	6.0	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Table 26: Statistics of Leadership Skill, Item 5

Item 5 checks the level of vision and inspiration of project managers with leadership skill and explores the contribution of this statement on the BRM process. 64.3% of the participants are “strongly agree,” 23.8% of the participants are “agree,” 6% “undecided,” and 6% “strongly disagree” with the statement. Cumulative percentage of “strongly agree” and “agree” rates is 88.1% that proves participants are in a strong belief that the project manager shares his vision and inspire his team by creating a trustworthy environment. The mode of this item is at 1, “strongly agree” level and mean of this item is slightly above mode at the value of 1.54 that prove participants significantly agree with this statement.

Independent Variable, Soft Skills Factors Item #6

Project manager encourages team members to take initiative and risk by motivating them to be creative and innovative

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	53	63.1	63.1	63.1
Agree	21	25.0	25.0	88.1
Undecided	4	4.8	4.8	92.9
Disagree	2	2.4	2.4	95.2
Strongly Disagree	4	4.8	4.8	100.0
Total	84	100.0	100.0	

Table 27: Statistics of Leadership Skill, Item 6

Item 6 tests if project manager courage team members to take the initiative and risk by motivating them to be creative and innovative concerning the BRM process. 63.1% of the participants are “strongly agree,” 25% “agree,” 4.8% “undecided,” 2.4% “disagree,” and 4.8% “strongly disagree” with the statement. The participants are with the total rates of “strongly agree” and “agree” at 88.1% in substantial agreement with the statement. The mode of this item scores 1 at “strongly agree” and the mean is at 1.61 that prove the participants significantly agree with the item.

Independent Variable, Soft Skills Factors Item#7

Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	61	72.6	72.6	72.6
Agree	18	21.4	21.4	94.0
Undecided	2	2.4	2.4	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 28: Statistics of Leadership Skill, Item 7

Item 7 is related to how leadership skill is vital to cope with difficulties to keep the project out of any kind of problem in relation to the BRM process. Participants score “strongly agree” at 72.6%, “agree” at 21.4%, “undecided” at 2.4%, and “disagree” at 3.6%. “strongly agree” and “agree” rates are in total at 94% that means participants significantly agree with the statement. The mode of this item is at “strongly agree” level, 1 and mean is at 1.37 not so far from the mode that proves participants significantly agree with the item.

Independent Variable, Soft Skills Factors Item#8

Leadership skill of a project manager is ability to cope with internal matters and external strategies

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	58	69.0	69.0	69.0
Agree	20	23.8	23.8	92.9
Undecided	2	2.4	2.4	95.2
Disagree	1	1.2	1.2	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 29: Statistics of Leadership Skill, Item 8

This item tests the participant's opinion if the leadership skill of a PM is the ability to cope with both internal issues and external strategies and how this item influences the BRM process. The sum of “strongly agree” and “agree” rates is 92.9%, “undecided” at 2.4%, “disagree” at 1.2% and “strongly disagree” at 3.6% that means participants are highly agree with this statement. The mode scores 1 and mean at 1.46, that means there is significant acceptance and agreement with this statement.

4.4.1.3 Data related to the contribution of change management skill of project managers on the BRM process

Items 9 to 12 are associated with the contribution of change management skill of a project manager on the BRM process. There are 84 participants recorded with no missing data. Statistics of this factor provided as per Table 30.

Statistics

	Project success and benefit realization throughout the project are linked to successful integration of change management process	Change management is a tool to manage and control changes into a project or into a strategy	Change management is a holistic approach the change the current state to the desired state to meet desired objectives	Change management is important as it may affect project time, cost and quality parameters
N	84	84	84	84
Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.64	1.51	1.73	1.49
Mode	1	1	1	1
Std. Deviation	.845	.703	.841	.768
Sum	138	127	145	125

Table 30: Statistics of Change Management Skill Factor

Independent Variable, Soft Skills Factors Item #9

Project success and benefit realization throughout the project are linked to successful integration of change management process

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	47	56.0	56.0	56.0
Agree	23	27.4	27.4	83.3
Undecided	11	13.1	13.1	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 31: Statistics of Change Management Skill, Item 9

This item checks project success and benefit realization relationship in relation to change management and explore the influence of this item on the BRM process. Participants rate “strongly agree” at 56%, “agree” at 27.4%, “undecided” at 13.1% and disagree at 3.6% with no rate of “strongly disagree” In total 83.3 percent rate either “strongly agree” or “agree” therefore there is significant acceptance of this statement by participants. The mode at “strongly agree” level and mean scores 1.64 that proves there is a strong belief that the statement is significantly essential and correct.

Independent Variable, Soft Skills Factors Item #10

Change management is a tool to manage and control changes into a project or into a strategy

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	50	59.5	59.5	59.5
Agree	26	31.0	31.0	90.5
Undecided	7	8.3	8.3	98.8
Disagree	1	1.2	1.2	100.0
Total	84	100.0	100.0	

Table 32: Statistics of Change Management Skill, Item 10

This item checks if change management is a tool to manage and control changes into a project or a strategy and explore the contribution of this statement on the BRM process. The participants are 59.5% “strongly agree” with this statement, 31% “agree,” 8.3% “undecided,” 1.2% “disagree” and no rate for strongly disagree that mean participants accept the statement and confirm that item is strongly agreed. The mode scores 1, “strongly agree” and mean is at 1.51 that prove participants significantly concur with this statement.

Independent Variable, Soft Skills Factors Item #11

Change management is a holistic approach the change the current state to the desired state to meet desired objectives

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	41	48.8	48.8	48.8
Agree	28	33.3	33.3	82.1
Undecided	12	14.3	14.3	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 33: Statistics of Change Management Skill, Item 11

This item checks if change management is a holistic approach to change the current state to the desired state in order to meet the desired objectives and explores the influence of this item on the BRM process.

Reference to questionnaire 48.8% of the participants selected “strongly agree,” 33.3% selected “agree” 14.3% “undecided” and 3.6% of the participants selected “disagree” that means participants significantly agree with the statement. Also, the mode of this item scores 1 and mean around 1.73 that means there is a significant belief of participants for this statement.

Independent Variable, Soft Skills Factors Item #12

Change management is important as it may affect project time, cost and quality parameters

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	22	26.2	26.2	90.5
Undecided	5	6.0	6.0	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 34: Statistics of Change Management Skill, Item 12

Item checks the importance level of the change management in terms of its effect on project time, cost, and quality and investigates the influence of this item on the BRM process. 64.3% of the participants are “strongly agree,” 26.2% of the participants “agree,” 6 percent of the participants “undecided,” 3.6% of the participants “disagree” with the statement. If we sum “strongly agree” and “agree” rates, then in total 90.5% shows that participants significantly agree with the statement. Moreover, the mode is 1, and the mean of these items is 1.49 that can be interpreted as there is a significant belief of participants with this statement.

4.4.1.4 Data related to the contribution of planning skill of project managers on the BRM process

Items 13 to 15 are associated with the contribution of planning skill of a PM on the BRM process. There are 84 participants recorded with no missing data. Statistics of factor provided as per below Table 35.

Statistics

	Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance
N	Valid 84	84	84
	Missing 0	0	0
Mean	1.62	1.51	1.71
Mode	1	1	1
Std. Deviation	.835	.703	.830
Sum	136	127	144

Table 35: Statistics of Planning Skill Factor

Independent Variable, Soft Skills Factors Item#13

Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	48	57.1	57.1	57.1
Agree	23	27.4	27.4	84.5
Undecided	10	11.9	11.9	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 36: Statistics of Planning Skill, Item 13

This item checks participants opinion if planning skills of project managers is an ability to gather, prepare and plan to meet the desired deliverables for a project as well as the contribution of this item on the BRM process. Participants mostly selected “strongly agree” at 57.1% and “agree” at 27.4% and the remaining “undecided” at 11.9%, “disagree” at 3.6% as these results show general acceptance of the participants with this statement. The mode scores 1, mean scores 1.62 reassure that participants are significantly agree with the statement.

Independent Variable, Soft Skills Factors Item#14

Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	50	59.5	59.5	59.5
Agree	26	31.0	31.0	90.5
Undecided	7	8.3	8.3	98.8
Disagree	1	1.2	1.2	100.0
Total	84	100.0	100.0	

Table 37: Statistics of Planning Skill, Item 14

This item defines the planning skill of a project manager as a trait to plan, organize, and transfer this skill into the management field and explore this item in relation to the BRM process.

Participants are “strongly agree” with the rate 59.5%, “agree” with the rate 31%, “undecided” with the rate of 8.3% and “disagree” with the rate of 1.2%. There is a significant acceptance of participants with this item. The mode is at 1 and the mean of this item is 1.51, that means there is a significant acceptance of this statement by participants.

Independent Variable, Soft Skills Factors Item#15

Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	41	48.8	48.8	48.8
Agree	29	34.5	34.5	83.3
Undecided	11	13.1	13.1	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Table 38: Statistics of Planning Skill, Item 15

Item emphasizes the ability of planning skill of a project manager to take timely preventive action before anything goes wrong to eliminate the problems and crises beforehand.

Participants are at the rate 48.8% “strongly agree,” 34.5% “agree,” 13.1% “undecided,” 3.6% “disagree” with the statement that shows participants are in significant belief with the statement. The mode of this item scores 1 and mean is at 1.71 that prove there is a strong agreement with this item.

4.4.2 Dependent Variable, Benefits Realization Management Process as Global Factor: Items of BRM Process

Dependent Variable is Benefits Realization Management Process. Global Factor contains BRM Factors which are “Benefit Identification,” “Benefits Realization Planning,” “Execute Benefit Realization Plan & Monitor,” and “Benefit Evaluation & Establish Potential for Further Benefits” detailed as below Table 39 along with their respected items.

Listed 15 items as per below table are considered as global factor DV items, and in relation with independent factors soft skills set of PMs will be further investigated, and the influence of independent factors as individual level and at the global level on dependent variable BRM global factor will be checked and analyzed in the following sections.

	BRM Factors	Item Number	BRM Items
Benefit Realization Management (BRM) Process as Global Factor	Benefit Identification	Item 1	Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project
		Item 2	Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders
		Item 3	Identified benefits should have clear owner and the line of accountability
		Item 4	Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.
	Benefit Realization Planning	Item 5	Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members
		Item 6	It is difficult to establish a way to realize business benefits without benefit planning
		Item 7	Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit
	Execute Benefit Realization Plan & Monitoring	Item 8	Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated
		Item 9	Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt
		Item 10	Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages
		Item 11	Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets
	Benefit Evaluation & Establish Potential or Further Benefits	Item 12	Benefit evaluation is the stage where planned benefits are evaluated whether realized or not
		Item 13	Evaluation process is not only limited with project completion but some may arise during operational period
		Item 14	Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects
		Item 15	Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects

Table 39: Dependent Variable, BRM Process as Global DV Factor: Items of BRM Process Factors

4.4.2.1 Data related to Benefits Identification

First 4 items of DV are related to benefit identification. Data is collected from 84 participants, and there is no missing data. Statistics of this factor provided in below Table 40.

	Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project	Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders	Identified benefits should have clear owner and the line of accountability	Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.
N	84	84	84	84
Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.69	1.81	1.39	1.51
Mode	1	1	1	1
Std. Deviation	.878	1.124	.792	.871
Sum	142	152	117	127

Table 40: Statistics for Benefit Identification

Dependent Variable, BRM Process Global Factor Item#1

Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	42	50.0	50.0	50.0
Agree	31	36.9	36.9	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 41: Statistics of BRM Process Item 1

This item intends to check if the identified benefits are in line with business strategies and objectives that should be verified with performance reviews. As above Table 41, there is a significant belief on the statement of item 1. The mode scores 1 and the mean is at 1.69 that also confirms there is a substantial belief of participants with this statement.

Dependent Variable, BRM Process Global Factor Item#2

Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	45	53.6	53.6	53.6
Agree	22	26.2	26.2	79.8
Undecided	10	11.9	11.9	91.7
Disagree	2	2.4	2.4	94.0
Strongly Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Table 42: Statistics of BRM Process Item 2

This item emphasizes the importance of stakeholder involvement in the benefits identification stage as it increases the commitment and eliminates different interpretation by stakeholders at a later date.

Reference to above Table 42, cumulative “strongly agree” and “agree” rates is at 79.8% that means there is general acceptance of stakeholders with this item. The mode of this item is 1, and the mean of this item is 1.81 that reassure the widespread acceptance of participants with this item.

Dependent Variable, BRM Process Global Factor Item#3

Identified benefits should have clear owner and the line of accountability

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	60	71.4	71.4	71.4
Agree	20	23.8	23.8	95.2
Undecided	1	1.2	1.2	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 43: Statistics of BRM Process Item 3

This item checks the necessity of benefits ownership and line of accountability and as per above table, the sum of “strongly agree” and “agree” rates is at 95.2% that means there is a significant acceptance of

this statement by participants. The mode scores at 1 and mean scores at 1.39 that reconfirm the strong approval of this statement by participants.

Dependent Variable, BRM Process Global Factor Item#4

Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Table 44: Statistics of BRM Process Item 4

This item checks if benefits should be considered and evaluated holistically with pros and cons to understand the concept of benefits and disbenefits better. The participants show their strong acceptance reference to above Table 44. The mode of this item is 1 and mean is at 1.51. Therefore there is a significant acceptance of this statement.

4.4.2.2 Data related to Benefits Realization Planning

Items in between 5 to 7 are connected to benefits realization planning. Data is collected from 84 participants, and there is no missing data. Statistics of this factor provided as per Table 45.

Statistics

		Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members	It is difficult to establish a way to realize business benefits without benefit planning	Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit
N	Valid	84	84	84
	Missing	0	0	0
Mean		1.40	1.55	1.69
Mode		1	1	1
Std. Deviation		.838	.897	.878

Table 45: Statistics for Benefits Realization Planning

Dependent Variable, BRM Process Global Factor Item#5

Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	62	73.8	73.8	73.8
	Agree	15	17.9	17.9	91.7
	Undecided	4	4.8	4.8	96.4
	Disagree	1	1.2	1.2	97.6
	Strongly Disagree	2	2.4	2.4	100.0
	Total	84	100.0	100.0	

Table 46: Statistics of BRM Process Item 5

Item checks the importance of roles and responsibilities distribution during benefits realization planning. There is a strong acceptance of this item as per above Table 46. There is 73.8% “strongly agree” rate and 17.9% “agree” rate and the total of these rates is 91.7%, that means there is a significant agreement of the participants with this statement. The mode of this item is 1 and mean scores 1.4 that reconfirm the considerable acceptance of participants with this item.

Dependent Variable, BRM Process Global Factor Item#6

It is difficult to establish a way to realize business benefits without benefit planning

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 47: Statistics of BRM Process Item 6

Item 6 emphasizes and checks how it would be challenging to realize business benefits without benefits planning stage. Participants select the “strongly agree” rate at 64,3% and “agree” rate at 22.6% that shows there is a strong agreement of participants with this item. The mode is at 1, mean is at 1.55 reassures the significant agreement of participants.

Dependent Variable, BRM Process Global Factor Item#7

Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	42	50.0	50.0	50.0
Agree	31	36.9	36.9	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 48: Statistics of BRM Process Item 7

BRM Item 7 checks the importance of BRM planning as it answers where and when the benefit is realized and who will be the accountable and receiver for the benefits. Total “strongly agree” and

“agree” rates is 86.9% that shows the significant agreement of the participants with his statement. The mode of this item is at 1 and mean is at 1.69; therefore, participants are in strong belief with this item.

4.4.2.3 Data related to Execute Benefit Realization Plan & Monitoring

Items in between 8 to 11 are connected to benefits realization planning. Data is collected from 84 participants, and there is no missing data. Statistics of this factor provided as per Table 45

Statistics						
		Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated	Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt	Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages	Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets	
N	Valid	84	84	84	84	84
	Missing	0	0	0	0	0
Mean		1.81	1.39	1.51		1.40
Mode		1	1	1		1
Std. Deviation		1.124	.792	.871		.838
Sum		152	117	127		118

Table 49: Statistics for Execute Benefit Realization Plan & Monitoring

Dependent Variable, BRM Process Global Factor Item#8

Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	45	53.6	53.6	53.6
	Agree	22	26.2	26.2	79.8
	Undecided	10	11.9	11.9	91.7
	Disagree	2	2.4	2.4	94.0
	Strongly Disagree	5	6.0	6.0	100.0
	Total	84	100.0	100.0	

Table 50: Statistics of BRM Process Item 8

This item checks participants opinion on the statement “Execution and monitoring benefit realization plan is an important stage to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated.” 53.6% of the participants are “strongly agree,” 26.2% “agree,” 11.9% “undecided,” 2.4% “disagree” and 6% of the participants are “strongly disagree” with this statement that means there is general acceptance of participants with this item. Mode scores 1, mean scores 1.81 that reconfirm participants general acceptance with this statement.

Dependent Variable, BRM Process Global Factor Item#9

Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	60	71.4	71.4	71.4
Agree	20	23.8	23.8	95.2
Undecided	1	1.2	1.2	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 51: Statistics of BRM Process Item 9

This item checks the agreement of participants with the statement “Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learned” The total “strongly agree” and “agree” rate is 95.2%. Moreover, the mode of this item is 1, and the mean is at 1.39 means there is a significant agreement of participants with this statement.

Dependent Variable, BRM Process Global Factor Item#10

Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Table 52: Statistics of BRM Process Item 10

This item checks if benefit monitoring provides maximum profit as long as benefit monitoring starts at planning and ends with the realization and documentation stage. The participants are in substantial agreement with this item as per above Table 52. Moreover, the mode of this item is 1 and mean is not far from mode at 1.51 that reconfirm the significant agreement of participants with this item.

Dependent Variable, BRM Process Global Factor Item#11

Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	62	73.8	73.8	73.8
Agree	15	17.9	17.9	91.7
Undecided	4	4.8	4.8	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 53: Statistics of BRM Process Item 11

BRM item 11 checks whether the BRM process should be checked and monitored periodically to ensure benefits are in line with initial plans and strategic priorities to meet targeted organizational strategic aims. Participants are with the rate of 73.8% “strongly agree” with this statement and 17.9%

“agree” with this item. Therefore, there is a significant agreement of participants with this statement. The mode is at 1 and mean scores 1.4 that prove high-level acceptance of this item by participants.

4.4.2.4 Data related to Benefit Evaluation & Establish Potential for Further Benefits

Items in between 12 to 15 are connected to benefits realization planning. Data is collected from 84 participants, and there is no missing data. Statistics of factor provided as per below Table 45

	Benefit evaluation is the stage where planned benefits are evaluated whether realized or not	Evaluation process is not only limited with project completion but some may arise during operational period	Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects	Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects
N Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.55	1.51	1.40	1.55
Mode	1	1	1	1
Std. Deviation	.897	.871	.838	.897
Sum	130	127	118	130

Table 54: Statistics for Benefit Evaluation & Establish Potential or Further Benefits

Dependent Variable, BRM Process Global Factor Item#12

Benefit evaluation is the stage where planned benefits are evaluated whether realized or not

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 55: Statistics of BRM Process Item 12

This item explores if benefit evaluation is the phase where planned benefits are evaluated to check whether realized or not. There is a significant acceptance of the participants with this statement as per

above Table 55. The mode scores 1 and the mean of this item is at 1.55 that prove significant acceptance of participants with this item.

Dependent Variable, BRM Process Global Factor Item#13

Evaluation process is not only limited with project completion but some may arise during operational period

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Table 56: Statistics of BRM Process Item 13

This item checks if the evaluation process takes place not limited to the duration of the project but continuous during the operation period as well. The cumulative “strongly agree” and “agree” rate is 86.9% as per above Table 56. Participants are in strong belief with this statement. Also, mode is at 1, mean is at 1.51 reconfirm the significant acceptance of this item by participants.

Dependent Variable, BRM Process Global Factor Item#14

Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	62	73.8	73.8	73.8
Agree	15	17.9	17.9	91.7
Undecided	4	4.8	4.8	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 57: Statistics of BRM Process Item 14

BRM item 14 checks if the advantage of the benefits evaluation process is the generation of lessons learned and how that valuable feedback will be implemented in future projects. 73.8% of participants are “strongly agree,” 17.9% “agree,” 4.8% “undecided,” 1.2% “disagree” and 2.4% “strongly disagree” with this statement that means external respondents significantly agree with this statement. The mode is at 1 and mean scores 1.4 that also confirm significant acceptance of participants with this statement.

Dependent Variable, BRM Process Global Factor Item#15

Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Table 58: Statistics of BRM Process Item 15

Item intends to investigate on the evaluation process of the BRM which is not the only target to review realized benefit but also to take action over those unrealized outstanding ones which shall be considered as further potential benefits for future projects. As per above Table 58, there is significant acceptance of this item by participants. The mode of this item is 1, and the mean is at 1.55, that means there is a significant agreement of the participants with this statement.

4.5 Descriptive Statistics

4.5.1 Soft Skills Components: Independent Variables

Along with the questionnaire, the data is collected from participants by using Likert scale 1-5.

Selected soft skills of a project manager are considered as the independent variable of this study which are communication skill, leadership skill, change management skill and planning skill of project managers each of these skills are factors of selected soft skills of PMs.

Soft skills of PMs for this research selected by implementing pilot study overpopulation and primary soft skills are selected with those which are only highly correlated with the BRM process. These selected factors are further explored as the communication skill factor with three items, leadership skill factor with five items, change management skill factor with four items, and planning skill factor with three items. Global Factor (Global Independent Variable), the soft skill set of project managers consists of those 14 items in total.

Details of soft skills factors in terms of descriptive statistics provided as per below Table 59.

	Soft Skill Factors	Item Number	Soft Skill Items	Mean	Standard Deviation
Global Soft Skill Factor	Communication Skill	Item 1	Project manager is expected to be a good communicator	1.56	.896
		item 2	Communication skill of a project manager is more related with effective speaking and listening	1.73	.974
		Item 3	Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders	2.21	1.109
		Average Score		1.833	0.993
	Leadership Skill	Item 4	Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	1.52	.828
		Item 5	Project manager shares his vision with his team and inspire them by creating trustworthy workplace	1.54	.857
		Item 6	Project manager courage team members to take initiative and risk by motivating them to be creative and innovative	1.61	1.030
		Item 7	Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	1.37	.708
		Item 8	Leadership skill of a project manager is ability to cope with internal matters and external strategies	1.46	.898
		Average Score		1.50	0.86
	Change Management Skill	Item 9	Project success and benefit realization throughout the project are linked to successful integration of change management process	1.64	.845
		Item 10	Change management is a tool to manage and control changes into a project or into a strategy	1.51	.703
		Item 11	Change management is a holistic approach the change the current state to the desired state to meet desired objectives	1.73	.841
		Item 12	Change management is important as it may affect project time, cost and quality parameters	1.49	.768
		Average Score		1.59	0.79
Planning Skill	Item 13	Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	1.62	.835	
	Item 14	Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	1.51	.703	
	Item 15	Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance	1.71	.830	
	Average Score		1.62	0.79	

Table 59: Descriptive Statistics of Soft Skill Components

According to the collected data, the majority of responses are received between 1 “strongly agree” and 2 “agree” as per below list:

- arithmetic mean of communication skill is with average score 1.833 with standard deviation 0.993
- arithmetic mean of leadership skill is with average score 1.50 with standard deviation 0.86,
- arithmetic mean of change management skill is with average score 1.59 with standard deviation 0.79
- arithmetic mean of planning skill is with average score 1.62 with standard deviation 0.79

Reference to collected data, the participants are in significant belief and acceptance of these statements collected through literature review.

4.5.2 Benefits Realization Management Process: Dependent Variable

Along with the questionnaire, the data for his part is also collected by using Likert scale 1-5. Benefits realization management process is considered as the dependent variable of this study and considered as a global DV factor while investigating the influence of selected soft skills component on this dependent variable.

Benefits Realization Management process is consists of 4 factors which are benefit identification, benefits realization planning, execute benefit realization plan and monitoring and benefit evaluation & establish the potential for further benefits.

These selected factors are further explored as benefit identification with four items, benefit realization planning with three items, execute benefit realization plan, and monitoring with four items and benefit evaluation & establish potential or further benefits with four items as listed in below Table 60. Global Factor (Dependent Variable), consists of those 15 items in total.

Details BRM process items in terms of descriptive statistics are provided below Table 60.

BRM Factor		Item Number	BRM Items	Mean	Standard Deviation
Benefit Realization Management (BRM) Process as Global Factor	Benefit Identification	Item 1	Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project	1.69	.878
		Item 2	Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders	1.81	1.124
		Item 3	Identified benefits should have clear owner and the line of accountability	1.39	.792
		Item 4	Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.	1.51	.871
	Benefit Realization Planning	Item 5	Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members	1.40	.838
		Item 6	It is difficult to establish a way to realize business benefits without benefit planning	1.55	.897
		Item 7	Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit	1.69	.878
	Execute Benefit Realization Plan & Monitoring	Item 8	Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated	1.81	1.124
		Item 9	Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt	1.39	.792
		Item 10	Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages	1.51	.871
		Item 11	Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets	1.40	.838
	Benefit Evaluation & Establish Potential or Further Benefits	Item 12	Benefit evaluation is the stage where planned benefits are evaluated whether realized or not	1.55	.897
		Item 13	Evaluation process is not only limited with project completion but some may arise during operational period	1.51	.871
		Item 14	Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects	1.40	.838
		Item 15	Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects	1.55	.897

Table 60: Descriptive Statistics of Benefits Realization Management Process Components

4.6 Reliability Analysis

Cronbach's Alpha coefficient is widely used and accepted cut-off value in order to check and assure the reliability of measurement to ensure that measurements are good and acceptable for the conducted study.

Figure 35 provides a category of acceptance in Cronbach's Alpha reliability check by providing consistency intervals.

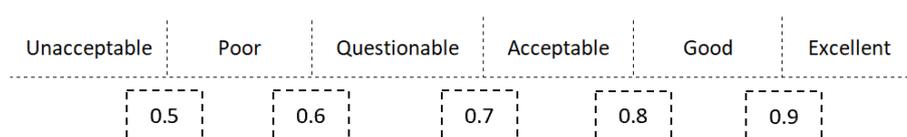


Figure 35: Cronbach's Alpha consistency intervals

According to consistency intervals of Cronbach's Alpha, scale reliability is considered acceptable if the score is equal or above 0.7. If the value is in between 0.7 to 0.8, it is considered as good, 0.9 or above is considered as excellent – high-level consistency. On the contrary, if Cronbach's Alpha value is less than 0.7 then it is considered as not reliable, the value in between 0.6 and 0.7 is considered as questionable, between 0.5 and 0.6 is considered as poor and score less than 0.5 is considered as unacceptable.

Cronbach's Alpha reliability check has been performed for this study for each soft skill factor, global IV factor, and global DV factor to ensure collected data is fit and appropriate for this conducted study.

According to the reliability check for independent variables: selected each soft skills factors, global independent variable: soft skills factors and global dependent variable: benefit realization management factor, all Cronbach's Alpha coefficients are above 0.7. Therefore, all collected data is reliable, fit, and

appropriate for this conducted study. The details of reliability check and analysis are provided in the following sections in detail.

4.6.1 Reliability Check for Independent Variables: Soft Skill Factors

4.6.1.1 Cronbach’s Alpha value for Communication Skill

As per below Table 61, Cronbach’s Alpha value for Communication Skill is 0.731; therefore, scale reliability is considered as acceptable, that means no need to delete any item. The collected data for communication skill factor is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.731	.744	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project manager is expected to be a good communicator	3.94	3.117	.600	.513	.602
Communication skill of a project manger is more related with effective speaking and listening	3.77	2.683	.686	.558	.484
Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders	3.29	3.002	.413	.189	.833

Table 61: Reliability Statistics for Communication Skill

4.6.1.2 Cronbach's Alpha value for Leadership Skill

As per below Table 62, Cronbach's Alpha value for Leadership Skill is 0.904; therefore, scale reliability is considered as excellent that means no need to delete any item. The collected data for leadership skill factor is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.911	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	5.98	8.987	.810	.659	.873
Project manager shares his vision with his team and inspire them by creating trustworthy workplace	5.96	9.264	.710	.603	.894
Project manager courages team members to take initiative and risk by motivating them to be creative and innovative	5.89	8.531	.683	.536	.907
Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	6.13	9.754	.779	.665	.884
Leadership skill of a project manager is ability to cope with internal matters and external strategies	6.04	8.348	.876	.796	.857

Table 62: Reliability Statistics for Leadership Skill

4.6.1.3 Cronbach's Alpha value for Change Management Skill

As per Table 63, Cronbach's Alpha value for Change Management Skill is 0.818; therefore, scale reliability is considered as good that means no need to delete any item. The collected data for change management skill factor is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.818	.821	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project success and benefit realization throughout the project are linked to successful integration of change management process	4.73	3.647	.655	.452	.763
Change management is a tool to manage and control changes into a project or into a strategy	4.86	4.076	.672	.483	.760
Change management is a holistic approach the change the current state to the desired state to meet desired objectives	4.64	3.895	.565	.330	.807
Change management is important as it may affect project time, cost and quality parameters	4.88	3.841	.679	.470	.752

Table 63: Reliability Statistics for Change Management Skill

4.6.1.4 Cronbach's Alpha value for Planning Skill

As per Table 64, Cronbach's Alpha value for Planning Skill is 0.757. Therefore, scale reliability is considered as acceptable, that means no need to delete any item. The collected data for planning skill factor is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.757	.760	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	3.23	1.695	.646	.426	.605
Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	3.33	2.104	.587	.366	.684
Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance	3.13	1.874	.542	.298	.730

Table 64: Reliability Statistics for Planning Skill

4.6.1.5 Cronbach’s Alpha value Global Independent Variable Factor:

Selected Soft Skills

As per below Table 65, Cronbach’s Alpha value for Global IV Selected Soft Skills of Project Managers is 0.941, therefore, scale reliability is considered as excellent – highly consistent that means no need to delete any item. The collected data for Global Soft Skill Factor is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	N of Items
.941	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Project manager is expected to be a good communicator	22.65	80.156	.673	.938
Communication skill of a project manger is more related with effective speaking and listening	22.49	76.855	.817	.934
Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders	22.00	79.783	.542	.943
Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	22.69	79.975	.749	.936
Project manager shares his vision with his team and inspire them by creating trustworthy workplace	22.68	80.895	.658	.938
Project manager courages team members to take initiative and risk by motivating them to be creative and innovative	22.61	78.338	.678	.938
Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	22.85	82.590	.674	.938
Leadership skill of a project manager is ability to cope with internal matters and external strategies	22.75	77.732	.835	.934
Project success and benefit realization throughout the project are linked to successful integration of change management process	22.57	79.597	.759	.936
Change management is a tool to manage and control changes into a project or into a strategy	22.70	82.236	.709	.937
Change management is a holistic approach the change the current state to the desired state to meet desired objectives	22.49	81.602	.622	.939
Change management is important as it may affect project time, cost and quality parameters	22.73	81.093	.728	.937
Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	22.60	79.376	.786	.935
Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	22.70	82.163	.715	.937
Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance	22.50	81.651	.628	.939

Table 65: Reliability Statistics for Global Independent Variable Factor: Selected Soft Skills

4.6.2 Cronbach’s Alpha value Global Dependent Variable Factor:

Benefits Realization Management Process

As per below Table 66, Cronbach’s Alpha value for Global DV Factor which is Benefits Realization Management Process is 0.968, therefore, scale reliability is considered as excellent – highly consistent that means no need to delete any item. The collected data for Global Dependent Variable Factor, BRM Process is fit and appropriate for this conducted study.

Reliability Statistics

Cronbach's Alpha	N of Items
.968	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project	21.49	109.602	.823	.965
Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders	21.37	108.983	.650	.970
Identified benefits should have clear owner and the line of accountability	21.79	110.725	.849	.965
Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.	21.67	110.129	.799	.966
Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members	21.77	109.165	.893	.964
It is difficult to establish a way to realize business benefits without benefit planning	21.63	109.031	.836	.965
Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit	21.49	109.602	.823	.965
Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated	21.37	108.983	.650	.970
Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt	21.79	110.725	.849	.965
Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages	21.67	110.129	.799	.966
Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets	21.77	109.165	.893	.964
Benefit evaluation is the stage where planned benefits are evaluated whether realized or not	21.63	109.031	.836	.965
Evaluation process is not only limited with project completion but some may arise during operational period	21.67	110.129	.799	.966
Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects	21.77	109.165	.893	.964
Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects	21.63	109.031	.836	.965

Table 66: Reliability Statistics for Global Dependent Variable Factor: Benefits Realization Management Process

4.7 Correlation Analysis

Correlation stands for the level of relationship between variables, and it represents the significance and strength of the relationship. Pearson correlation value between selected soft skills of PMs factors and benefits realization management process global factors are shown in below Table 67 with two-tailed. The values with a single star indicate correlation is significant at 0.05 levels and values donated with double stars indicate correlation is significant at 0.01 level.

Correlations

		Communication Skill Factor	Leadership Skill Factor	Change Management Skill Factor	Plan Skill Factor	Soft Skill Global Factor_IV	BRM Process Global Factor_DV
Communication Skill Factor	Pearson Correlation	1	.734**	.764**	.781**	.897**	.742**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	84	84	84	84	84	84
Leadership Skill Factor	Pearson Correlation	.734**	1	.695**	.656**	.889**	.829**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	84	84	84	84	84	84
Change Management Skill Factor	Pearson Correlation	.764**	.695**	1	.967**	.923**	.813**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	84	84	84	84	84	84
Plan Skill Factor	Pearson Correlation	.781**	.656**	.967**	1	.910**	.784**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	84	84	84	84	84	84
Soft Skill Global Factor_IV	Pearson Correlation	.897**	.889**	.923**	.910**	1	.882**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	84	84	84	84	84	84
BRM Process Global Factor_DV	Pearson Correlation	.742**	.829**	.813**	.784**	.882**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	84	84	84	84	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 67: Correlation between Selected Soft Skill Factors (IV), Soft Skills Global Factor (IV), Benefits Realization Management Global Factor (DV)

According to the conducted questionnaire and collected data below are the findings for the correlation check:

- **Communication Skill Factor** correlation is highly significant at the 0.01 level with **BRM Process Global Factor (DV)** as Pearson Correlation is 0.742** and $p < 0.01$

Correlations

		Communication Skill Factor	BRM Process Global Factor_DV
Communication Skill Factor	Pearson Correlation	1	.742**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.742**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 68: Communication Skill Factor Correlation with BRM Process Global Factor

- **Leadership Skill Factor** correlation is highly significant at the 0.01 level with **BRM Process Global Factor (DV)** as Pearson Correlation is 0.829** and $p < 0.01$

Correlations

		Leadership Skill Factor	BRM Process Global Factor_DV
Leadership Skill Factor	Pearson Correlation	1	.829**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.829**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 69: Leadership Skill Factor Correlation with BRM Process Global Factor

- **Change Management Skill Factor** correlation is highly significant at the 0.01 level with **BRM Process Global Factor (DV)** as Pearson Correlation is 0.813** and $p < 0.01$

Correlations

		Change Management Skill Factor	BRM Process Global Factor_DV
Change Management Skill Factor	Pearson Correlation	1	.813**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.813**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 70: Communication Skill Factor Correlation with BRM Process Global Factor

- **Planning Skill Factor** correlation is highly significant at the 0.01 level with **BRM Process Global Factor (DV)** as Pearson Correlation is 0.784** and $p < 0.01$

Correlations

		Plan Skill Factor	BRM Process Global Factor_DV
Plan Skill Factor	Pearson Correlation	1	.784**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.784**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 71: Planning Skill Factor Correlation with BRM Process Global Factor

- **Soft Skill Global Factor** correlation is highly significant at the 0.01 level with **BRM Process Global Factor (DV)** as Pearson Correlation is 0.882** and $p < 0.01$

Correlations

		Soft Skill Global Factor_IV	BRM Process Global Factor_DV
Soft Skill Global Factor_IV	Pearson Correlation	1	.882**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.882**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Table 72: Soft Skill Global Factor Correlation with BRM Process Global Factor

4.8 Regression Analysis

Following the correlation analysis, Linear Regression Test has been performed in order to explain the relationship between selected soft skills of PMs and benefit realization management process.

Regression analysis is a common technique in order to predict and explain how responsive variable is affected in the explanatory variable. Therefore in this study to have a more in-depth look and investigate further the collected data and check the relationship of independent variables and dependent variable, linear regression method is performed,

Simple linear regression is a method of quantification of two variables by creating a formula in order to obtain a straight line on the form of $Y = a + bX$ where Y is DV and X is the IV factor. b stands for gradient, and a is the intercept of the lines. The line provides the minimum sum of the squared residuals (where residual stands for the difference between the observed dependent value and predicted value from the regression) to define the best fit. Regression is an estimation process for the gradient and intercepts to obtain the best fit for the data.

Multiple linear regression models are used to explain the relationship of 2 or more explanatory variables compared to a response variable. The formula of the best fit line is getting modified as per below equation:

$$Y = b_0 + b_1 X_1 + b_2 X_2 + \dots + b_n X_n$$

In this formula, Y is the predicted DV and X1, X2, ...Xn are the predicted IV.

In order to proceed with the linear regression analysis, it is required to check the collected data to ensure collected data is suitable for linear regression, in other words, collected data should be verified in terms of linear regression assumptions to confirm data have met the requirements of linear regression.

Below, Table 73 summarizes the assumptions of linear regression and other important points:

- **Linear relationship:** The outcome variable Y has a roughly linear relationship with the explanatory variable X.
- **Homoscedasticity:** For each value of X, the distribution of residuals has the same variance. This means that the level of error in the model is roughly the same regardless of the value of the explanatory variable (homoscedasticity - another disturbingly complicated word for something less confusing than it sounds).
- **Independent errors:** This means that residuals (errors) should be uncorrelated.

- **Problems with outliers/influential cases:** It is important to look out for cases which may unduly influence your regression model by differing substantially to the rest of your data.
- **Normally distributed residuals:** The residuals (errors in prediction) should be normally distributed.

Table 73: Assumptions of Linear Regression & other important points

4.8.1 Regression Analysis: Communication Skill vs. BRM Process

In this analysis, the IV communication skill and the DV BRM process are studied to check how well the IV predicts the DV.

4.8.1.1 Linear Regression Assumption Check

- **Linear Relationship:** Reference to below Figure 36 Scatter Plot and Figure 37 Normal P-P Plot, the explanatory variable has a linear relationship with a response variable with no pattern exists. Therefore, linearity is confirmed, linear relationship check is found ok.
- **Homoscedasticity:** The scatter plot shows the variances along with the best fit and as per below Figure 36, the standardized residual value against standardized predicted value, there is no severe pattern and shall be considered as the residual of this graph is homoscedasticity. Therefore, this assumption is checked and found ok.
- **Independent(Residual) Error:** The Durbin-Watson test is conducted to check and detect the presence of autocorrelations in residuals. In this case, the related value is 1.703 (see Table 74) that is close to 2. Therefore, this assumption is ok. (Field, 2009)
- **Problems with outliers:** Regarding significant outliers observed as per Figure 36, except one point the remaining all within ± 3 standard deviation, therefore, this assumption is ok.
- **Normally distributed residuals:** The normality of the regression line is checked based on P-P Plot refer to Figure 37 the residuals of the model are normally distributed. This can also be verified with the histogram that reassures the same as per Figure 38.

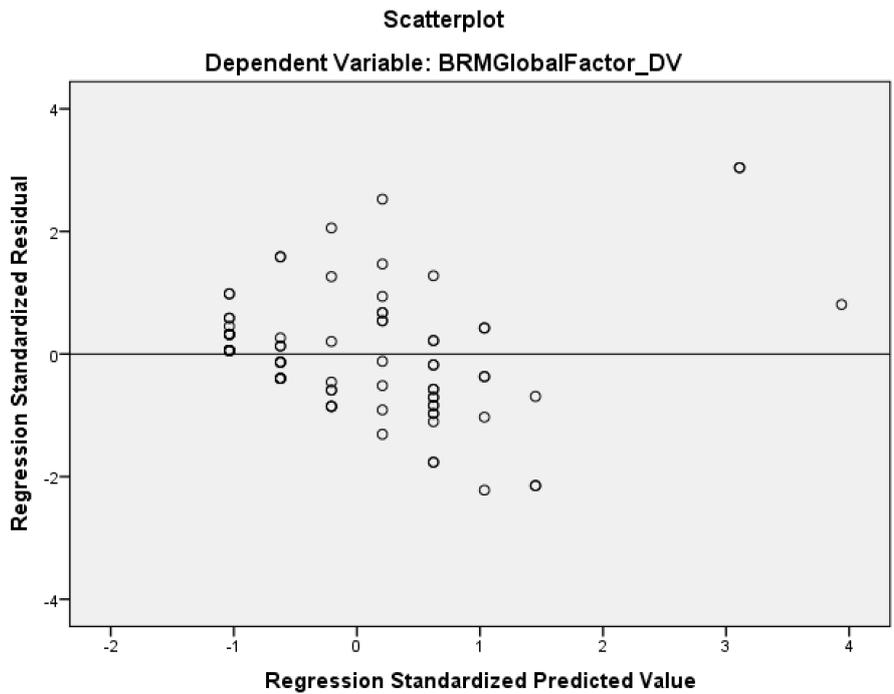


Figure 36: Scatter Plot (Communication Skill vs. BRM Process)

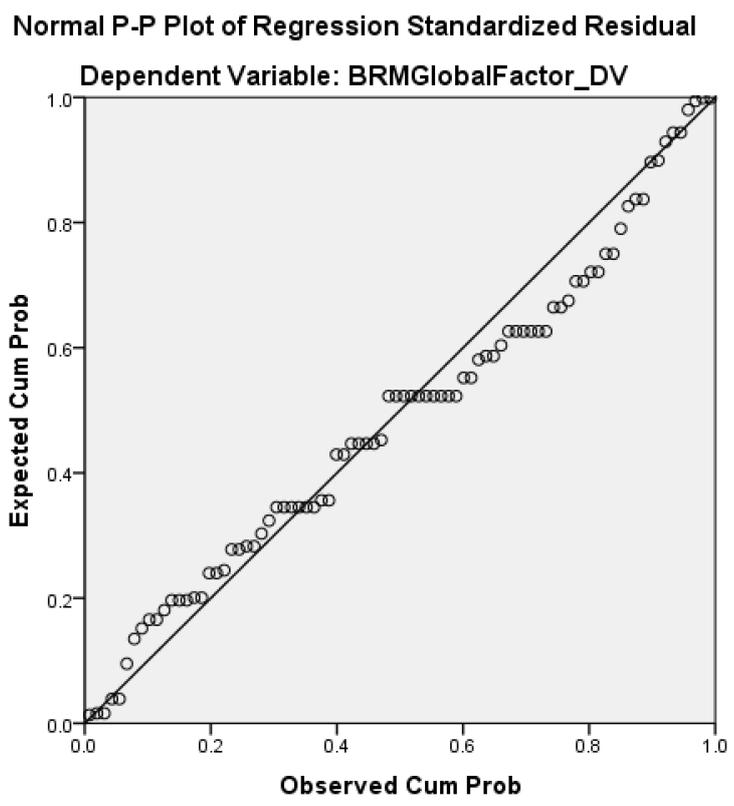


Figure 37: Normal P-P Plot (Communication Skill vs. BRM Process)

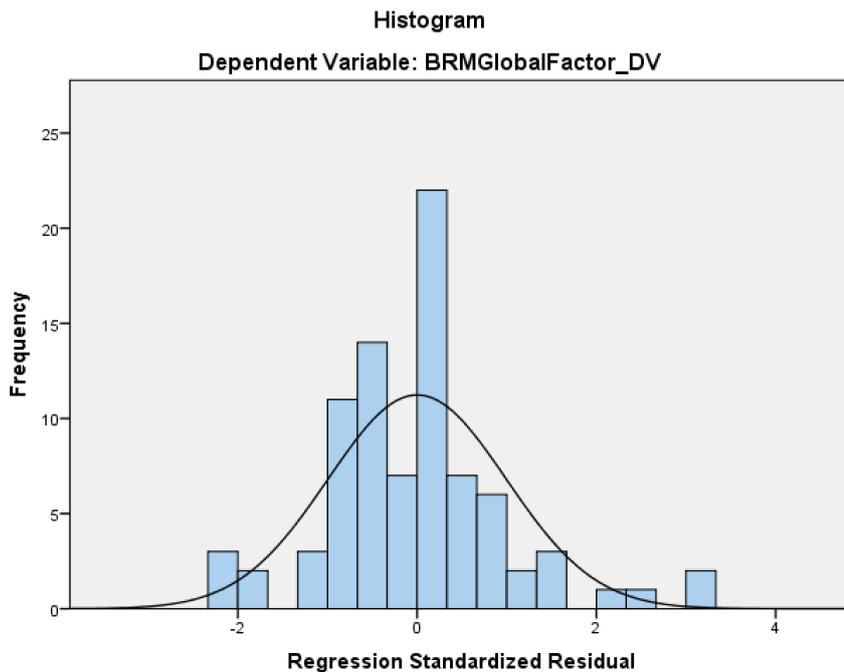


Figure 38: Histogram (Communication Skill vs. BRM Process)

4.8.1.2 Interpreting Linear Regression Analysis for Communication Skill vs. BRM Process

Reference to below Table 74 regression results for Communication Skill Factor vs. BRM Process DV, there is no missing data with a total of 84 participants. According to Pearson Correlation, as it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.742** and $p < 0.01$. According to model summary R-value with data 0.742 represents the simple correlation as well, in this case there is a high degree of correlation in between independent variable communication skill factor and BRM Process Global Factor. R square value represents the total variation in DV BRM Process can be explained by IV communication skill factor. In this case, 55% in DV BRM process can be explained by IV communication skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model

predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of communication skill factor, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $BRM\ Process = 4.236 + 3.444 \times (Communication\ Skill)$. It is noted that B coefficients are positive numbers that mean communication skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance. As the value is less than 0.05 that means it is statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. It will become important while interpreting multiple explanatory. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant. Residuals explain the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.1.3 Linear Regression Results (Communication Skill vs. BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742
	CommunicationSkillFactor	.742	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000
	CommunicationSkillFactor	.000	
N	BRMGlobalFactor_DV	84	84
	CommunicationSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	CommunicationSkillFactor ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.742 ^a	.550	.545	7.56038	1.703

a. Predictors: (Constant), CommunicationSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5729.259	1	5729.259	100.233	.000 ^b
	Residual	4687.062	82	57.159		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), CommunicationSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.236	2.064		2.062	.043	.130	8.342
	CommunicationSkillFactor	3.444	.344	.742	10.012	.000	2.760	4.128

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.5683	55.8975	23.1786	8.30826	84
Residual	-16.78882	22.99068	.00000	7.51469	84
Std. Predicted Value	-1.036	3.938	.000	1.000	84
Std. Residual	-2.221	3.041	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 74: Regression Results: Communication Skill vs. BRM Process

4.8.2 Regression Analysis: Leadership Skill vs. BRM Process

In this analysis, the IV leadership skill and the DV BRM process are studied to check how well the IV predicts the DV.

4.8.2.1 Linear Regression Assumption Check for Leadership Skill vs. BRM Process

- **Linear Relationship:** Reference to below Figure 39 Scatter Plot and Figure 40 Normal P-P Plot, the explanatory variable has a linear relationship with a responsive variable with no pattern exists.

Therefore, linearity is confirmed, linear relationship check is found ok.

- **Homoscedasticity:** The scatter plot shows the variances along with the best fit and as per below Figure 39, the standardized residual value against standardized predicted value, there is no severe

pattern and shall be considered is the residual of this graph is homoscedasticity. Therefore, this assumption is checked and found ok.

- Independent (Residual) Error: The Durbin-Watson test is conducted to check and detect the presence of autocorrelations in residuals. In this case, the related value is 1.481 (see Table 75) that is not far from 2; therefore, this assumption is ok. (Field, 2009)

- Problems with outliers: No significant outliers observed as per Figure 39, all as per +/-3 standard deviation; therefore, this assumption is ok.

- Normally distributed residuals: The normality of the regression line is checked based on P-P Plot refer to Figure 40 the residuals of the model are normally distributed. This can also be checked with the histogram that reassures the same as per Figure 41.

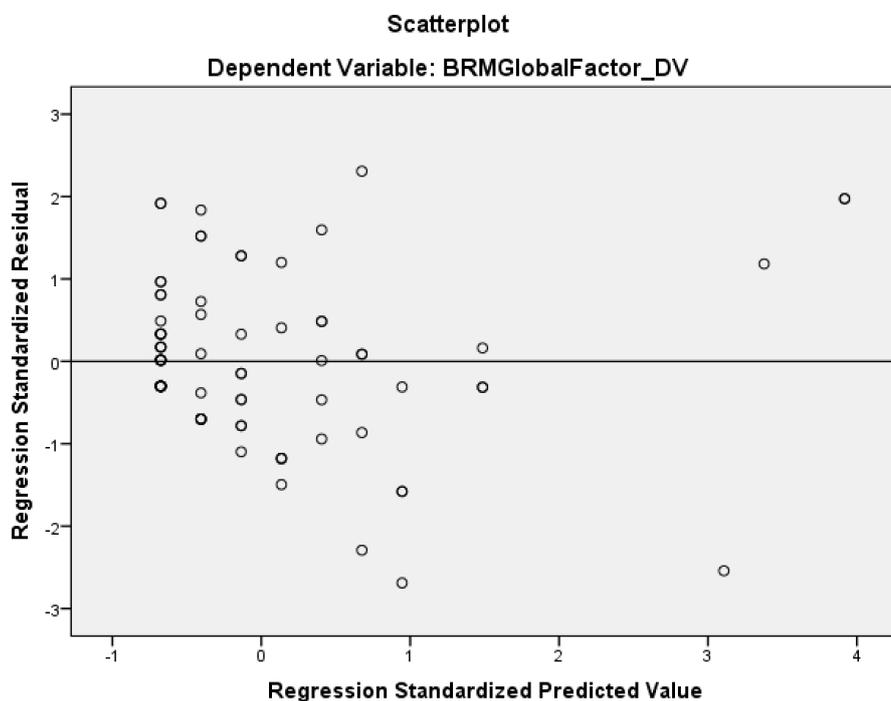


Figure 39: Scatter Plot (Leadership Skill vs. BRM Process)

Normal P-P Plot of Regression Standardized Residual

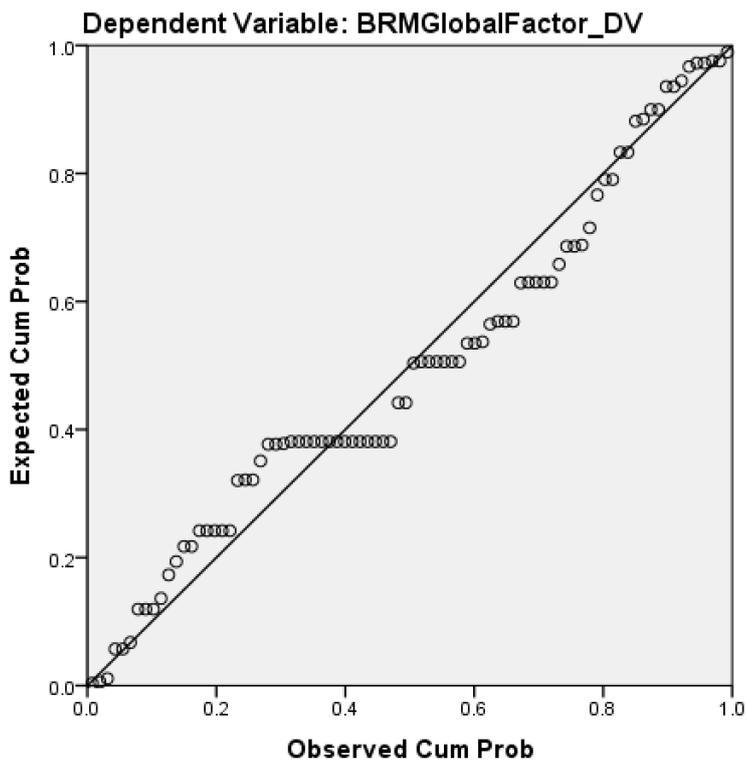


Figure 40: Normal P-P Plot (Leadership Skill vs. BRM Process)

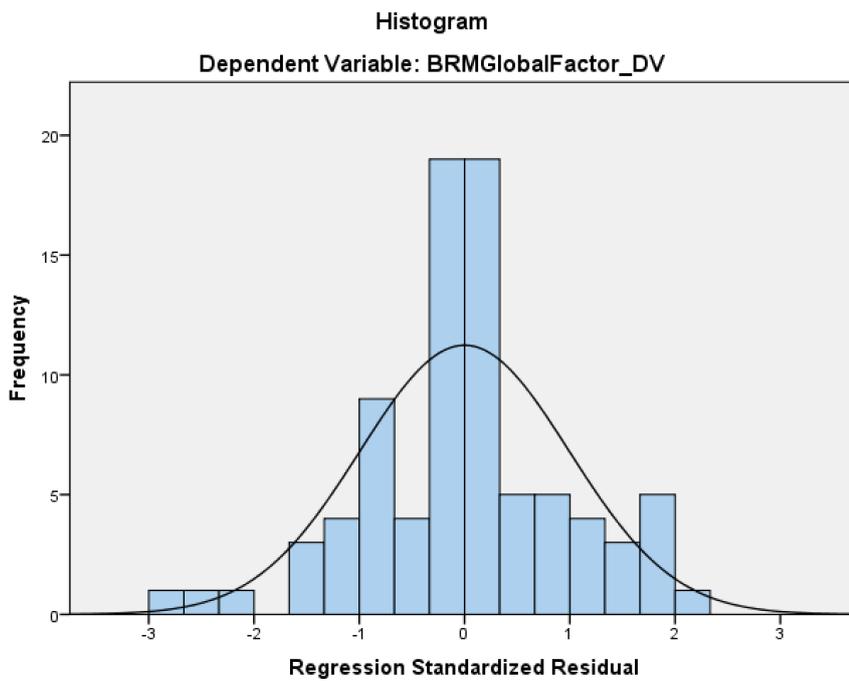


Figure 41: Histogram (Leadership Skill vs. BRM Process)

4.8.2.2 Interpreting Linear Regression Analysis for Leadership Skill vs. BRM Process

Reference to below Table 75 regression results for Leadership Skill Factor vs. BRM Process DV, there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.829** and $p < 0.01$. According to model summary R-value with data 0.829 represents the simple correlation as well, in this case there is a high degree of correlation in between independent variable leadership skill factor and BRM Process Global Factor. R square value represents the total variation in the DV BRM Process can be explained by the IV leadership skill factor. In this case, 68.7% in the DV BRM process can be explained by the IV leadership skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of leadership skill factor, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $\text{BRM Process} = 4.363 + 2.509 \times (\text{Leadership Skill})$. It is noted that B coefficients are positive numbers that mean leadership skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. It will become important while interpreting multiple explanatory. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant. Residuals explain the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.2.3 Linear Regression Results (Leadership Skill vs BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
LeadershipSkillFactor	7.5000	3.70119	84

Correlations

		BRMGlobalFactor_DV	LeadershipSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.829
	LeadershipSkillFactor	.829	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000
	LeadershipSkillFactor	.000	.
N	BRMGlobalFactor_DV	84	84
	LeadershipSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LeadershipSkillFactor ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.829 ^a	.687	.683	6.30523	1.481

a. Predictors: (Constant), LeadershipSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7156.338	1	7156.338	180.007	.000 ^b
	Residual	3259.983	82	39.756		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), LeadershipSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.363	1.562		2.793	.007	1.255	7.470
	LeadershipSkillFactor	2.509	.187	.829	13.417	.000	2.137	2.881

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.9066	59.5561	23.1786	9.28552	84
Residual	-16.95935	14.54944	.00000	6.26713	84
Std. Predicted Value	-.675	3.918	.000	1.000	84
Std. Residual	-2.690	2.308	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 75: Regression Results: Leadership Skill vs BRM Process

4.8.3 Regression Analysis: Change Management Skill vs. BRM Process

In this analysis, the independent variable change management skill and the dependent variable BRM process are studied to check how well the independent variable predicts the dependent variable.

4.8.3.1 Linear Regression Assumption Check for Change Management Skill vs. BRM Process

- **Linear Relationship:** Reference to below Figure 42 Scatter Plot and Figure 43 Normal P-P Plot, the explanatory variable has a linear relationship with a responsive variable with no pattern exists.

Therefore, linearity is confirmed, linear relationship check is ok.

- **Homoscedasticity:** The scatter plot shows the variances along with the best fit and as per below Figure 42, the standardized residual value against standardized predicted value, there is no serious pattern and shall be considered is the residual of this graph is homoscedasticity; therefore, this assumption is checked and found ok.
- **Independent (Residual) Error:** The Durbin-Watson test is conducted to check and detect the presence of autocorrelations in residuals. In this case, the related value is 1.877 (see Table 76) that is close to 2; therefore, this assumption is ok. (Field, 2009)
- **Problems with outliers:** Regarding significant outliers observed as per Figure 42, except one point, remaining all are within +/-3 standard deviation, therefore, this assumption is ok.
- **Normally distributed residuals:** The normality of the regression line is checked based on P-P Plot refer to Figure 43 the residuals of the model are normally distributed. This can also be checked with the histogram that reassures the same as per Figure 44.

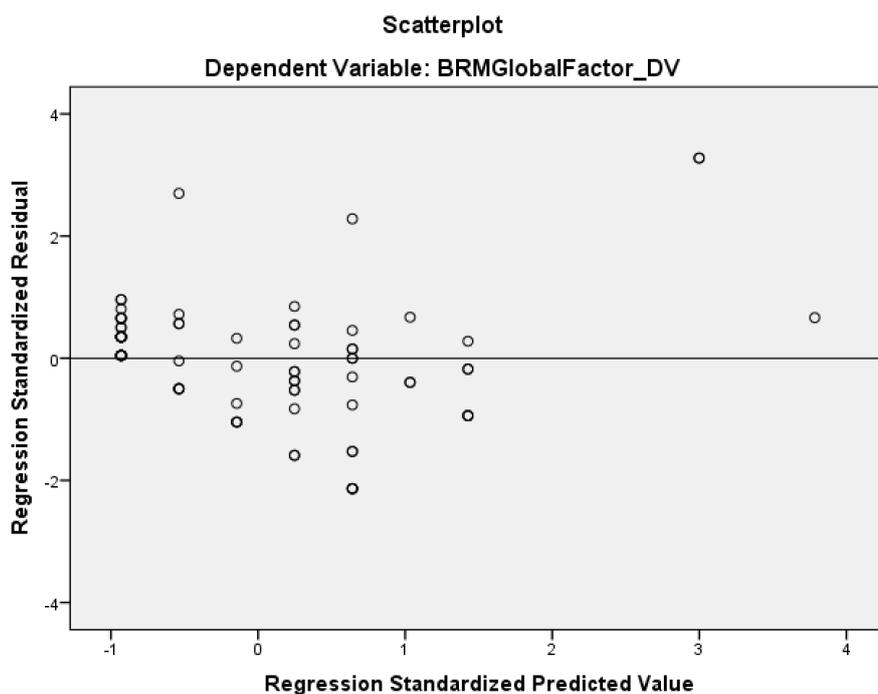


Figure 42: Scatter Plot (Change Management Skill vs. BRM Process)

Normal P-P Plot of Regression Standardized Residual

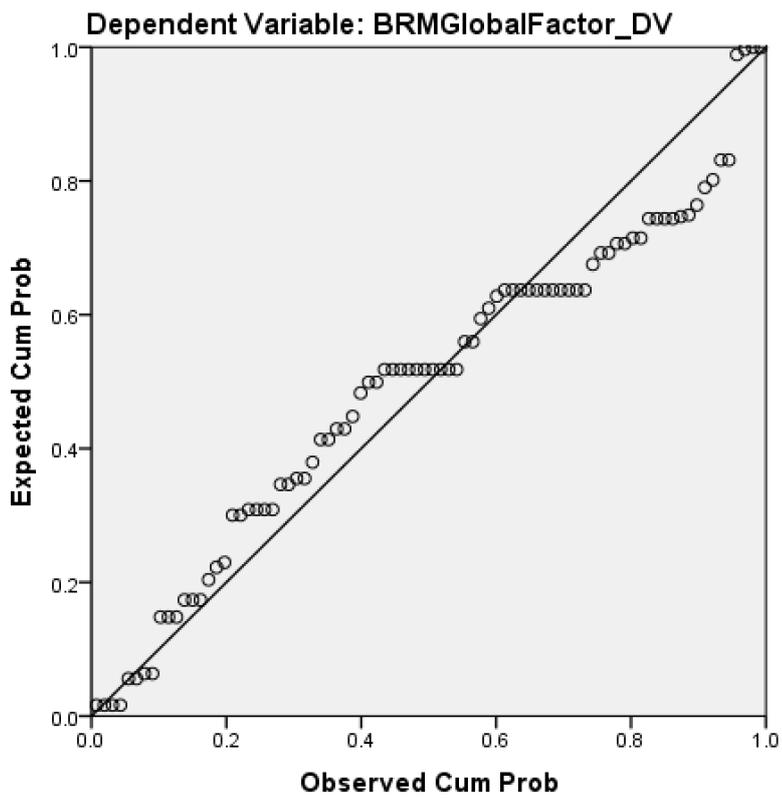


Figure 43: Normal P-P Plot (Change Management Skill vs. BRM Process)

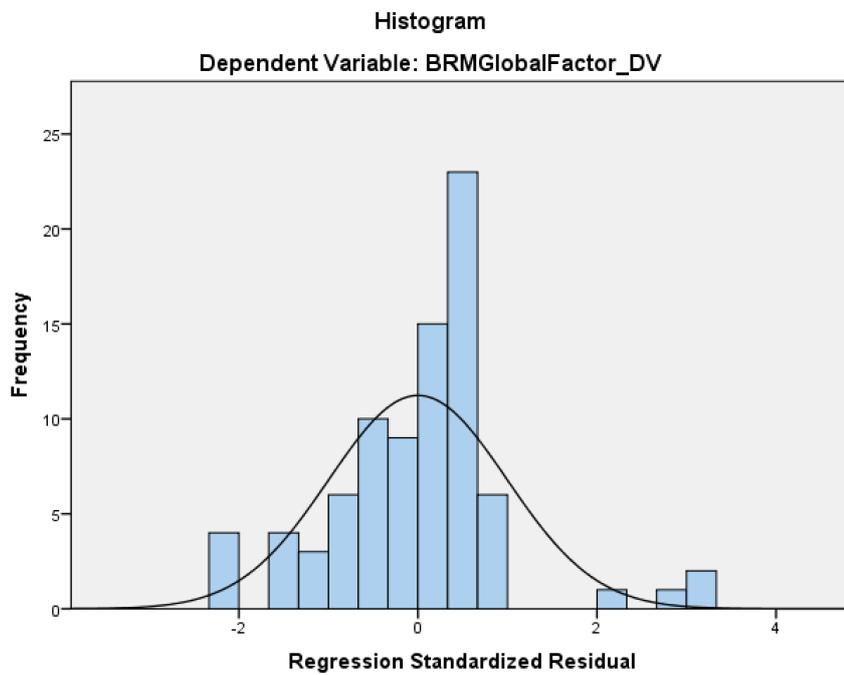


Figure 44: Histogram (Change Management Skill vs. BRM Process)

4.8.3.2 Interpreting Linear Regression Analysis for Change Management Skill vs. BRM Process

Reference to below Table 76 regression results for Change Management Skill Factor vs. BRM Process DV, there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.813** and $p < 0.01$. According to model summary R-value with data 0.813 represents the simple correlation as well, in this case there is a high degree of correlation in between independent variable change management skill factor and BRM Process Global Factor. R square value represents the total variation in the DV BRM Process can be explained by the IV change management skill factor. In this case, 66.1% in the DV BRM process can be explained by the IV change management skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of change management skill factor, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $\text{BRM Process} = 0.389 + 3.578 \times (\text{Change Management Skill})$. It is noted that B coefficients are positive numbers that mean change management skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. It will become important while interpreting multiple explanatory. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant. Residuals explain the measure of the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.3.3 Linear Regression Results (Change Management Skill vs. BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
ChangeManagementSkill Factor	6.3690	2.54492	84

Correlations

		BRMGlobalFactor_DV	ChangeManagementSkill Factor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.813
	ChangeManagementSkill Factor	.813	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000
	ChangeManagementSkill Factor	.000	.
N	BRMGlobalFactor_DV	84	84
	ChangeManagementSkill Factor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ChangeManagementSkill Factor ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813 ^a	.661	.657	6.56477	1.877

a. Predictors: (Constant), ChangeManagementSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6882.428	1	6882.428	159.699	.000 ^b
	Residual	3533.893	82	43.096		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.389	1.940		.201	.842	-3.471	4.249
	ChangeManagementSkillFactor	3.578	.283	.813	12.637	.000	3.015	4.141

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.7018	57.6395	23.1786	9.10609	84
Residual	-14.01435	21.51680	.00000	6.52511	84
Std. Predicted Value	-.931	3.784	.000	1.000	84
Std. Residual	-2.135	3.278	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 76: Regression Results: Change Management Skill vs. BRM Process

4.8.4 Regression Analysis: Planning Skill vs. BRM Process

In this analysis, the IV planning skill and the dependent variable BRM process are studied in order to check how well the independent variable predicts the dependent variable.

4.8.4.1 Linear Regression Assumption Check for Planning Skill vs. BRM Process

- **Linear Relationship:** Reference to below Figure 45 Scatter Plot and Figure 46 Normal P-P Plot, the explanatory variable has a linear relationship with a responsive variable with no pattern exists.

Therefore, linearity is confirmed, linear relationship check is ok.

- **Homoscedasticity:** The scatter plot shows the variances along with the best fit and as per below Figure 45, the standardized residual value against standardized predicted value, there is no serious pattern and shall be considered is the residual of this graph is homoscedasticity. Therefore, this assumption is checked and found ok.
- **Independent(Residual) Error:** The Durbin-Watson test is conducted to check and detect the presence of autocorrelations in residuals. In this case, the related value is 1.940 (see Table 77) that is close to 2. Therefore, this assumption is ok. (Field, 2009)
- **Problems with outliers:** Regarding significant outliers observed as per Figure 45, except one point all are within +/-3 standard deviation. Therefore, this assumption is ok.
- **Normally distributed residuals:** The normality of the regression line is checked based on P-P Plot refer to Figure 46 the residuals of the model are normally distributed. This can also be checked with the histogram that reassures the same as per Figure 47.

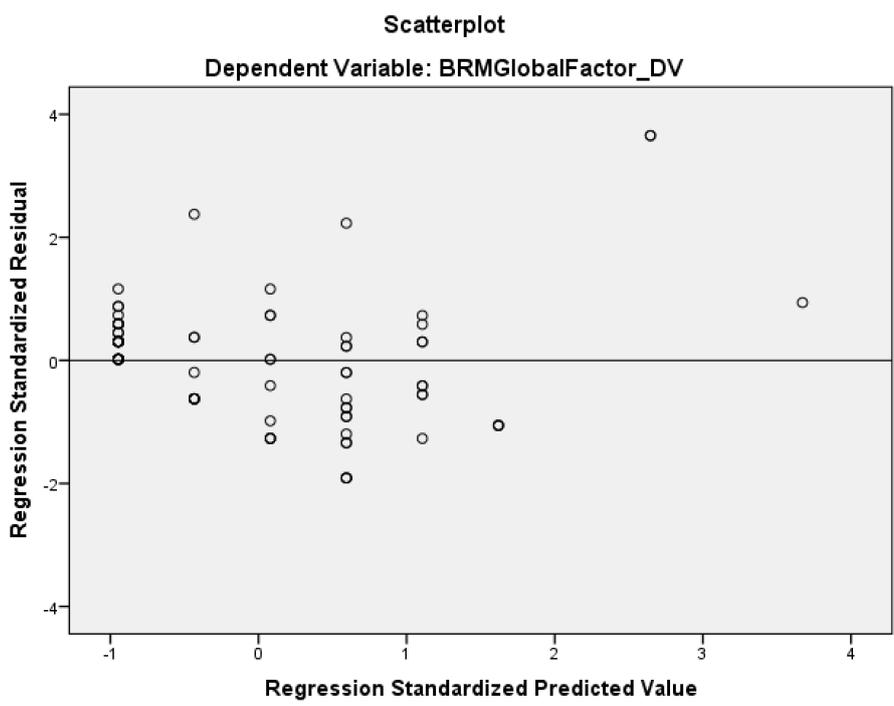


Figure 45: Scatter Plot (Planning Skill vs. BRM Process)

Normal P-P Plot of Regression Standardized Residual

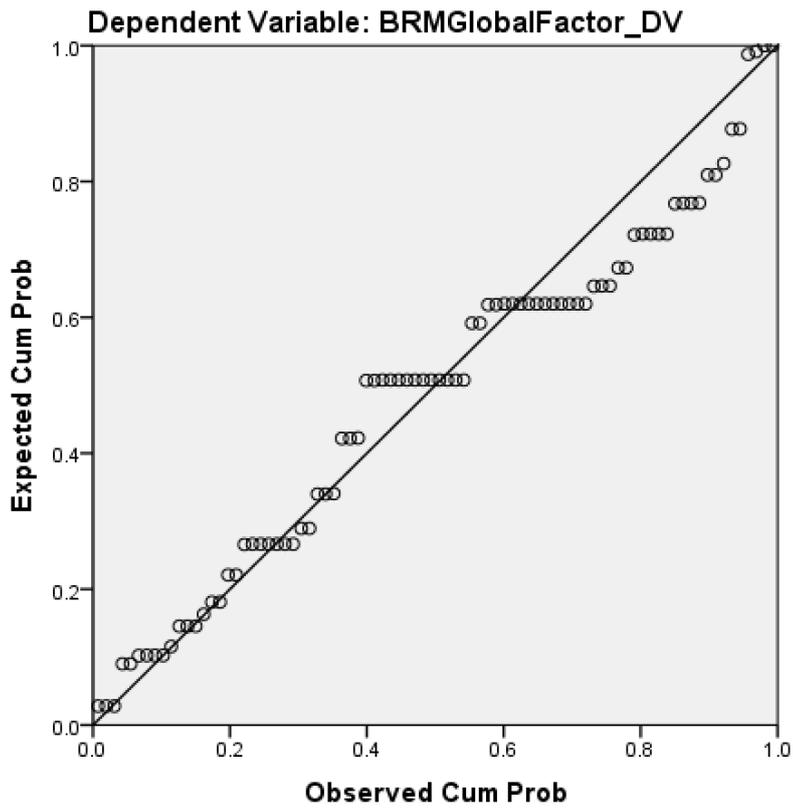


Figure 46: Normal P-P Plot (Planning Skill vs. BRM Process)

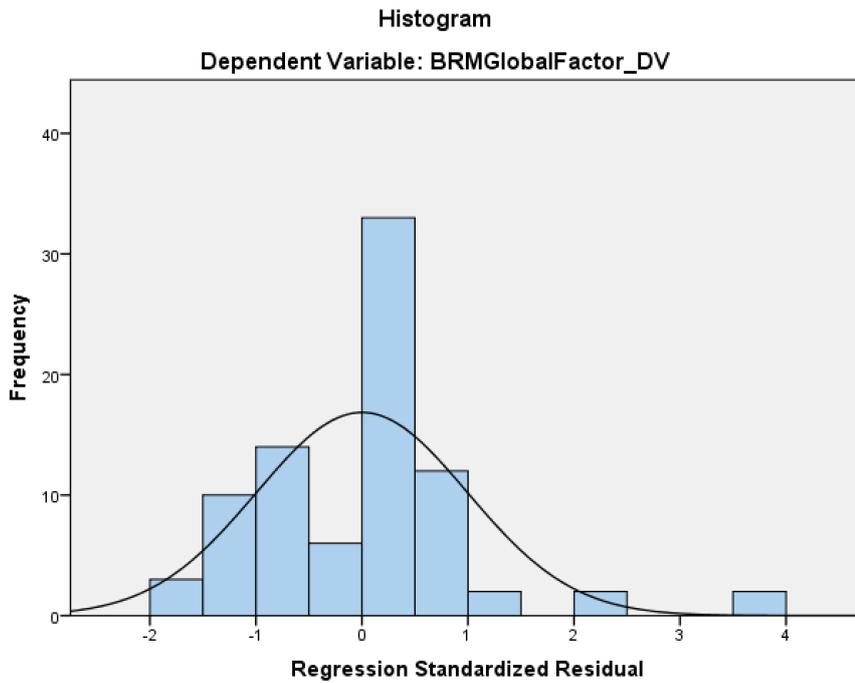


Figure 47: Histogram (Planning Skill vs. BRM Process)

4.8.4.2 Interpreting Linear Regression Analysis for Planning Skill vs. BRM Process

Reference to below Table 77 regression results for Planning Skill Factor vs. BRM Process DV, there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.784** and $p < 0.01$. According to model summary R-value with data 0.784 represents the simple correlation as well, in this case there is a high degree of correlation in between independent variable planning skill factor and BRM Process Global Factor. R square value represents the total variation in the DV BRM Process can be explained by the IV planning skill factor. In this case, 61.4% in DV BRM process can be explained by the IV planning skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict the BRM Process and check for the contribution of planning skill factor, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $\text{BRM Process} = 1.346 + 4.506 \times (\text{Planning Skill})$. It is noted that B coefficients are positive numbers that mean planning skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance. Since the value is less than 0.05 that means it is statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. It will become important while interpreting multiple explanatory. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant. Residuals explain the measure of the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.4.3 Linear Regression Results (Planning Skill vs. BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.784
	PlanSkillFactor	.784	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000
	PlanSkillFactor	.000	.
N	BRMGlobalFactor_DV	84	84
	PlanSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PlanSkillFactor ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.784 ^a	.614	.609	7.00255	1.940

a. Predictors: (Constant), PlanSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6395.395	1	6395.395	130.423	.000 ^b
	Residual	4020.926	82	49.036		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), PlanSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.346	2.059		.664	.516	-2.749	5.442
	PlanSkillFactor	4.506	.395	.784	11.420	.000	3.721	5.291

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.8640	55.4176	23.1786	8.77798	84
Residual	-13.38187	25.59432	.00000	6.96024	84
Std. Predicted Value	-.947	3.673	.000	1.000	84
Std. Residual	-1.911	3.655	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 77: Regression Results: Planning Skill vs. BRM Process

4.8.5 Regression Analysis: Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor

In this analysis the independent variable X, Soft Skills (IV) Global Factor and the dependent variable Y, BRM process (DV) Global Factor are studied to check how well the independent variable predicts the dependent variable.

4.8.5.1 Linear Regression Assumption Check for Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor

- **Linear Relationship:** Reference to below Figure 48 Scatter Plot and Figure 49 Normal P-P Plot, the explanatory variable has a linear relationship with a responsive variable with no pattern exists.

Therefore, linearity is confirmed, linear relationship check is found ok.

- **Homoscedasticity:** The scatter plot shows the variances along with the best fit and as per below Figure 48, the standardized residual value against standardized predicted value, there is no serious pattern and shall be considered is the residual of this graph is homoscedasticity. Therefore, this assumption is checked and found ok.

- **Independent(Residual) Error:** The Durbin-Watson test is conducted to check and detect the presence of autocorrelations in residuals. In this case, the related value is 1.796 (see Table 78) that is close to 2; therefore, this assumption is ok. (Field, 2009)

- **Problems with outliers:** No significant outliers observed as per Figure 45, all as per +/-3 standard deviation; therefore, this assumption is ok.

- **Normally distributed residuals:** The normality of regression line check based on P-P Plot refer to Figure 49 the residuals of the model are normally distributed. This can also be checked with the histogram that reassures the same as per Figure 50.

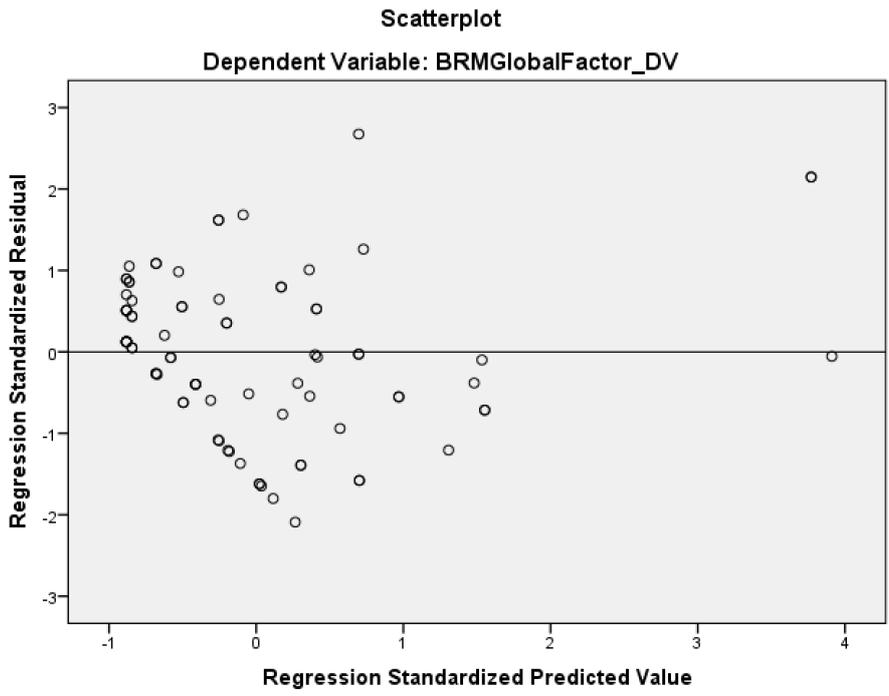


Figure 48: Scatter Plot (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

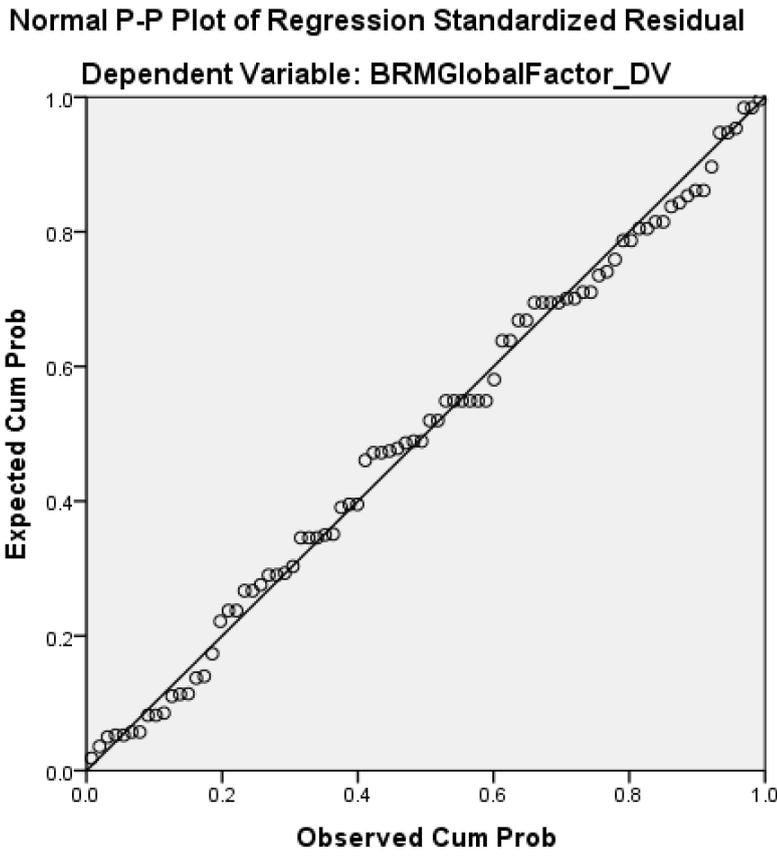


Figure 49: Normal P-P Plot (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

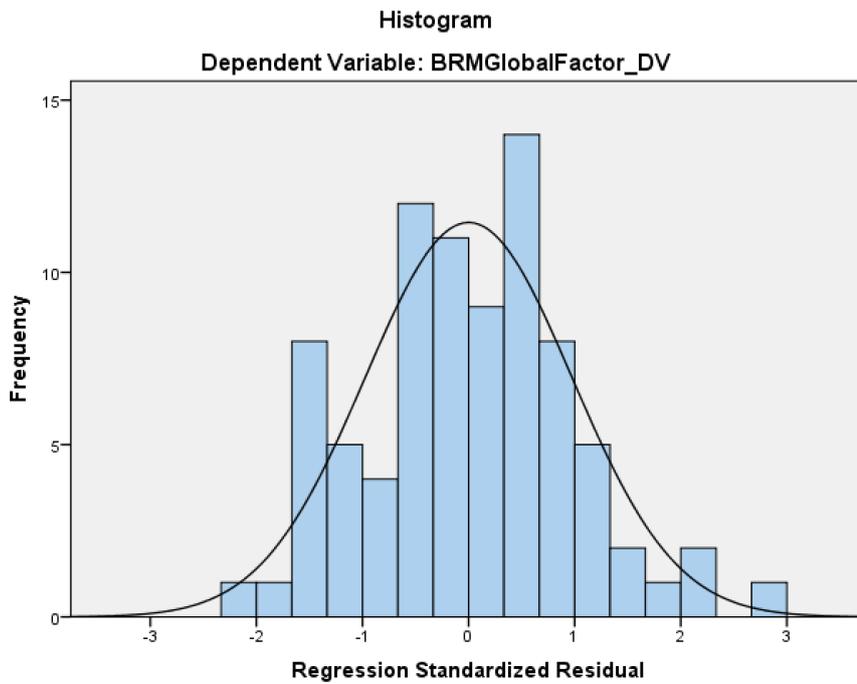


Figure 50: Histogram (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

4.8.5.2 Interpreting Linear Regression Analysis for Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor

Reference to below Table 78 regression results for Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor, there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.882** and $p < 0.01$. According to model summary R-value with data 0.882 represents the simple correlation as well, in this case there is high degree of correlation in between the independent variable Soft Skills (IV) Global Factor and the BRM Process (DV) Global Factor. R square value represents the total variation in the DV, BRM Process Global Factor can be explained by the IV, Soft Skills Global Factor. In this case, 77.9% in the DV BRM Process Global Factor can be explained by the IV Soft Skills Global Factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p is less than 0.05 that

means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict the BRM Process and check for the contribution of Soft Skills Global Factor, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is the BRM Process DV Global Factor = - 1.807 + 1.032 x (Soft Skills IV Global Factor). It is noted that as per this equation, Soft Skills IV Global Factor positively contributes to the BRM process, the DV Global Factor. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. It will become important while interpreting multiple explanatory. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant. Residuals explain the measure of the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.5.3 Linear Regression Results (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
SoftSkillGlobalFactor_IV	24.2143	9.57918	84

Correlations

		BRMGlobalFactor_DV	SoftSkillGlobalFactor_IV
Pearson Correlation	BRMGlobalFactor_DV	1.000	.882
	SoftSkillGlobalFactor_IV	.882	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000
	SoftSkillGlobalFactor_IV	.000	
N	BRMGlobalFactor_DV	84	84
	SoftSkillGlobalFactor_IV	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SoftSkillGlobalFactor_IV ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.882 ^a	.779	.776	5.30435	1.796

a. Predictors: (Constant), SoftSkillGlobalFactor_IV

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8109.159	1	8109.159	288.212	.000 ^b
	Residual	2307.162	82	28.136		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), SoftSkillGlobalFactor_IV

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.807	1.581		-1.143	.256	-4.953	1.339
	SoftSkillGlobalFactor_IV	1.032	.061	.882	16.977	.000	.911	1.153

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	13.6707	63.2000	23.1786	9.88437	84
Residual	-12.08490	14.85139	.00000	5.27230	84
Std. Predicted Value	-.962	4.049	.000	1.000	84
Std. Residual	-2.278	2.800	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 78: Regression Results: Soft Skills IV Global Factor vs. BRM Process DV Global Factor

4.8.6 Multiple Linear Regression Results (Soft Skills IV Global Factors vs. BRM Process DV Global Factor)

4.8.6.1 Interpreting Multiple Linear Regression Analysis for Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor

Reference to below Table 79, multiple regression results for Soft Skills Factors vs. the BRM Process (DV) Global Factor; there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as all above

0.7 and $p < 0.01$ statistically significant. According to the model summary, R-value with data 0.892 represents the simple correlation as well in this case there is a high degree of correlation in between independent variable Soft Skills Factors and BRM Process (DV) Global Factor. R square value represents the total variation in the DV BRM Process Global Factor can be explained by the IV Soft Skills Factors. In this case, 79.6% in the DV BRM Process Global Factor can be explained by the IV Soft Skills Factors, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. When we check the ANOVA output, to check how regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict the BRM Process and check for the contribution of Soft Skills Factors, whether statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is BRM Process DV Global Factor = $-1.421 + 0.191x$ (Communication Skill Factor) + $1.502x$ (Leadership Skill Factor) + 1.655 (Change Management Skill Factor) + $0.359x$ (Planning Skill Factors) . It is noted that as per this equation, Soft Skills Factors positively contributes the BRM process, the DV Global Factor. The “Sig” column and p -value show the statistical significance as the value is less than 0.05 that means statistically significant. The Beta coefficients enable to check the relative strengths of the predictor factors. In this model, Leadership Skill factor has more effect on the dependent variable with compare to other independent variables as standardized Beta value is greater than others. Second, third, and fourth independent variables are respectively change management skill, planning skill, and communication skill. Residuals explain the measure of the error in prediction, and they are not quite normally distributed as the residuals are clustering around the mean which is found acceptable and ok.

4.8.6.2 Linear Regression Results (Soft Skills Factors vs. BRM Process DV Global Factor)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84
LeadershipSkillFactor	7.5000	3.70119	84
ChangeManagementSkillFactor	6.3690	2.54492	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor	LeadershipSkillFactor	ChangeManagementSkillFactor	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742	.829	.813	.784
	CommunicationSkillFactor	.742	1.000	.734	.764	.781
	LeadershipSkillFactor	.829	.734	1.000	.695	.656
	ChangeManagementSkillFactor	.813	.764	.695	1.000	.967
	PlanSkillFactor	.784	.781	.656	.967	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000	.000	.000	.000
	CommunicationSkillFactor	.000		.000	.000	.000
	LeadershipSkillFactor	.000	.000		.000	.000
	ChangeManagementSkillFactor	.000	.000	.000		.000
	PlanSkillFactor	.000	.000	.000	.000	
N	BRMGlobalFactor_DV	84	84	84	84	84
	CommunicationSkillFactor	84	84	84	84	84
	LeadershipSkillFactor	84	84	84	84	84
	ChangeManagementSkillFactor	84	84	84	84	84
	PlanSkillFactor	84	84	84	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.892 ^a	.796	.786	5.18040	1.721

a. Predictors: (Constant), PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8296.232	4	2074.058	77.285	.000 ^b
	Residual	2120.089	79	26.837		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.421	1.571		-.904	.369	-4.547	1.706
	CommunicationSkillFactor	.191	.430	.041	.444	.658	-.665	1.047
	LeadershipSkillFactor	1.502	.244	.496	6.154	.000	1.016	1.988
	ChangeManagementSkillFactor	1.655	.926	.376	1.788	.078	-.188	3.498
	PlanSkillFactor	.359	1.211	.062	.296	.768	-2.052	2.770

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.3617	62.2812	23.1786	9.99773	84
Residual	-10.82802	13.85607	.00000	5.05403	84
Std. Predicted Value	-.882	3.911	.000	1.000	84
Std. Residual	-2.090	2.675	.000	.976	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 79: Multiple Regression Results: Soft Skills Factors vs. BRM Process DV Global Factor

4.8.7 Multiple Linear Stepwise Regression Results (Soft Skills IV Global Factors vs. BRM Process DV Global Factor)

4.8.7.1 Interpreting Multiple Linear Stepwise Regression Analysis for Soft Skills (IV) Global Factors vs. BRM Process (DV) Global Factor

Reference to below Table 80 multiple stepwise regression results for Soft Skills Factors (IV) vs. BRM Process (DV) Global Factor, there is no missing data with a total of 84 participants. According to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as all above 0.7 and $p < 0.01$ statistically significant. According to generated models, model 1 considers only leadership skill factor with R-value 0.829 representing simple correlation, and R square value 0.687 that means 68.7% of the variance in BRM Process DV can be explained by the IV Leadership Skill Factor. Model 2 considers Leadership Skill Factor together with Change Management Skill Factor with R-value 0.892 and R square value 0.795 that means 79.5% of the variance in the DV BRM process can be predicted with model 2 independent variable factors leadership skill and communication skill

factors. Therefore we can conclude that model 2 is a better predictor than model 1. According to ANOVA, both models are statistically significant at the p-value less than 0.05. Model 1 regression line is $BRM\ Process = 4.362 + 2.509 \times (Leadership\ Skill\ Factor)$ and according to model 2 $BRM\ Process\ DV = -1.250 + 1.545 \times (Leadership\ Skill) + 2.016 \times (Change\ Management\ Skill)$ both with positive contribution as coefficients are positive. According to BETA value, Leadership Skill Factor is a better predictor than Change Management Skill Factor as the BETA value of leadership skill is bigger than Change Management Skill Factor. Residuals are clustering around the mean which is found acceptable and ok.

4.8.7.2 Stepwise Multiple Linear Regression Results Soft Skills Factors (IV) vs. BRM Process (DV) Global Factor

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84
LeadershipSkillFactor	7.5000	3.70119	84
ChangeManagementSkillFactor	6.3690	2.54492	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor	LeadershipSkillFactor	ChangeManagementSkillFactor	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742	.829	.813	.784
	CommunicationSkillFactor	.742	1.000	.734	.764	.781
	LeadershipSkillFactor	.829	.734	1.000	.695	.656
	ChangeManagementSkillFactor	.813	.764	.695	1.000	.967
	PlanSkillFactor	.784	.781	.656	.967	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000	.000	.000	.000
	CommunicationSkillFactor	.000	.	.000	.000	.000
	LeadershipSkillFactor	.000	.000	.	.000	.000
	ChangeManagementSkillFactor	.000	.000	.000	.	.000
	PlanSkillFactor	.000	.000	.000	.000	.
N	BRMGlobalFactor_DV	84	84	84	84	84
	CommunicationSkillFactor	84	84	84	84	84
	LeadershipSkillFactor	84	84	84	84	84
	ChangeManagementSkillFactor	84	84	84	84	84
	PlanSkillFactor	84	84	84	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LeadershipSkillFactor		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	ChangeManagementSkillFactor		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: BRMGlobalFactor_DV

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.829 ^a	.687	.683	6.30523	
2	.892 ^b	.795	.790	5.12945	1.721

a. Predictors: (Constant), LeadershipSkillFactor

b. Predictors: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

c. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7156.338	1	7156.338	180.007	.000 ^b
	Residual	3259.983	82	39.756		
	Total	10416.321	83			
2	Regression	8285.105	2	4142.553	157.444	.000 ^c
	Residual	2131.216	81	26.311		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), LeadershipSkillFactor

c. Predictors: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.363	1.562	.829	2.793	.007	1.255	7.470
	LeadershipSkillFactor	2.509	.187		13.417	.000	2.137	2.881
2	(Constant)	-1.250	1.533	.511	-.815	.417	-4.299	1.800
	LeadershipSkillFactor	1.545	.212		7.301	.000	1.124	1.966
	ChangeManagementSkillFactor	2.016	.308	.458	6.550	.000	1.404	2.628

a. Dependent Variable: BRMGlobalFactor_DV

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CommunicationSkillFactor	.289 ^b	3.369	.001	.351	.461
	ChangeManagementSkillFactor	.458 ^b	6.550	.000	.588	.517
	PlanSkillFactor	.421 ^b	6.214	.000	.568	.570
2	CommunicationSkillFactor	.050 ^c	.575	.567	.064	.336
	PlanSkillFactor	.093 ^c	.469	.641	.052	.065

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors in the Model: (Constant), LeadershipSkillFactor

c. Predictors in the Model: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.5399	61.9082	23.1786	9.99102	84
Residual	-10.69381	13.67067	.00000	5.06728	84
Std. Predicted Value	-.865	3.876	.000	1.000	84
Std. Residual	-2.085	2.665	.000	.988	84

a. Dependent Variable: BRMGlobalFactor_DV

Table 80: Stepwise Multiple Linear Regression Results: Soft Skills Factors vs. BRM Process DV Global Factor

Chapter 5: INTERPRETATION OF THE RESULTS & DISCUSSIONS

5.1 Introduction

This chapter discusses the relationship between selected soft skills of construction PMs and benefits realization management process. The aim is to contribute the literature by examining the relationship between selected soft skills and benefit realization management process to understand what are the primary soft skills set of PMs and how those soft skills influence benefit realization management process by investigating the relationship between selected soft skills set of PMs and benefit realization

management process in the construction industry in UAE. The objective is to explore literature by examining empirically the relationship between selected soft set skills of PMs and benefit realization management process to provide a strong recommendation for future researches. This chapter intends to test the hypothesis and discuss the interpretation of the outcomes. This chapter will also respond to the research questions with findings detailed in Chapter 2, “Literature Review” and Chapter 4 “Data Analysis and Findings.”

5.2 Hypothesis Testing & Discussions

Considering the aim and objective of this study, literature review and conceptual framework, below listed hypothesis were developed and proposed to understand the contribution of selected soft skills of PMs on the BRM process and related phases. According to the statistical findings, below hypothesis are tested accordingly:

5.2.1 Hypothesis 1: There is a significant influence of selected soft skills of a PM on the BRM process

Reference to questionnaire and SPSS findings, communication skill, leadership skill, change management skill, and planning skill of construction project managers have a positive relationship with benefits realization management process at a significant level. Considering the collected data, the external respondents mostly select “strongly agree” and “agree” as per Table 59, the arithmetic mean of communication skill is with average score 1.833 with SD 0.993, arithmetic mean of leadership skill is with an average score of 1.50 with SD 0.86, arithmetic mean of change management skill is with average score 1.59 with SD 0.79, arithmetic mean of planning skill is with an average rating of 1.62 with SD 0.79 that prove the participants are in significant belief and acceptance of these statements collected through literature review.

As per Table 78 regression results for Soft Skills (IV) Global Factor vs BRM Process (DV) Global Factor, regarding Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.882** and $p < 0.01$. According to model summary R-value with data 0.882 represents the simple correlation as well, in this case there is high degree of correlation in between independent variable Soft Skills (IV) Global Factor and BRM Process (DV) Global Factor. R square value 0.779; therefore, 77.9% in dependent variable BRM Process (DV) Global Factor can be explained by Soft Skills (IV) Global Factor, which is considerably high. ANOVA and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which is expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of Soft Skills Global Factor that statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is the BRM Process DV Global Factor = $-1.807 + 1.032 \times (\text{Soft Skills Global Factor})$. It is noted that as per this equation, Soft Skills IV Global Factor positively contributes to the BRM process DV Global Factor. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant.

In conclusion, selected soft skills global factor positively contribute to the BRM process. Therefore, **Hypothesis 1 is accepted.**

There is specific support witnessed in the literature review detailed earlier chapters for the contribution of soft skills set of PMs throughout the project life cycle. Considering the fact that there are high-level

expectations from the clients and stakeholders for the successful completion of projects in time, within expected quality level and budget, project managers are becoming key members in order to maximize the benefits out of projects, therefore the results what we received from data collected from construction project managers in UAE is not surprising. Moving forward, the research on this area is growing, and the importance of soft skills set of PMs are getting better understood by identifying new knowledge in this area.

Project Managers have critical responsibilities to make sure projects are getting completed successfully. (Turner, 2008). Melymuk (2000) stated that project managers are the only one to influence other stakeholders to create a win-win situation. Therefore project managers are commonly accepted as the most crucial member in the construction life cycle. Project managers interact as a connector to make sure stakeholder expectations are getting met satisfactorily. Although earlier in literature contribution of project managers were limited mainly with hard skills set, after having seen the importance of those soft skills of PMs, the contribution of soft skills of PMs become an interesting and evolving topic.

Personal characteristics of project managers are highly crucial for the execution of project management knowledge. In case of a complex phenomenon, unknown situation, or uncertain environment, soft skills of project managers are compulsory. (Thomas & Mengel, 2008) Beale & Freeman (1991, p.28) state that personal traits and skills are highly important for a PM.

Nowadays, organizations are giving utmost attention to the necessity of the soft skills of PMs and motivating their team to develop those skills for the ultimate goals and objectives. (Bendell, 1998) It has been commonly accepted in the literature that project managers should possess the right soft skills set (Crawford, 2005) to maximize the benefits realization to ensure projects are getting completed successfully.

Project managers are interacting as a critical stakeholder in a human-oriented environment; therefore, soft skill competencies are therefore mandatory to manage and coordinate the hard skill as well as to manage and coordinate the team involved in the project. (Radford, 2008) Scholars also agree that project managers are the one leading all their skills to influence others for the benefit of the project. (Brewer, 2005) Soft skill competencies are now accepted as a prerequisite for the productive and successful project management process; (Corcoran, 1997) therefore there must be the direct contribution of soft skills of PMs on any management process throughout project life cycle including benefits realization management process.

Then the question would be what are the right soft skill combination while implementing any management processes. (Belling & Mengelaars, 2004) Fisher (2011) emphasizes the importance of leadership skill and communication skill. The literature gives extreme attention on communication skill and leadership skill of a PM to meet the requirement and proceed with the flow of work. The project manager should possess excellent communication and leadership skills throughout the project life cycle to increase success ratio by optimizing or maximizing the realization of project benefits.

Communication is an essential parameter as a lack of communication will lead to misunderstandings within stakeholders. (Hynds and Martin, 1995) Effective communication by providing proper communication management process will prevent the majority of disagreements and eliminate mistakes, and maximize quality, speed of deliverables, and benefit realization.

Leadership skill is the ability of a PM to direct and manage all involved stakeholders to receive expected deliverables throughout the project to complete the project satisfactorily and successfully. In this research, the main constration was to investigate the contribution of leadership skill on the management process of benefits realization. Benefits realization management process is a new trendy subject in literature as it is a new understanding instead of traditional project success expectations.

LeBlanc (2008) explains that PMs should have this skill to ensure expected deliverables are met at completion. It is a critical skill for a PM as this skill makes a significant difference in project management and benefit realization management process by leading, coaching, motivating, separating relevant issues from irrelevant ones (Benator and Thumann, 2003,p.112) in order to ensure project management and benefit realization management processes are well-taken care.

Thorp (1998) highlights the fact that benefits realization depends on change throughout the process. He believes that only the planned changes can be controlled to take the right course of action. As a well-known fact, organizations are in the tendency to have change to improve their performance, profit, and benefits, therefore change management and related processes getting more essential and critical for organizational development. Change management in a construction project is a process of accepting or declining a change in a project depends on the pros and cons. Underwood (2005) points out that benefits realization and project success is mostly depending on effective change management process. Legris and Collette (2006) highlight the fact that project success and benefits realization throughout the project are linked to the successful integration of the change management process. Therefore change management skills of a PM is highly important for any project management process as well as the BRM process.

To define the desired benefits, planning phase, and related planning skill of project managers are mandatory. Therefore planning skill of project managers positively contribute to any management process consequently BRM process as well. According to the body of literature, planning skills are considered highly important to monitor changes and benefit realization along with the development of plans. (Cserháti & Szabó, 2014, pp. 613-624)

In brief, according to literature review of this research, it is found out that selected soft skills set communication skill, leadership skill, change management skill, and planning skill of project managers contribute the benefits realization management process significantly and positively.

5.2.2 Hypothesis 2: There is a significant influence of communication skill of a PM on the BRM process

Reference to questionnaire and SPSS findings, communication skill, has a positive relationship with the BRM process significantly. Considering the collected data, the external respondents mostly select “strongly agree” and “agree” as per Table 59, where arithmetic mean of communication skill is with average score 1.833 with SD 0.993, average mode is 1 and average mean is not that far from average mode that all prove the participants are in significant belief and acceptance of these statements collected through literature review.

Reference to Table 74 regression results for Communication Skill Factor vs. the BRM Process DV, regarding Pearson Correlation, it is highly significant at the 0.01 level with the BRM Process Global Factor (DV) as Pearson Correlation is 0.742** and $p < 0.01$. According to the model summary, R-value with data 0.742 represents the simple correlation as well, in this case; there is a high degree of correlation in between independent variable communication skill factor and the BRM Process Global Factor. R square value, 0.55 represents the total variation in the DV BRM Process can be explained by the IV communication skill factor. In this case, 55% in the DV BRM process can be explained by the IV communication skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which is expected and in line with the correlation test results. The coefficient table provides relevant information to predict BRM Process and check the contribution of communication skill factor in this case statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $\text{BRM Process} = 4.236 + 3.444 \times (\text{Communication Skill})$. It is noted that B coefficients are positive numbers that mean communication skill positively contributes to the BRM

process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant.

In conclusion, selected soft skill, communication skill of the project manager contributes to the benefits realization management process. Therefore, **Hypothesis 2 is accepted.**

Having known the fact that there is a multinational environment in the UAE construction market, it is expected to have these findings proving the contribution of communication skill on benefit realization management process. The research in this area shows that the body of literature accepts communication skill as the essential soft skills of a PM. (Gibson et al., 2012; Moore et al., 2003; Thomas & Mengel, 2008) Communication skill in the construction industry is more about the ability of PMs to communicate with all involved parties timely and effectively, which positively affects successful completion and expected project outcomes and deliverables to maximize the benefits realization. As a result, effective communication contributes successful completion with expected project outcomes and deliverables to optimize the benefits realization.

Communication skill is one of the key skills for PMs for overall success. Clarke, (2010, pp. 5-20) emphasize the importance of this skill for a PM to develop the relationship between stakeholders. Verma (1996, p.16) states the fact that communication is essential and necessary for the implementation of the hard skills and the knowledge.

To maintain the successful continuity of a project, the project manager should act as a good communicator. (Papke-Shields et al., 2010, pp. 650 - 662) Projects should be well managed with effective communication (Hölzle, 2010, pp. 779-786) as otherwise, lack of communication will lead to

certain misunderstandings. (Hynds and Martin, 1995) Proper communication management process will prevent and minimize the misunderstandings by maximizing the benefits realization.

Effective communication with the team and stakeholders will increase teaming by providing integrated management. (Thomas and Thomas, 2005) Effective communication with stakeholders will minimize the surprises and complains, maximize satisfaction and benefit. Ayuso et al. (2006) highlight the necessity of effective communication to maximize knowledge and benefits realization. It is stressed in the literature that project success depends on the right information usage at the right time and place with the participation of key stakeholders with effective communication. PM is supposed to ask the right question to commence and develop effective communication between stakeholders. (Weinstein and Jaques, 2010; Hynds and Martin, 1995; Hölzle, 2010, pp. 779-786) Gibson et al. (2012,pp.455) highlight the importance of communication skill in the project life cycle since the PM should well understand others, well explain himself, and keep improving his communication skills. (Weinstein and Jaques, 2010)

According to the body of literature, communication skill of a PM is very well supported to meet the expectations and proceed in the right direction; the project manager should possess effective communication skills to increase overall success by optimizing or maximizing the realization of project benefits. Consequently, according to the literature review of this research, it is concluded that communication skills set of project managers contributes to the benefits realization management process positively.

5.2.3 Hypothesis 3: There is a significant influence of leadership skill of a PM on the BRM process

Reference to questionnaire and SPSS findings, leadership skill of construction PMs have a positive relationship with the BRM process at a significant level. Considering the collected data, the external respondents mostly select “strongly agree” and “agree” as per Table 59, average value of mean for the selected soft skill leadership skill where arithmetic mean of leadership skill is with average score 1.50 with SD 0.86, average mode scores 1 and average mean is not much far from ordinary mode that all prove the participants are in significant belief and acceptance of these statements collected through literature review.

Considering Table 75 regression results output for Leadership Skill Factor vs. BRM Process DV regarding Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.829** and $p < 0.01$. According to the model summary, R-value with data 0.829 represents the simple correlation as well in this case; there is a high degree of correlation in between independent variable leadership skill factor and BRM Process Global Factor. R square value, 0.687 represents the IV leadership skill factor can explain the total variation in the DV BRM Process. In this case, 68.7% in the DV BRM process can be explained by the IV leadership skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, regression equation fits the data, statistical significance p which is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process, in this case, clarifies the contribution of leadership skill factor statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is BRM Process = $4.363 + 2.509 \times (\text{leadership skill})$. It is noted that B coefficients are positive numbers that

mean leadership skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant.

In conclusion, selected soft skill, leadership skill of the project manager contributes to the benefits realization management process. Therefore, **Hypothesis 3 is accepted.**

In the UAE construction industry, it is mainly expected from any construction project to receive high-level quality, completion within challenging time, and limited budget. Moreover, it is also highly expected to have all involved stakeholders satisfaction, including end users and operations. Therefore leadership skill contribution for any management process is highly demanded. As a result of this research, it is recorded that leadership skill is one of the strongest selected soft skill contributing to benefit realization process. This result is expected since for any management process; leadership skill is the core and mandatory skill of a PM.

According to the body of literature, leadership is the most researched soft skill as it is commonly accepted in the literature as one of the most critical skills for a PM to deliver the project with expected benefits. (Ellis, 2016; Fisher, 2011; Dyett, 2011; Geoghegan & Dulewicz, 2008; Zimmerer & Yasin, 1998) Leadership is commonly accepted in the body of literature as one of the most important soft skill for a PM as well to deliver the project with expected outcomes and ensure planned benefits are timely realized. (Ellis, 2016; Fisher, 2011; Dyett, 2011; Geoghegan & Dulewicz, 2008; Zimmerer & Yasin, 1998) Leadership skill contribution to project management is still under investigation deeper and more comprehensive. (Leban & Zulauf, 2004, pp. 554-564) Leadership skill vs. project performance topic is highly trendy, and recent researches are getting concentrated on this phenomenon. (Turner & Muller, 2005; Geoghegan & Dulewicz, 2008; Clarke, 2010)

Leadership skill is the ability of a PM to lead and manage all involved parties effectively and efficiently. In this research, the main concentration is to investigate the contribution of leadership skill on the management process of benefits realization. According to Ellis (2016, p. 61) PM by having a charismatic personality shares his vision with his team and inspires them by creating a trustworthy workplace. PMs are expected to courage his team members to take the initiative and risk by motivating them to be creative and innovative. PM should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos (Verma, 1996, p.229; Zimmerer & Yasin, 1998) Zimmerer & Yasin (1998, p.31) explain the leadership skill of a PM as ability to cope with internal matters and external strategies. PM courage team members to take the initiative and risk by motivating them to be creative and innovative. (Fisher, 2011; Ellis, 2016) According to Fisher (2011) PMs with their leadership skill are expected to show a high-level motivation to others to ensure they are more creative and innovative. Fisher (2011) adds that the necessity of applying the right leadership style depends on the situation like situational, transitional, visionary, or charismatic. He also emphasizes that PMs with leadership skill should possess directive and demanding behaviors rely on the reaction of team members to ensure his directions are well followed.

According to the research conducted by Turner & Müller (2005), it is proved that leadership has a direct impact on the project. Leadership skill is one of the most critical skill of a PM as leadership skill make a vast difference in project management and benefit realization management process by leading, coaching, motivating, separating relevant issues from irrelevant ones, (Benator and Thumann, 2003,p.112) and proving effective change management process (Verma, 1996,p.229) in order to ensure project management and benefit realization management processes are appropriately implemented.

To sum up, leadership skill is a compulsory skill for any PM to ensure any management process is implemented effectively and efficiently. Contribution of leadership skill on any management process is well supported in the literature. Therefore, we can also conclude that selected soft skill, leadership strongly and positively contributed benefit realization management process.

5.2.4 Hypothesis 4: There is a significant influence of change management skill of a PM on the BRM process

Reference to questionnaire and SPSS findings, change management skill has a positive relationship with benefits realization management process significantly. Considering the collected data, the external respondents mostly select “strongly agree” and “agree” as per Table 59, arithmetic mean of change management skill is with average score 1.59 with SD 0.79, average mode is 1 and average mean is not that far from mode that all prove the participants are in significant belief and acceptance of these statements collected through literature review.

Reference to Table 76 regression results for Change Management Skill Factor vs BRM Process DV, regarding Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.813** and $p < 0.01$. According to model summary R-value with data 0.813 represents the simple correlation as well, in this case there is a high degree of correlation in between independent variable change management skill factor and BRM Process Global Factor. R square 0.661 value represents the total variation in the DV BRM Process can be explained by the IV change management skill factor. In this case, 66.1% in the DV BRM process can be explained by the IV change management skill factor, which is considerably high. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. According to ANOVA output, the regression equation fits the data, statistical significance p is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of change management skill factor in this analyze statistically significantly contributes to the model. B coefficients explain us the value of the regression line. According to output, the regression equation is $BRM\ Process = 0.389 + 3.578 \times (Change\ Management\ Skill)$. It is noted that B coefficients are positive numbers that mean change management

skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means statistically significant. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant.

In conclusion, selected soft skill, change management skill of project manager contribute to the benefits realization management process. Therefore, **Hypothesis 4 is accepted.**

The results are expected as in the nature of benefits realization process; change management is a mandatory process. Therefore, it is clear to understand the positive contribution of change management skill of project managers on benefit realization management process. Change management in construction projects is a process of accepting or declining a change in a project subject to the pros and cons of the change. It is emphasized in the literature that benefits realization and project success is mostly depending on effective change management process. (Underwood, 2005) Legris and Collette (2006) highlight the fact that project success and benefits realization throughout the project are linked to the successful integration of the change management process.

Thorp (1998) clarifies the change management holistically to change the current state to the desired state to meet desired objectives. According to Dharmaraj et al. (2006, p.512), the change management process is explained as a tool to manage changes for the project. According to APM (2012, p.8), this skill is explained in a structured way to change the current state of organization to the desired future level.

Change management is important as it may affect project time, cost, and quality parameters. (PMI, 2004; IPMA 2015e) Due to the importance of change management process, change management skill of a project manager highly critical and important. It can be described as one of the core skill of project

manager to delegate members in the change management process effectively and efficiently for the ultimate objectives. (IPMA 2015e, p.185)

Thorp (1998) highlights the fact that benefits realization depends on change throughout the process. He also states that only the planned changes can be controlled to take the right course of action. As a well-known fact, organizations are in the tendency to have change to improve their performance, profit, and benefits, therefore change management and related processes getting more essential and critical for organizational development.

Nowadays, organizations invest in change internally and externally to keep continuity in growth and adapt themselves to new evolving environments and expectations. (Bradley, 2006) Changes should be effectively implemented; new changes should be identified, managed, and implemented to meet the organizational goals. (Bradley, 2006; Ward and Daniel, 2006) Therefore change management skill of a PM is highly important as PMs are holding the ultimate responsibility for the project.

Consequently, we can conclude that the selected change management skill of PMs positively contributes to the benefits realization management process to ensure benefit realization is appropriately managed, and the benefits and outcomes are maximized.

5.2.5 Hypothesis 5: There is a significant influence of planning skill of a PM on the BRM process

Reference to questionnaire and SPSS findings planning skill of construction project managers has a positive relationship with the BRM process significantly. Considering the collected data, the external respondents mostly select “strongly agree” and “agree” as per Table 59, arithmetic mean of planning skill is with average score 1.62 with SD 0.79, average mode at 1 and average mean scores not that far from average mode that prove the participants are in significant belief and acceptance of this statement collected through literature review.

Regarding Table 77 regression results for Planning Skill Factor vs. BRM Process DV, reference to Pearson Correlation, it is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.784** and $p < 0.01$. According to the model summary, R-value with data 0.784 represents the simple correlation as well, in this case; there is a high degree of correlation in between independent variable planning skill factor and BRM Process Global Factor. R square value 0.614 represents the total variation in the DV, BRM Process can be explained by the IV planning skill factor. In this case, 61.4% in the dependent variable BRM process can be explained by the planning skill which is a considerably high skill factor. ANOVA table and F tests tell us whether the regression model explains the statistical significance of the variance in other words how well the dependent variable is predicted by the regression model significantly. ANOVA output confirms that the regression equation fits the data, statistical significance p is less than 0.05 that means it is good to fit for the collected data and our model predicts the outcome accurately which was expected and in line with the correlation test results. The coefficient table provides us relevant information to predict BRM Process and check for the contribution of planning skill factor, in this case statistically significantly contributes to the model. B coefficients explain the value of the regression line. According to output, the regression equation is $\text{BRM Process} = 1.346 + 4.506 \times (\text{Planning Skill})$. It is noted that B coefficients are positive numbers that mean planning skill positively contributes to the BRM process. The “Sig” column and p-value show the statistical significance as the value is less than 0.05 that means it is statistically significant. T-Test also provides us a statistically significant contribution to the predictive variable as seen it is statistically significant.

In conclusion, selected planning skill of a project manager positively contribute to the benefits realization management process; therefore, **Hypothesis 5 is accepted.**

This hypothesis test result is expected, considering the fact that the planning process is one of the core processes in the BRM process. To define the desired benefits, planning phase, and related planning skill of project managers are mandatory. Therefore planning skill of project managers affects and positively contributes to any management process consequently BRM process as well. According to the body of literature, planning skills are considered highly important to monitor changes and benefit realization along with the development of plans. (Cserháti & Szabó, 2014, pp. 613-624)

Planning skills of a PM is an ability to gather, prepare and plan to meet desired deliverables throughout the project, in other words, it is the ability to manage the planning, scheduling and controlling process as these are directly related with the success of the project. (Leban & Zulauf, 2004, pp. 554-564)

According to the literature review, planning techniques are required for effective project management. (Bourne & Walker, 2004, pp. 226-243) Planning skill is a trait of a PM to plan, organize, and transfer this skill into the management field. (Gaddis, 1959, pp. 29-97) In other words, planning skill is more related to the character of a PM on planning and organizing. Planning skill of a PM is the ability to take preventive action before something happens to eliminate problems, and crises in advance. (Gaddis, 1959, pp. 29-97) Planning is an essential skill of a project manager to receive desired deliverables throughout the project. Planning is required to establish a way to realize business benefits. (Ward et al., 1996; Bennington and Baccarini, 2004)

In conclusion planning skills of project managers positively contributes to the benefits realization management process as it is well supported by literature and conducted questionnaire data analysis.

5.3 Discussions of Research Questions

5.3.1 Do the project managers soft set of skills affect the BRM process?

There is comprehensive support witnessed in the literature review detailed in earlier chapters for the contribution of soft skills of PMs throughout the project life cycle. The research on this area is growing, and the importance of soft skills of PMs are getting better understood.

PMs are accepted as the most important stakeholder for the project. PMs have critical responsibilities to make sure projects are getting completed successfully (Turner, 2008), and the project manager is the main one influence other stakeholders to create a win-win situation. (Melymuka, 2000) Therefore, project managers are commonly accepted as the most crucial member in the construction life cycle to ensure all involved stakeholders are well satisfied with project outcomes. Zhang et al. (2013, pp. 195-207) highlight that personal characteristics of project managers are highly crucial for the execution of project management and it is commonly accepted that soft skills of PMs are compulsory for successful project implementation. (Thomas & Mengel, 2008) According to literature, interpersonal skills of PMs are mandatory. (Beale & Freeman, 1991, p.28) PMs should possess the right soft skills set (Crawford, 2005) to maximize the benefits realization to ensure projects are getting completed with desired stakeholder satisfaction. The PMs are interacting as a critical stakeholder in a human-oriented environment. Therefore, soft skill competencies are, therefore, mandatory to manage and coordinate the hard skill and the rest of the team. (Radford, 2008) Stevenson & Starkweather (2010, p.667) argue that soft skills are the essential skills for a PM. Scholars also agree that project managers are the one leading all their skills to influence others for the success of the project. (Brewer, 2005) Soft skill competencies are now accepted as a prerequisite for the productive and successful project management process. (Corcoran, 1997) therefore there must be the direct contribution of soft skills of project managers on any management process throughout project life cycle including benefits realization management process.

In addition to above literature support, the findings of conducted research and analysis detailed in chapter 4 shows that there is a high-level correlation in between selected soft skills (communication, leadership, change management and planning skills) global factor as the correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.882** and $p < 0.01$. According to the model summary, R-value with data 0.882 represents the simple correlation as well in this case; there is a high degree of correlation in between independent variable Soft Skills (IV) Global Factor and BRM Process (DV) Global Factor. R square value represents the total variation in the dependent variable BRM Process (DV) Global Factor can be explained by the independent variable Soft Skills (IV) Global Factor. In this case, 77.9% in the dependent variable BRM Process (DV) Global Factor can be explained by Soft Skills (IV) Global Factor, which is considerably high. Therefore according to the conducted research, the findings answer the research question as selected soft skills of project managers affects the BRM process.

In conclusion, reference to both literature review and conducted study, it is well supported that selected soft skills of project managers positively contribute to the benefits realization management process.

5.3.2 What are the major soft skills set required by PMs to manage the BRM process?

According to the literature review and conducted research, the findings discussed in chapter 2 and 4 show that communication skill, leadership skill, change management skill and planning skill have positive contribution and have a statistically significant relationship with benefits realization management process.

According to the literature review examined in chapter 2, communication skill is found as an important parameter as a lack of communication will lead to misunderstandings within stakeholders. (Hynds and

Martin, 1995). Effective communication, proper communication management process will prevent misunderstandings by eliminating mistakes and maximizing the benefits realization.

Similarly, it is found out that leadership skill is considered as the mandatory skill of a PM as this skill makes a significant difference in project management and benefit realization management process by leading, coaching and motivating (Benator and Thumann, 2003,p.112). Moreover this skill provides an effective change management process (Verma, 1996,p.229) to ensure project management and benefits realization management processes are well-taken care.

Thorp (1998) highlights the fact that benefits realization depends on change throughout the process. Underwood (2005) points out that benefits realization and project success is mostly depending on effective change management process. Legris and Collette (2006) highlight the fact that project success and benefits realization throughout the project are linked to the successful integration of the change management process. Change management process is essential, therefore change management skill of a PM is highly critical and vital. PM is supposed to delegate team members in the change management process effectively and efficiently to attain the ultimate objectives. (IPMA 2015e, p.185)

Planning phase and related planning skill of project managers are mandatory to define the desired benefits. Therefore planning skill of project managers affects and positively contribute any management process as well as the BRM process. According to the body of literature, planning skills are considered highly important to monitor changes and benefit realization along with the development of plans. (Cserhádi & Szabó, 2014, pp. 613-624)

Consequently, according to the literature review of this research, selected soft skills set communication, leadership, change management, and planning skills of PMs are the major ones that contribute to the BRM process.

5.3.3 What is the correlation between selected soft skills of project managers and the BRM process?

Correlation stands for the level of relationship between variables, and it represents the significance and strength of the relationship. Pearson correlation value is used to explain the level of relationship between selected soft skills of PMs factors and BRM process.

Correlation stands for the strength of any relationship between variables, along with significance. Pearson correlation value is used to explain the correlation between selected soft skills of project managers factors and benefit realization management process global factors. According to the conducted questionnaire, the findings for the correlation check is provided as below:

- Communication Skill Factor correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.742** and $p < 0.01$
- Leadership Skill Factor correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.829** and $p < 0.01$
- Change Management Skill Factor correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.813** and $p < 0.01$
- Planning Skill Factor correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.784** and $p < 0.01$
- Soft Skill Global Factor correlation is highly significant at the 0.01 level with BRM Process Global Factor (DV) as Pearson Correlation is 0.882** and $p < 0.01$

5.3.4 Which of the soft skills are the most critical on BRM process?

Reference to Chapter 4, Multiple Linear Regression Results, Soft Skills Factors vs. BRM Process DV Global Factor analysis, as per the conducted research in UAE, the findings can enable us to interpret and find out the most important independent variable for dependent variable BRM process. The Beta coefficients enable us to check the relative strengths of the predictor factors. In this model, Leadership Skill factor has the most effect on the dependent variable with compare to other independent variables as standardized Beta value is higher than others. Second, third, and fourth independent variables are respectively change management skill, plan skill, and communication skill.

Chapter 6: SUMMARY, CONCLUSION, AND RECOMMENDATION

6.1 Introduction

Chapter 6 provides an overall summary for findings, conclusion, recommendation, limitation, and suggestion for future researchers along with the contribution of this study.

6.2 Summary of findings

The aim is to contribute the literature by examining the relationship between selected soft skills and BRM process to understand what are the major soft skills set of PMs and how those soft skills influence the BRM process by investigating the relationship between selected soft skills set of PMs and BRM process in the construction industry in UAE.

The objective is to explore literature by examining the relationship between selected soft set skills of PMs and BRM empirically to provide a strong recommendation for future researches.

Literature review of this study is the qualitative part, which is provided in Chapter 2. Major soft skills of PMs are listed and detailed as well as the BRM process and related phases are discussed. Along with Chapters 3 and 4, the descriptive research design is considered as quantitative part of this research to explain variations in the DV, BRM process. A questionnaire with quantitative six-point Likert scale is selected as a research tool in order to gather the required data along with non-probability/convenience sampling technique through the selected population. Questionnaires have been distributed to consultants and contractors in the construction industry in UAE. SPSS has been conducted for the statistical analysis of this research in order to interpret the collected sufficient data.

The hypothesis is tested, and research questions are addressed with detailed findings qualitatively & quantitatively and presented in Chapter 5.

6.3 Conclusion & Recommendation

The project management concept is under revolution as scholars and practitioners are working hard to boost the project management field against increasing expectations of clients, stakeholders, and end users.

This research is investigating both evolving topics of soft skills of PMs and BRM process. Soft skill concept is a new trending subject and importance of soft skills of PMs are getting well understood nowadays in the management field as previously the main discussion in literature was mainly on the hard skills of PMs. Similarly, the BRM process is a trending topic. In project management field, value creation is in replacement of product creation, and it is now getting commonly accepted by scholars and practitioners as the traditional “Iron Triangle” concept (time, cost, and quality) is not anymore sufficient; (Atkinson, 1999) therefore project success criteria is getting replaced with the benefits realization management process.

BRM is a management process to extract the value out of a project to make sure the desired value is received, expected results are achieved as planned, and evolving benefits are realized. The ultimate aim of BRM is to support organizations to achieve the desired values based on organizations objectives and strategies. (Serra & Kunc, 2014) Although the majority of organizations' maturity level of benefits realization has not yet fully developed, in all type of organizations and different disciplines and professions, the BRM concept is now becoming more popular. (Breese, 2012, p. 341)

The leading authors Reiss et al. (2006) define BRM as a process of benefit maximization due to change implication. BRM has been getting recognized by organizations, especially since 1995, having known the fact that success definition and criteria for success are getting replaced with benefits realization concept. Effective from 2000s, BRM takes more attention in literature with compare to earlier weak success definition. (Laursen & Svejvig, 2016, p.740) Ward & Daniel (2006) suggest benefit realization management process and stages that consist of "Benefit Identification," "Benefits Realization Planning," "Execute Benefit Realization Plan & Monitor," and "Benefit Evaluation & Establish Potential for Further Benefits" which are commonly accepted in the body of literature. Parr and Williams (2007) state that BRM is highly critical and essential to meet strategic objectives through projects. General acceptance in the literature review is the necessity to integrate the BRM process in project management life cycle. (OGC, 2003; Cooke-Davies, 2001; Ward et al., 2006)

To have a competitive place in the market, organizations are also keen to establish a proper management system to make sure projects are getting lead successfully with realized benefits and expected outcomes. (Medina & Medina, 2014, p.1459) Companies are nowadays, funding and investing in finding the correct way of the management process to get a competitive place for themselves in this growing market with great enthusiasm for maximizing their profit and return of investments.

Maximizing the realized benefits throughout the project is highly important for any business and organizations in the global market. Bradley (2006) states that organizations invest in change; they

change internally and externally in order to keep continuity in growth and adapt themselves to new evolving expectations. To achieve this, changes should be effectively adopted; new changes should be identified, managed, and implemented to meet the organizational goals. (Bradley, 2006; Ward and Daniel, 2006) Therefore organizations are in the tendency to have change to improve their performance, profit, and benefits; therefore BRM process along with change management process is getting more important and critical for organizational development.

Effectiveness of the project manager becomes another trending topic discussed in this research due to the fact that organizations are applying project-based management approach under the control of project managers. Fundamental skills of the PMs are explained with the right combination of hard and soft skills, which is the general acceptance of scholars and practitioners. Blackburn (2002, pp. 199-204) believes that technical skills and body of knowledge should be developed over interpersonal and managerial skills. Although earlier hard skills which are more related to professional knowledge considered as primarily crucial for projects, nowadays the importance of soft skills is getting well understood and the relevant discussion becomes more popular in literature.

Literature review states that PMs are the main responsible party from start to end of a project. PMs are supposed to manage and complete the projects within expected parameters (Saynisch, 2010, pp.21-37) to ensure stakeholders are experiencing desired benefits. El-Sabaa (2001, pp. 1-7) highlights the fact that project managers, during their course of action, face different types of challenges and difficulties. Therefore to meet the project requirement, project managers are supposed to demonstrate required competencies such as but not limited with knowledge, tools, and techniques which are related to hard skills. (PMI, 2013a, p.4). PMI (2013a, pp. 15-18) states that in addition to these hard skills, personal skills, which are called soft skills, are highly necessary and mandatory. PMs while they are handling matters such as scheduling and risk management use their hard skills and technical knowledge, but they use soft skills throughout the project for the success of projects.

Nowadays, soft skill concept is further developed, and it is getting better understood that soft skills which are related with interpersonal skills of PMs positively influence project success and benefit realization more than hard skills. (Lechler, 1998) Similarly, El-Sabaa (2001, pp. 1-7) highlights that interpersonal skills have a significant impact on the project management process. Turner & Muller (2006) state that hard skills do not contribute to the success rate of the project as much as soft skills. Furthermore, competencies of project managers have been found highly critical for benefits realization and ultimately, for the success of the project. (Zhang et al., 2013, pp.195-207)

PMs are interacting as key stakeholders in a human-oriented environment; therefore, soft skill competencies are mandatory in order to manage and coordinate the hard skill and the rest of the team. (Radford, 2008). Stevenson & Starkweather (2010, p.667) argue that soft skills are necessary skills for a PM. Scholars also agree that PMs are the one leading all their skills in order to influence others for the success of the project. (Brewer, 2005) Soft skill competencies are now accepted as a prerequisite for the productive and successful project management process. (Corcoran, 1997) Therefore there must be a direct contribution of soft skills of PMs on any management process throughout the project life cycle, including the BRM process.

PMs should possess the required set of soft skills as well as hard skills. Therefore, soft skills set should be well understood and investigated further for effective implementation of the BRM process. Blackburn (2002, pp. 199-204) believes that technical skills and body of knowledge should be developed over interpersonal and managerial skills.

Along with this study, soft skills of project managers are getting analyzed over selected primary soft skills set, communication, leadership, change management skill and planning skill which are firmly accepted soft skills in literature review and found highly correlated with BRM process with a pilot check. The aim is to explore contribution of those selected soft skills on BRM process and related BRM

phases which are also commonly accepted in literature listed as “Benefit Identification”, “Benefit Realization Planning”, “Execute Benefit Realization Plan & Monitor”, and “Benefit Evaluation & Establish Potential for Further Benefits” to test the hypothesis of this research and answer the research questions which was detailed in Chapter 5.

Following the literature review, a survey is conducted over population selected from UAE construction market with the attendance of project managers in order to check the correlation of selected soft skills with BRM process..

According to findings of this research based on literature review discussed in Chapter 2 and statistical analysis over collected data in Chapter 4, it is recorded that selected skills set (communication skill, leadership skill, change management skill and planning skill) of PMs contribute the BRM process positively. The significant influence of selected soft skills of a project manager on benefit realization management process is proved in Chapter 4, statistically based on the findings in the literature review discussed in Chapter 2 as expected.

In this research, in addition to the check of soft skills contribution over BRM at the global level, each soft skill relation also investigated and analyzed concerning BRM.

This research proves that there is a significant influence of the communication skill of a PM on the BRM process. There is a multinational environment in the UAE construction market. Therefore it is expected to have such findings proving the contribution of communication skill on benefit realization management process. The research in this area shows that the body of literature accepts communication skill as one of the essential soft skills for a PM. (Gibson et al., 2012; Moore et al., 2003; Thomas & Mengel, 2008) Communication skill in the construction industry is more about the ability of PMs to communicate with all involved parties timely and effectively, which positively affects successful

completion and expected project outcomes and deliverables to maximize the benefits realization. As a result, effective communication contributes successful completion with expected project outcomes and deliverables that maximize the benefits realization. Communication skill is one of the key skills of PMs for overall success. Verma (1996, p.16) states the fact that communication is essential and necessary for the implementation of hard skills and knowledge.

To have a successful project implementation, PM should act as an excellent communicator. (Papke-Shields et al., 2010, pp. 650 - 662) Projects should be well managed with effective communication. (Hölzle, 2010, pp. 779-786). Communication is important parameters with stakeholders as a lack of communication will lead to misunderstandings. (Hynds and Martin, 1995) Close and transparent communication by providing proper communication management process will prevent misunderstandings and maximize the benefits realization.

Effective communication with the team and stakeholders will increase teaming and provide integrated management, understanding, and knowledge. (Thomas and Thomas, 2005) Moreover, effective communication with stakeholders will minimize the surprises and complains, maximize satisfaction and benefit. Ayuso et al. (2006) highlight the necessity of effective communication between stakeholder to stakeholder, stakeholder to the organization, and knowledge integration with stakeholders to maximize knowledge and benefits realization. It is stressed in the literature that project success depends on the right information usage at the right time and place with the participation of key stakeholders with effective communication and decision-making process. PM has the utmost responsibility by asking the right question in order to commence and develop effective communication between stakeholders. (Weinstein and Jaques, 2010; Hynds and Martin, 1995; Hölzle, 2010, pp. 779-786) The PM should well understand others, well explain himself, and keep improving his communication skills. (Weinstein and Jaques, 2010) Consequently, according to the literature review of this research, it is found out that the

communication skills of project managers contribute to the benefits realization management process positively.

This research confirms the strong influence of the leadership skill of a PM on the BRM process. In the UAE construction industry, it is expected from any construction project to receive high-level quality with completion expectation within time and budget. Moreover, it is also highly expected to have involved stakeholders satisfaction, including end users and operations. Therefore leadership skill contribution for any management process is highly demanded. As a result of this research, it is recorded that leadership skill is one of the most influential soft skill contributing to the BRM process. This result is expected for any management process as well as management of the BRM process since leadership skill is the core skill and considered as mandatory.

According to the body of literature, leadership is the most researched soft skill, and therefore leadership skill contribution in project management field is always under investigation deeper and more comprehensive. (Leban & Zulauf, 2004, pp. 554-564) Leadership skill vs. project performance topic is highly trendy and recent researches are getting concentrated on this phenomenon. (Turner & Muller, 2005; Geoghegan & Dulewicz, 2008; Clarke, 2010) Leadership Skill is ability of a PM to direct and manage all involved stakeholders in order to receive expected deliverables throughout the project to complete the project successfully. In our research, the main concentration was to investigate the contribution of leadership skill on the management process of benefits realization. According to Ellis (2016, p. 61), project manager by having a charismatic personality shares his vision with his team and inspires them by creating a trustworthy workplace. Project managers courage team members to take the initiative and risk by motivating them to be creative and innovative. Project Manager should have leadership skill and ability to cope with any difficulties effectively to keep the project out of chaos. (Verma, 1996, p.229; Zimmerer & Yasin, 1998) Project Manager courage team members to take the initiative and risk by motivating them to be creative and innovative. (Fisher, 2011; Ellis, 2016)

According to Fisher (2011) project managers with their leadership skill are expected to show a high-level motivation to others to ensure they are more creative and innovative. Fisher (2011) adds the necessity of applying the right leadership style depends on the situation like situational, transitional, visionary, or charismatic. He also emphasizes that project managers with leadership skill should possess directive and demanding behaviors depend on the reaction of team members to ensure his directions are well followed.

According to the research conducted by Turner & Müller (2005), this skill has a direct impact on the project and project accomplishment. Leadership skill of a PM is highly critical and vital for a project manager as the leadership skill make a great difference in project management and benefit realization management process by leading, coaching, and motivating. (Benator and Thumann, 2003,p.112)

Consequently, the leadership skill of project managers is a compulsory skill for any project manager to ensure that any management process is implemented effectively and expectedly. Contribution of leadership skill on the project management process is well supported in the literature. Therefore, we can also conclude that selected soft skill leadership skill strongly and positively contributes to the BRM process.

Along with this research, the significant influence of change management skill of a PM on the BRM process is also proved. In the nature of benefits realization process, change management is a mandatory process. Therefore, the positive influence of change management skill of PMs on the BRM process is expected. Change management in a construction project is a process of accepting or declining a change in a project, subject to the pros and cons of the change. It is emphasized in the literature that benefits realization and project success is mainly depending on effective change management process.

(Underwood, 2005) Legris and Collette (2006) highlight the fact that project success and benefits

realization throughout the project are linked to the successful integration of the change management process.

Thorp (1998) clarifies the change management holistically to change the current state to the desired state to meet desired objectives. According to Dharmaraj et al. (2006, p.512), the change management process is explained as a tool to manage changes for the project. According to APM (2012, p.8), this skill is explained in a structured way to change the current state of organization to the desired future level. Change management is important as it may affect project time, cost, and quality parameters. (PMI, 2004; IPMA 2015e) Change management skill of a PM is highly critical and important as importance of change management process is already proven in literature. This skill can be described as one of the core skill of a PM to delegate members in the change management process effectively and efficiently for the ultimate objectives. (IPMA 2015e, p.185) Thorp (1998) highlights the fact that benefits realization depends on change throughout the process. As a well-known fact, organizations are in the tendency to have change to improve their performance, profit, and benefits, therefore change management and related processes getting more important and critical for organizational development.

Nowadays, organizations invest in change internally and externally in order to keep continuity in growth and adapt themselves to new evolving expectations. (Bradley, 2006) Changes should be effectively adopted; new changes should be identified, managed, and implemented to meet the organizational goals if necessary by adopting the organizational strategy.

Consequently, we can conclude that selected change management skill of project managers positively contributes to the benefits realization management process in order to ensure benefit realization is appropriately managed, and desired outcomes are well received.

This research proves that there is a significant influence of planning skill of a project manager on the benefits realization management process. The result of hypothesis is expected because the planning process is one of the core processes in the BRM. In order to define the desired benefits, planning phase, and related planning skill of project managers are mandatory. Therefore planning skill of project managers affects and contributes to any management process consequently BRM process as well. According to the body of literature, planning skills are considered highly important to monitor changes. (Cserhádi & Szabó, 2014, pp. 613-624). Planning skills of a PM is an ability to gather, prepare and plan to meet desired deliverables, in other words, it is the ability of a PM to manage the planning, scheduling and controlling processes as these are directly related with success of the project. (Leban & Zulauf, 2004, pp. 554-564) According to the literature review, planning techniques are required for effective project management. (Bourne & Walker, 2004, pp. 226-243) Planning skill is a trait of a PM to plan, organize, and transfer this skill into the management field. (Gaddis, 1959, pp. 29-97) In other words, planning skill is more related to the character of a project manager on planning and organizing. The planning capability of a PM is the ability to take preventive action before something happens to eliminate problems, and crises in advance. (Gaddis, 1959, pp. 29-97) Planning is a mandatory skill to cross checked desired deliverables are well received throughout the project.

In conclusion planning skills of project managers positively contributes to the benefits realization management process as it is well supported by literature and conducted research analysis.

This study investigates the importance and contribution of soft skills over benefit realization management process. Reference to Chapter 4, Multiple Linear Regression Results, Soft Skills Factors vs. BRM Process DV Global Factor analysis, the findings can enable us to interpret and find out the most important independent variable for dependent variable BRM process. The Beta coefficients enable to check the relative strengths of the predictor factors. In this model, Leadership Skill factor has the

most effect on benefit realization management process. Second, third, and fourth soft skills respectively change management skill, planning skill, and communication skill.

This research is significant as it is linking two evolving subjects and investigating the effect of selected soft skills competencies of project managers over benefit realization management process.

This study will enable companies and organizations to take more attention to the soft skills required for their PMs. It is noted along with this study it is concluded that it is necessary to have a proper mix of soft and hard skills for a PM to maximize the effectiveness of PM in the project management field. Therefore companies and organizations shall pay enough attention for the soft skills of their PMs not only at the selection stage but also during their service period as organizations shall provide the necessary training for their PMs to increase their soft skills abilities. Similarly, project managers and project managers candidates will also take the advantage of this study as they will get to know the fact that they are working within the human environment and without soft skill contribution, hard skills solely not enough for their ultimate success. PMs and PM candidates should understand that they should have necessary soft skills while implementing their hard skills and knowledge; therefore, they are expected to pay enough attention for the development of their soft skills rather than full focus on the improvement of their hard skills. In the project management field, the awareness of soft skill competencies are increasing. Therefore, development and training should take place for project managers in their entire career.

This research study will also contribute to the necessity of benefits realization management process for construction projects as success criteria, and the iron triangle is no more valid. This study will increase awareness of companies and organizations for benefits realization management and related phases and will discipline project management process with the involvement of benefits realization management in

order to make sure desired value, output, outcome of a project is guaranteed as planned and evolving benefits are captured and realized timely and effectively.

This study proves, the positive correlation in between selected soft skills of PMs and BRM process in the construction sector in the United Arab Emirates which has not been investigated in literature before and therefore this research certainly will be a drop of knowledge in the related field for any future study and future researchers.

Along with this study, there are some limitations discussed in the following section.

6.4 Limitations

There are some limitations of this research as first of all, the scope of the study is limited with selected soft skills, which are communication, leadership, change management, and planning skills. These skills are firmly accepted in the literature review, and they are found highly correlated with the BRM process, as discussed in earlier chapters. As per the conducted pilot study, only highly correlated soft skills with respect to the BRM process are selected for this study. However, this study shall be further enhanced by future researchers considering other soft skills and personal traits of project managers in relation to the BRM process and phases. Similarly, hard skills and knowledge contribution are not explored and shall be further investigated with or without soft skills contribution.

Participant of this research is 100% UAE residents; therefore, study more relevant to UAE. Moreover, this research is limited to the construction sector. The same subject shall be further investigated with other trades and industries in different locations as well.

The mediating variables are not considered but shall be further considered in future researches.

6.5 Suggestions

The below list of suggestions shall be considered for future researches and investigations:

- The main scope of the study is limited with selected soft skills. However, this study shall be further enhanced by future researchers considering other soft skills not considered along with other personal traits of project managers in relation to the BRM process and phases
- Similarly, hard skills and knowledge contribution are not explored in this study and shall be further investigated with or without soft skills contribution by future researchers.
- In this research the most common phases of benefits realization management process are considered and extracted from the proposed models in literature which are “Benefit Identification,” “Benefits Realization Planning,” “Execute Benefit Realization Plan & Monitor,” and “Benefit Evaluation & Establish Potential for Further Benefits.” In future researches, any particular model shall be considered to develop the research further.
- BRM process and soft skills of project managers are considered in this study for only the construction industry. However, this investigation shall be applied to other sectors as well.
- The conducted study is limited to the UAE. This research can be the contribution of future studies and shall be applied in different locations.
- Mediating variables are not considered in the research but shall be considered in future researches to enhance the study.
- The data is collected only from selected organizations, To strengthen this study, the number of participants shall be increased, or other research tools and techniques can be applied by future researchers.

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APPENDICES

APPENDIX A: INVITATION TO PARTICIPATE IN QUESTIONNAIRE

About Questionnaire

This research intends to develop literature review considering evolving topics, selected soft skills of project managers and benefit realization management process and investigate further their relationship how soft skill sets of project managers contributes benefit realization management process to fill the identified gap in this area in construction industry in UAE.

The questionnaire will be used to collect the primary data required for this research study. Although there is no right or wrong answer, we only seek your assistance to have your most objective response as open, fair and honest as possible. The researcher assures that no individuals will be identified through responses and all collected data will be confidentially used only for the purpose of this research.

The questionnaire will consist of 3 parts:

Part 1: General Information

Part 2: Selected Soft Skills of Project Managers

Part 3: Benefit Realization Management (BRM) Process

The participants are asked to respond according to Likert scale 1-5 (1-strongly agree; 2- agree; 3- neither agree nor disagree; 4- disagree; 5- strongly disagree)

Thanking you in advance.

Regards,
Researcher

APPENDIX B: QUESTIONNAIRE OF THE RESEARCH

Part 1: General Information

This part of questionnaire seeks general information about participant. Please select the most suitable answer for you.

1.1. What is your gender?

Female

Male

1.2. What is your age?

Under 25

25-34

35-44

45-54

55+

1.3. What is your level of education?

Less Than High School

High School

Bachelor Degree

Master Degree or Above

1.4. In what country do you live?

UAE

Outside of UAE

1.5. Is your company public or private?

Public

Private

1.6. Which of the following best describes your current job level?

Owner/Executive/C-Level

Senior Management

Middle Management

Intermediate

Entry Level

Part 2: Selected Soft Skills of Project Managers

This part of questionnaire is about selected major soft skills set of Project Managers through literature review. Please respond according to Likert scale 1-5 (1-strongly agree; 2- agree; 3- neither agree nor disagree; 4- disagree; 5- strongly disagree)

2.1. Please rate influence of communication skill of a project manager on benefit realization management process

2.1.1. Project manager is expected to be a good communicator

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.1.2. Communication skill of a project manager is more related with effective speaking and listening

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.1.3. Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.2. Please rate influence of leadership skill of a project manager on benefit realization management process

2.2.1. Project managers are the influencers by inspiring others with their leadership skill & charismatic personality

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.2.2. Project manager shares his vision with his team and inspire them by creating trustworthy workplace

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.2.3. Project manager courage team members to take initiative and risk by motivating them to be creative and innovative

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.2.4. Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.2.5. Leadership skill of a project manager is ability to cope with internal matters and external strategies

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.3. Please rate influence of change management skill of a project manager on benefit realization management process

2.3.1. Project success and benefit realization throughout the project are linked to successful integration of change management process

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.3.2. Change management is a tool to manage and control changes into a project or into a strategy

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.3.3. Change management is a holistic approach the change the current state to the desired state to meet desired objectives

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.3.4. Change management is important as it may affect project time, cost and quality parameters

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.4. Please rate influence of planning skill of a project manager on benefit realization management process

2.4.1. Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.4.2. Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

2.4.3. Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

Part 3: Benefit Realization Management (BRM) Process

This part of questionnaire is about Benefit Realization Management Process through literature review. Please respond according to Likert scale 1-5 (1-strongly agree; 2- agree; 3- neither agree nor disagree; 4- disagree; 5- strongly disagree)

3.1 Benefit Identification

3.1.1. Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.1.2. Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.1.3. Identified benefits should have clear owner and the line of accountability

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.1.4. Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.2 Benefit Realization Planning

3.2.1. Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.2.2. It is difficult to establish a way to realize business benefits without benefit planning

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.2.3. Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.3. Execute Benefit Realization Plan & Monitoring

3.3.1. Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.3.2. Benefit review and monitoring during execution stage enable to explore new benefits identification

and provide further contribution with lessons learnt

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.3.3. Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.3.4. Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.4 Benefit Evaluation & Establish Potential or Further Benefits

3.4.1. Benefit evaluation is the stage where planned benefits are evaluated whether realized or not

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.4.2. Evaluation process is not only limited with project completion but some may arise during operational period

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.4.3. Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

3.4.4. Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

APPENDIX C: SPSS OUTPUT

Gender of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	6	7.1	7.1	7.1
Male	78	92.9	92.9	100.0
Total	84	100.0	100.0	

Age of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 25-34	5	6.0	6.0	6.0
35-44	49	58.3	58.3	64.3
45-54	26	31.0	31.0	95.2
55+	4	4.8	4.8	100.0
Total	84	100.0	100.0	

Level of Education of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Bachelor Degree	68	81.0	81.0	81.0
Master Degree or Above	16	19.0	19.0	100.0
Total	84	100.0	100.0	

Residence of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid UAE	84	100.0	100.0	100.0

Company Type of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Public	6	7.1	7.1	7.1
Private	78	92.9	92.9	100.0
Total	84	100.0	100.0	

Job Level of Participants

N	Valid	84
	Missing	0

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Owner / Executive / C-Level	4	4.8	4.8	4.8
Senior Management	27	32.1	32.1	36.9
Middle Management	50	59.5	59.5	96.4
Intermediate	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Data related to the contribution of communication skill of project managers on the BRM process

Statistics

	Project manager is expected to be a good communicator	Communication skill of a project manager is more related with effective speaking and listening	Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders
N	84	84	84
Valid			
Missing	0	0	0
Mean	1.56	1.73	2.21
Mode	1	1	1
Std. Deviation	.896	.974	1.109
Sum	131	145	186

Independent Variable, Soft Skill Factors Item #1

Project manager is expected to be a good communicator

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	55	65.5	65.5	65.5
Agree	15	17.9	17.9	83.3
Undecided	11	13.1	13.1	96.4
Disagree	2	2.4	2.4	98.8
Strongly Disagree	1	1.2	1.2	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factor Item #2

Communication skill of a project manger is more related with effective speaking and listening

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	44	52.4	52.4	52.4
Agree	26	31.0	31.0	83.3
Undecided	10	11.9	11.9	95.2
Disagree	1	1.2	1.2	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #3

Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	27	32.1	32.1	32.1
Agree	26	31.0	31.0	63.1
Undecided	20	23.8	23.8	86.9
Disagree	8	9.5	9.5	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Data related to the contribution of leadership skill of project managers on the BRM process

Statistics

		Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	Project manager shares his vision with his team and inspire them by creating trustworthy workplace	Project manager courages team members to take initiative and risk by motivating them to be creative and innovative	Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	Leadership skill of a project manager is ability to cope with internal matters and external strategies
N	Valid	84	84	84	84	84
	Missing	0	0	0	0	0
Mean		1.52	1.54	1.61	1.37	1.46
Mode		1	1	1	1	1
Std. Deviation		.828	.857	1.030	.708	.898
Sum		128	129	135	115	123

Independent Variable, Soft Skills Factors Item #4

Project managers are the influencers by inspiring others with their leadership skill & charismatic personality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	64.3	64.3	64.3
	Agree	20	23.8	23.8	88.1
	Undecided	6	7.1	7.1	95.2
	Disagree	4	4.8	4.8	100.0
	Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #5

Project manager shares his vision with his team and inspire them by creating trustworthy workplace

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	64.3	64.3	64.3
	Agree	20	23.8	23.8	88.1
	Undecided	5	6.0	6.0	94.0
	Disagree	5	6.0	6.0	100.0
	Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #6

Project manager encourages team members to take initiative and risk by motivating them to be creative and innovative

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	53	63.1	63.1	63.1
Agree	21	25.0	25.0	88.1
Undecided	4	4.8	4.8	92.9
Disagree	2	2.4	2.4	95.2
Strongly Disagree	4	4.8	4.8	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item#7

Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	61	72.6	72.6	72.6
Agree	18	21.4	21.4	94.0
Undecided	2	2.4	2.4	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item#8

Leadership skill of a project manager is ability to cope with internal matters and external strategies

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	58	69.0	69.0	69.0
Agree	20	23.8	23.8	92.9
Undecided	2	2.4	2.4	95.2
Disagree	1	1.2	1.2	96.4
Strongly Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Data related to the contribution of change management skill of project managers on the BRM process

Statistics

	Project success and benefit realization throughout the project are linked to successful integration of change management process	Change management is a tool to manage and control changes into a project or into a strategy	Change management is a holistic approach the change the current state to the desired state to meet desired objectives	Change management is important as it may affect project time, cost and quality parameters
N	84	84	84	84
Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.64	1.51	1.73	1.49
Mode	1	1	1	1
Std. Deviation	.845	.703	.841	.768
Sum	138	127	145	125

Independent Variable, Soft Skills Factors Item #9

Project success and benefit realization throughout the project are linked to successful integration of change management process

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	47	56.0	56.0	56.0
Agree	23	27.4	27.4	83.3
Undecided	11	13.1	13.1	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #10

Change management is a tool to manage and control changes into a project or into a strategy

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	50	59.5	59.5	59.5
Agree	26	31.0	31.0	90.5
Undecided	7	8.3	8.3	98.8
Disagree	1	1.2	1.2	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #11

Change management is a holistic approach the change the current state to the desired state to meet desired objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	41	48.8	48.8	48.8
	Agree	28	33.3	33.3	82.1
	Undecided	12	14.3	14.3	96.4
	Disagree	3	3.6	3.6	100.0
	Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item #12

Change management is important as it may affect project time, cost and quality parameters

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	54	64.3	64.3	64.3
	Agree	22	26.2	26.2	90.5
	Undecided	5	6.0	6.0	96.4
	Disagree	3	3.6	3.6	100.0
	Total	84	100.0	100.0	

Data related to the contribution of planning skill of project managers on the BRM process

Statistics

		Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance
N	Valid	84	84	84
	Missing	0	0	0
Mean		1.62	1.51	1.71
Mode		1	1	1
Std. Deviation		.835	.703	.830
Sum		136	127	144

Independent Variable, Soft Skills Factors Item#13

Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	48	57.1	57.1	57.1
Agree	23	27.4	27.4	84.5
Undecided	10	11.9	11.9	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item#14

Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	50	59.5	59.5	59.5
Agree	26	31.0	31.0	90.5
Undecided	7	8.3	8.3	98.8
Disagree	1	1.2	1.2	100.0
Total	84	100.0	100.0	

Independent Variable, Soft Skills Factors Item#15

Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	41	48.8	48.8	48.8
Agree	29	34.5	34.5	83.3
Undecided	11	13.1	13.1	96.4
Disagree	3	3.6	3.6	100.0
Total	84	100.0	100.0	

Dependent Variable, Benefits Realization Management Process as Global Factor: Items of the BRM Process

Data related to Benefit Identification

Statistics

	Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project	Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders	Identified benefits should have clear owner and the line of accountability	Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.
N Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.69	1.81	1.39	1.51
Mode	1	1	1	1
Std. Deviation	.878	1.124	.792	.871
Sum	142	152	117	127

Dependent Variable, the BRM Process Global Factor Item#1

Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	42	50.0	50.0	50.0
Agree	31	36.9	36.9	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#2

Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	45	53.6	53.6	53.6
Agree	22	26.2	26.2	79.8
Undecided	10	11.9	11.9	91.7
Disagree	2	2.4	2.4	94.0
Strongly Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#3

Identified benefits should have clear owner and the line of accountability

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	60	71.4	71.4	71.4
Agree	20	23.8	23.8	95.2
Undecided	1	1.2	1.2	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#4

Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Data related to the Benefits Realization Planning

Statistics

	Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members	It is difficult to establish a way to realize business benefits without benefit planning	Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit
N Valid	84	84	84
Missing	0	0	0
Mean	1.40	1.55	1.69
Mode	1	1	1
Std. Deviation	.838	.897	.878

Dependent Variable, the BRM Process Global Factor Item#5

Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	62	73.8	73.8	73.8
Agree	15	17.9	17.9	91.7
Undecided	4	4.8	4.8	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#6

It is difficult to establish a way to realize business benefits without benefit planning

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#7

Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	42	50.0	50.0	50.0
Agree	31	36.9	36.9	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Data related to Execute Benefits Realization Plan & Monitoring

Statistics

	Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated	Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt	Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages	Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets
N	84	84	84	84
Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.81	1.39	1.51	1.40
Mode	1	1	1	1
Std. Deviation	1.124	.792	.871	.838
Sum	152	117	127	118

Dependent Variable, the BRM Process Global Factor Item#8

Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	45	53.6	53.6	53.6
Agree	22	26.2	26.2	79.8
Undecided	10	11.9	11.9	91.7
Disagree	2	2.4	2.4	94.0
Strongly Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#9

Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	60	71.4	71.4	71.4
Agree	20	23.8	23.8	95.2
Undecided	1	1.2	1.2	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#10

Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#11

Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	62	73.8	73.8	73.8
Agree	15	17.9	17.9	91.7
Undecided	4	4.8	4.8	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Data related to Benefit Evaluation & Establish Potential for Further Benefits

Statistics

	Benefit evaluation is the stage where planned benefits are evaluated whether realized or not	Evaluation process is not only limited with project completion but some may arise during operational period	Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects	Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects
N Valid	84	84	84	84
Missing	0	0	0	0
Mean	1.55	1.51	1.40	1.55
Mode	1	1	1	1
Std. Deviation	.897	.871	.838	.897
Sum	130	127	118	130

Dependent Variable, the BRM Process Global Factor Item#12

Benefit evaluation is the stage where planned benefits are evaluated whether realized or not

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#13

Evaluation process is not only limited with project completion but some may arise during operational period

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	57	67.9	67.9	67.9
Agree	16	19.0	19.0	86.9
Undecided	6	7.1	7.1	94.0
Disagree	5	6.0	6.0	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#14

Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	62	73.8	73.8	73.8
Agree	15	17.9	17.9	91.7
Undecided	4	4.8	4.8	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Dependent Variable, the BRM Process Global Factor Item#15

Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	54	64.3	64.3	64.3
Agree	19	22.6	22.6	86.9
Undecided	8	9.5	9.5	96.4
Disagree	1	1.2	1.2	97.6
Strongly Disagree	2	2.4	2.4	100.0
Total	84	100.0	100.0	

Reliability Check for Independent Variables: Soft Skill Factors

Cronbach's Alpha value for Communication Skill

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.731	.744	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project manager is expected to be a good communicator	3.94	3.117	.600	.513	.602
Communication skill of a project manger is more related with effective speaking and listening	3.77	2.683	.686	.558	.484
Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders	3.29	3.002	.413	.189	.833

Cronbach's Alpha value for Leadership Skill

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.911	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	5.98	8.987	.810	.659	.873
Project manager shares his vision with his team and inspire them by creating trustworthy workplace	5.96	9.264	.710	.603	.894
Project manager courages team members to take initiative and risk by motivating them to be creative and innovative	5.89	8.531	.683	.536	.907
Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	6.13	9.754	.779	.665	.884
Leadership skill of a project manager is ability to cope with internal matters and external strategies	6.04	8.348	.876	.796	.857

Cronbach's Alpha value for Change Management Skill

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.818	.821	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Project success and benefit realization throughout the project are linked to successful integration of change management process	4.73	3.647	.655	.452	.763
Change management is a tool to manage and control changes into a project or into a strategy	4.86	4.076	.672	.483	.760
Change management is a holistic approach the change the current state to the desired state to meet desired objectives	4.64	3.895	.565	.330	.807
Change management is important as it may affect project time, cost and quality parameters	4.88	3.841	.679	.470	.752

Cronbach's Alpha value for Planning Skill

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.757	.760	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	3.23	1.695	.646	.426	.605
Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	3.33	2.104	.587	.366	.684
Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance	3.13	1.874	.542	.298	.730

Cronbach's Alpha value Global Independent Variable Factor: Selected Soft Skills

Reliability Statistics

Cronbach's Alpha	N of Items
.941	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Project manager is expected to be a good communicator	22.65	80.156	.673	.938
Communication skill of a project manger is more related with effective speaking and listening	22.49	76.855	.817	.934
Project manager is the key for asking the right question in order to commence and develop effective communication between stakeholders	22.00	79.783	.542	.943
Project managers are the influencers by inspiring others with their leadership skill & charismatic personality	22.69	79.975	.749	.936
Project manager shares his vision with his team and inspire them by creating trustworthy workplace	22.68	80.895	.658	.938
Project manager courages team members to take initiative and risk by motivating them to be creative and innovative	22.61	78.338	.678	.938
Project manager should have leadership skill and ability to cope with any kind of difficulties effectively in order to keep project out of chaos	22.85	82.590	.674	.938
Leadership skill of a project manager is ability to cope with internal matters and external strategies	22.75	77.732	.835	.934
Project success and benefit realization throughout the project are linked to successful integration of change management process	22.57	79.597	.759	.936
Change management is a tool to manage and control changes into a project or into a strategy	22.70	82.236	.709	.937
Change management is a holistic approach the change the current state to the desired state to meet desired objectives	22.49	81.602	.622	.939
Change management is important as it may affect project time, cost and quality parameters	22.73	81.093	.728	.937
Planning skills of a project manager is an ability to gather, prepare and plan in order to meet desired deliverables throughout the project	22.60	79.376	.786	.935
Planning skill is a trait of a project manager to plan, organize and transfer this skill to the management field	22.70	82.163	.715	.937
Planning skill of a project manager is ability to take preventive action before something happens in order to eliminate problems and crises in advance	22.50	81.651	.628	.939

Cronbach's Alpha value Global Dependent Variable Factor: Benefit Realization Management Process

Reliability Statistics

Cronbach's Alpha	N of Items
.968	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Identified benefits have to be in line with business strategies and objectives and should be cross checked with performance reviews along with the project	21.49	109.602	.823	.965
Having the stakeholder involvement at benefit identification stage will increase the commitment to those identified benefits and eliminate different interpretation by stakeholders	21.37	108.983	.650	.970
Identified benefits should have clear owner and the line of accountability	21.79	110.725	.849	.965
Benefits should be considered and evaluated holistically with pros and cons in order to define and understand each benefit and disbenefit.	21.67	110.129	.799	.966
Benefit realization planning is the step where roles and responsibilities are getting distributed to the team members	21.77	109.165	.893	.964
It is difficult to establish a way to realize business benefits without benefit planning	21.63	109.031	.836	.965
Benefit plan should answer where and when the benefit is realized, who will be the responsible for delivery and receiver for the benefit	21.49	109.602	.823	.965
Execution and monitoring benefit realization plan is an important stage in order to ensure desired benefits are realized and where newly evolving benefits are captured and incorporated	21.37	108.983	.650	.970
Benefit review and monitoring during execution stage enable to explore new benefits identification and provide further contribution with lessons learnt	21.79	110.725	.849	.965
Benefit monitoring provides maximum profit as long as it starts with planning and ends with realization and documentation stages	21.67	110.129	.799	.966
Overall benefit realization management process should be periodically checked and monitored to ensure benefits are in line with strategic priorities to meet organizations strategic targets	21.77	109.165	.893	.964
Benefit evaluation is the stage where planned benefits are evaluated whether realized or not	21.63	109.031	.836	.965
Evaluation process is not only limited with project completion but some may arise during operational period	21.67	110.129	.799	.966
Advantage of benefit evaluation process is generation of lessons learnt and how those valuable feedback will be implemented in future projects	21.77	109.165	.893	.964
Evaluation process is not only review of realized benefit, but also taking action over outstanding ones and describing further potential benefits that can be considered for future projects	21.63	109.031	.836	.965

Correlation Analysis

Correlations

		Communication Skill Factor	Leadership Skill Factor	Change Management Skill Factor	Plan Skill Factor	Soft Skill Global Factor_IV	BRM Process Global Factor_DV
Communication Skill Factor	Pearson Correlation	1	.734**	.764**	.781**	.897**	.742**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	84	84	84	84	84	84
Leadership Skill Factor	Pearson Correlation	.734**	1	.695**	.656**	.889**	.829**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	84	84	84	84	84	84
Change Management Skill Factor	Pearson Correlation	.764**	.695**	1	.967**	.923**	.813**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	84	84	84	84	84	84
Plan Skill Factor	Pearson Correlation	.781**	.656**	.967**	1	.910**	.784**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	84	84	84	84	84	84
Soft Skill Global Factor_IV	Pearson Correlation	.897**	.889**	.923**	.910**	1	.882**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	84	84	84	84	84	84
BRM Process Global Factor_DV	Pearson Correlation	.742**	.829**	.813**	.784**	.882**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	84	84	84	84	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Communication Skill Factor (IV) vs. BRM Process Global Factor (DV)

Correlations

		Communication Skill Factor	BRM Process Global Factor_DV
Communication Skill Factor	Pearson Correlation	1	.742**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.742**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Leadership Skill Factor (IV) vs. BRM Process Global Factor (DV)

Correlations

		Leadership Skill Factor	BRM Process Global Factor_DV
Leadership Skill Factor	Pearson Correlation	1	.829**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.829**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Change Management Skill Factor (IV) vs. BRM Process Global Factor (DV)

Correlations

		Change Management Skill Factor	BRM Process Global Factor_DV
Change Management Skill Factor	Pearson Correlation	1	.813**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.813**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Planning Skill Factor (IV) vs. BRM Process Global Factor (DV)

Correlations

		Plan Skill Factor	BRM Process Global Factor_DV
Plan Skill Factor	Pearson Correlation	1	.784**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.784**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Soft Skill Global Factor (IV) BRM Process Global Factor (DV)

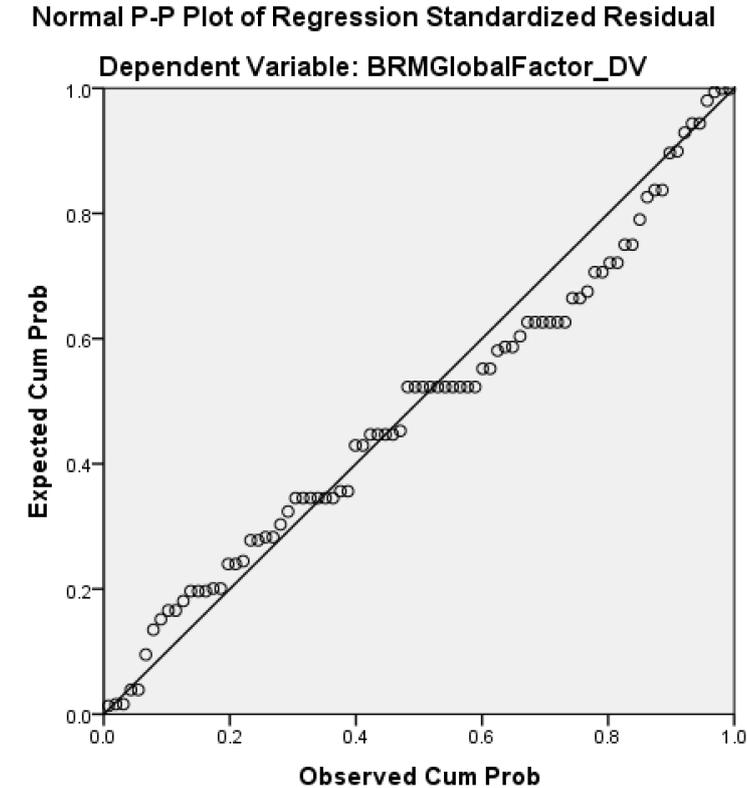
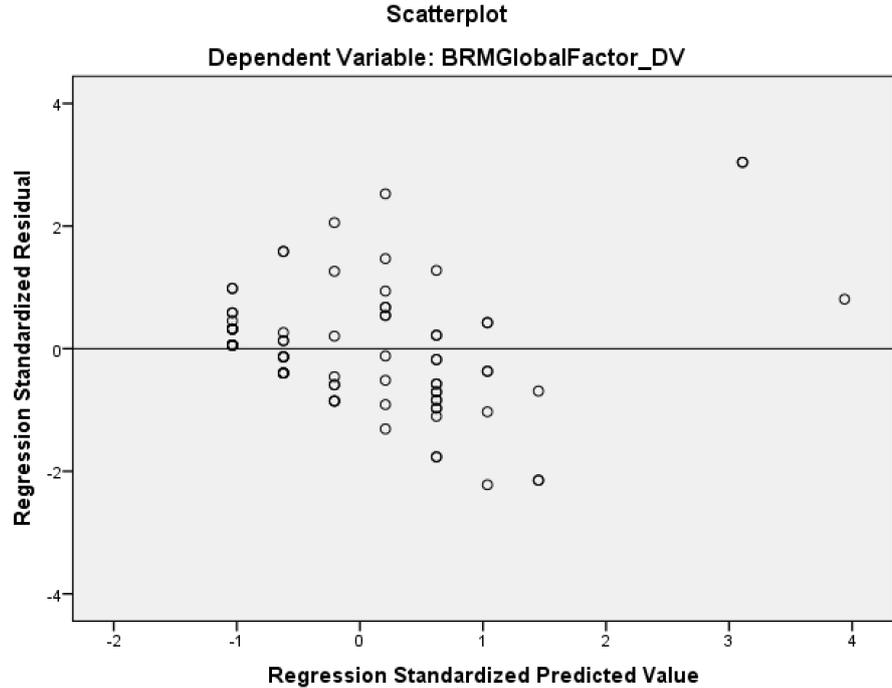
Correlations

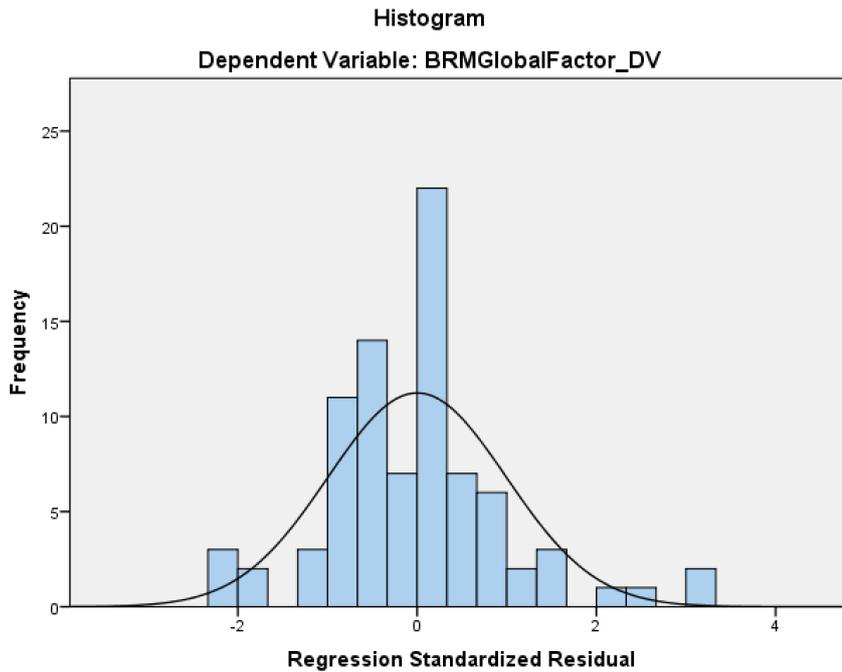
		Soft Skill Global Factor_IV	BRM Process Global Factor_DV
Soft Skill Global Factor_IV	Pearson Correlation	1	.882**
	Sig. (2-tailed)		.000
	N	84	84
BRM Process Global Factor_DV	Pearson Correlation	.882**	1
	Sig. (2-tailed)	.000	
	N	84	84

** . Correlation is significant at the 0.01 level (2-tailed).

Regression Analysis: Communication Skill vs. BRM Process

Linear Regression Assumption Check





Linear Regression Results (Communication Skill vs. BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742
	CommunicationSkillFactor	.742	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000
	CommunicationSkillFactor	.000	.
N	BRMGlobalFactor_DV	84	84
	CommunicationSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	CommunicationSkillFactor ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.742 ^a	.550	.545	7.56038	1.703

a. Predictors: (Constant), CommunicationSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5729.259	1	5729.259	100.233	.000 ^b
	Residual	4687.062	82	57.159		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), CommunicationSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.236	2.064		2.062	.043	.130	8.342
	CommunicationSkillFactor	3.444	.344	.742	10.012	.000	2.760	4.128

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.5683	55.8975	23.1786	8.30826	84
Residual	-16.78882	22.99068	.00000	7.51469	84
Std. Predicted Value	-1.036	3.938	.000	1.000	84
Std. Residual	-2.221	3.041	.000	.994	84

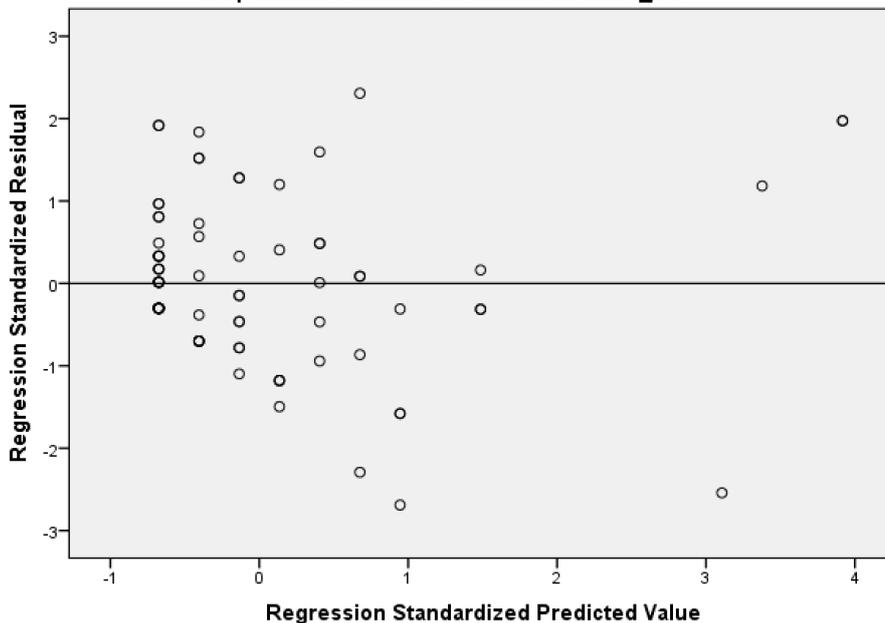
a. Dependent Variable: BRMGlobalFactor_DV

Regression Analysis: Leadership Skill vs. BRM Process

Linear Regression Assumption Check for Leadership Skill vs. BRM Process

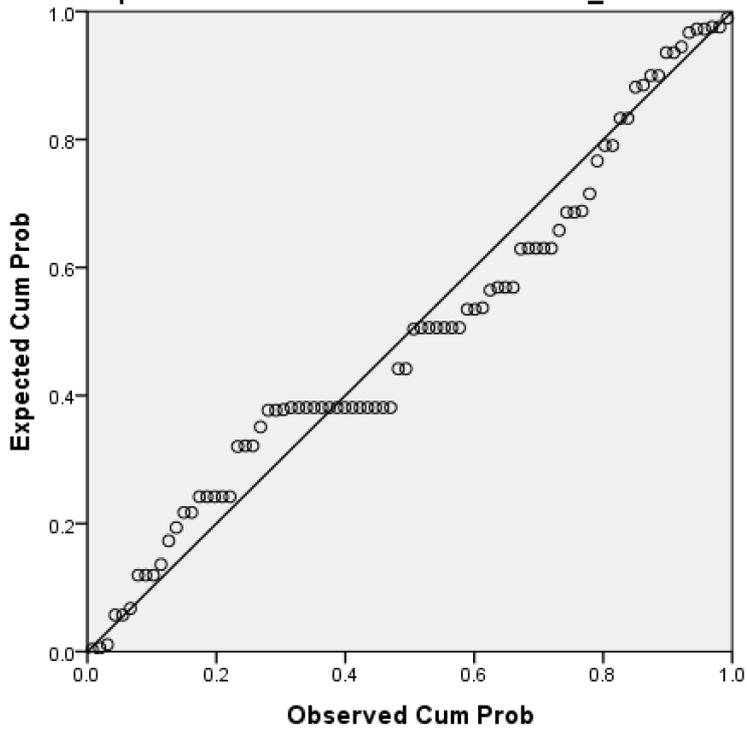
Scatterplot

Dependent Variable: BRMGlobalFactor_DV



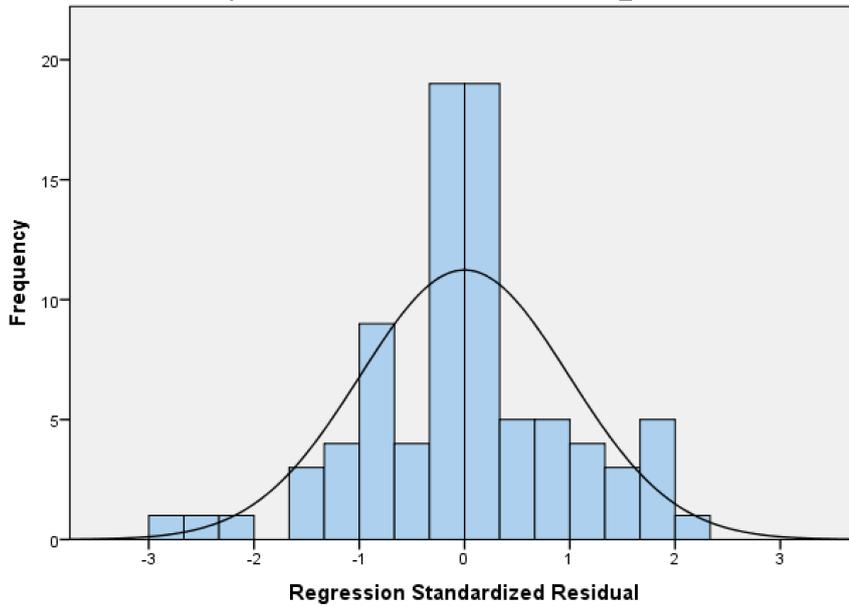
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: BRMGlobalFactor_DV



Histogram

Dependent Variable: BRMGlobalFactor_DV



Linear Regression Results (Leadership Skill vs BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
LeadershipSkillFactor	7.5000	3.70119	84

Correlations

		BRMGlobalFactor_DV	LeadershipSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.829
	LeadershipSkillFactor	.829	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000
	LeadershipSkillFactor	.000	.
N	BRMGlobalFactor_DV	84	84
	LeadershipSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LeadershipSkillFactor ^b	.	Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.829 ^a	.687	.683	6.30523	1.481

a. Predictors: (Constant), LeadershipSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7156.338	1	7156.338	180.007	.000 ^b
	Residual	3259.983	82	39.756		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), LeadershipSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.363	1.562		2.793	.007	1.255	7.470
	LeadershipSkillFactor	2.509	.187	.829	13.417	.000	2.137	2.881

a. Dependent Variable: BRMGlobalFactor_DV

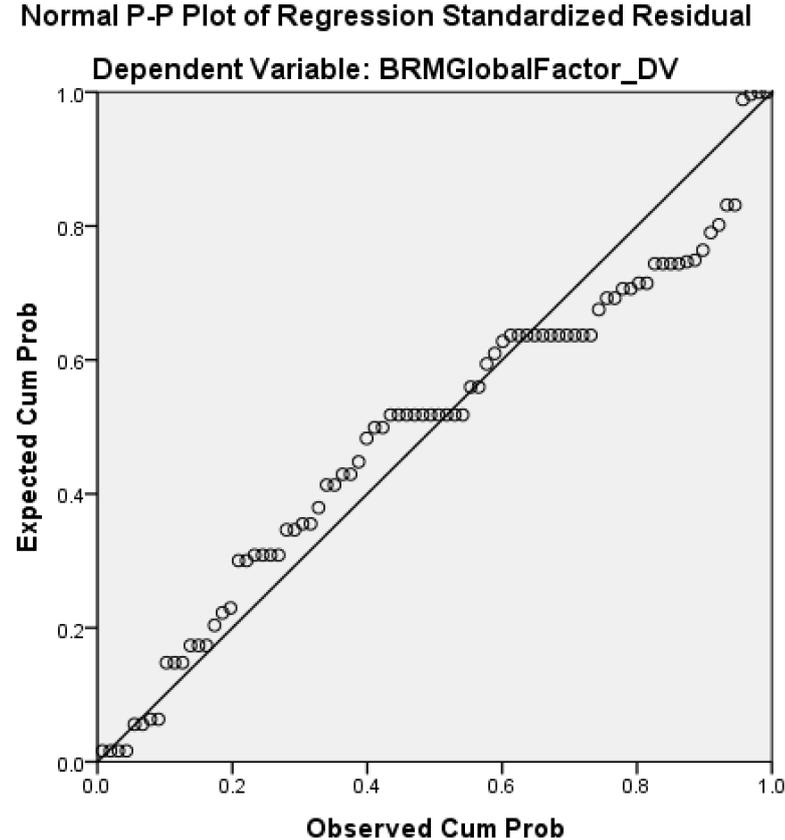
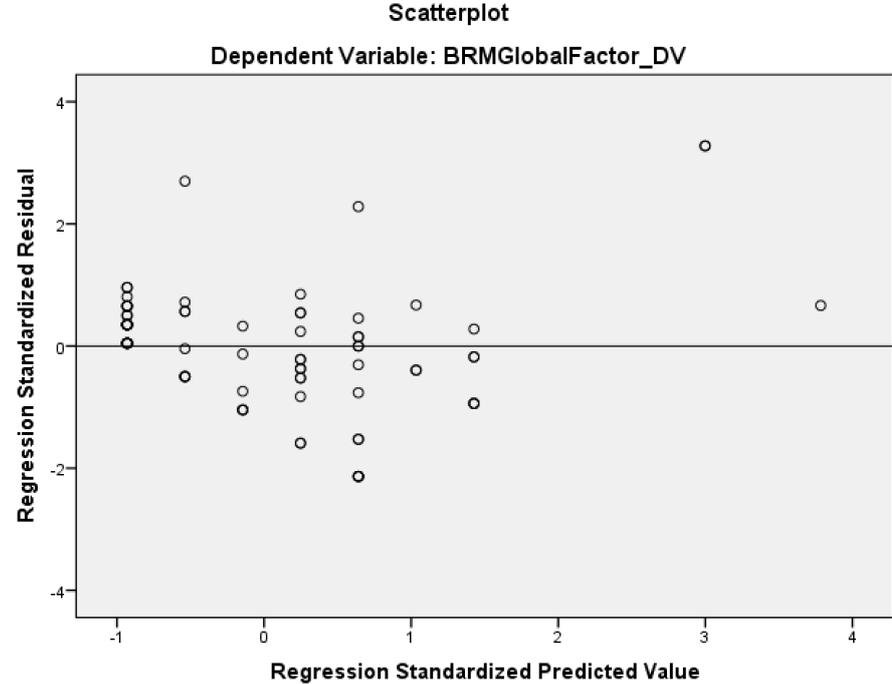
Residuals Statistics^a

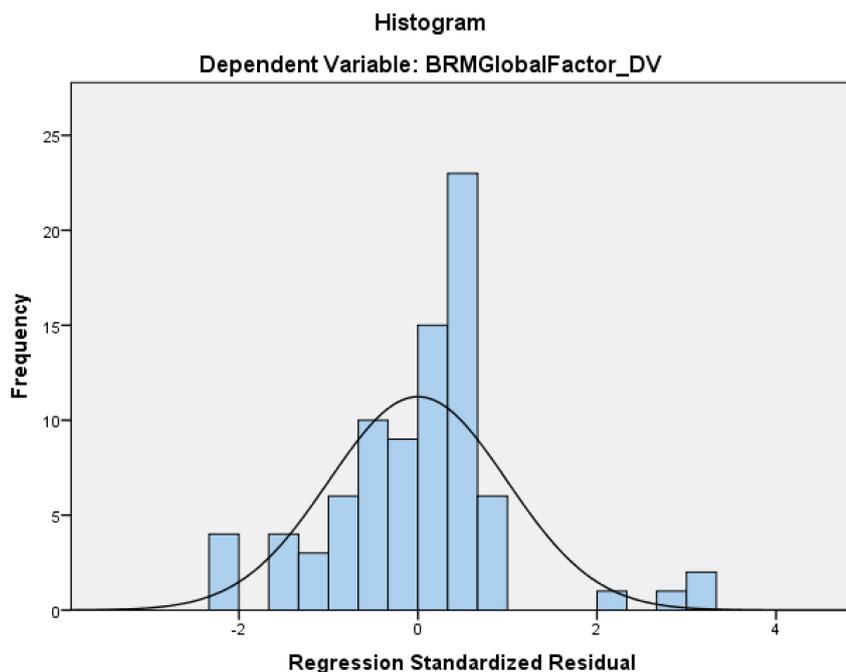
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.9066	59.5561	23.1786	9.28552	84
Residual	-16.95935	14.54944	.00000	6.26713	84
Std. Predicted Value	-.675	3.918	.000	1.000	84
Std. Residual	-2.690	2.308	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Regression Analysis: Change Management Skill vs. BRM Process

Linear Regression Assumption Check for Change Management Skill vs. BRM Process





Linear Regression Results (Change Management Skill vs BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
ChangeManagementSkill Factor	6.3690	2.54492	84

Correlations

		BRMGlobalFactor_DV	ChangeManagementSkill Factor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.813
	ChangeManagementSkill Factor	.813	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000
	ChangeManagementSkill Factor	.000	.
N	BRMGlobalFactor_DV	84	84
	ChangeManagementSkill Factor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ChangeManagementSkill Factor ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813 ^a	.661	.657	6.56477	1.877

a. Predictors: (Constant), ChangeManagementSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6882.428	1	6882.428	159.699	.000 ^b
	Residual	3533.893	82	43.096		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.389	1.940		.201	.842	-3.471	4.249
	ChangeManagementSkill Factor	3.578	.283	.813	12.637	.000	3.015	4.141

a. Dependent Variable: BRMGlobalFactor_DV

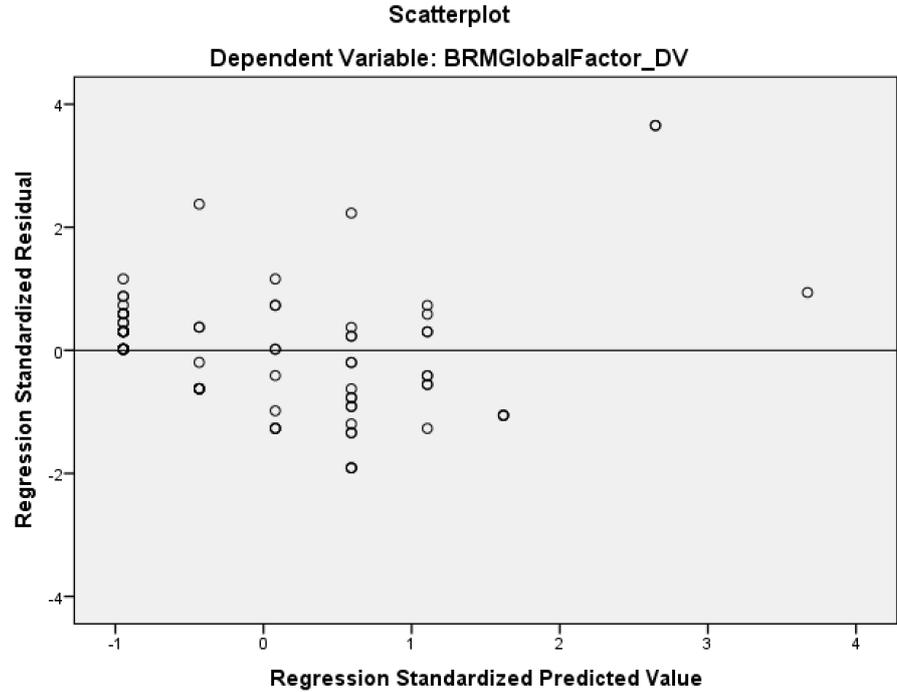
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.7018	57.6395	23.1786	9.10609	84
Residual	-14.01435	21.51680	.00000	6.52511	84
Std. Predicted Value	-.931	3.784	.000	1.000	84
Std. Residual	-2.135	3.278	.000	.994	84

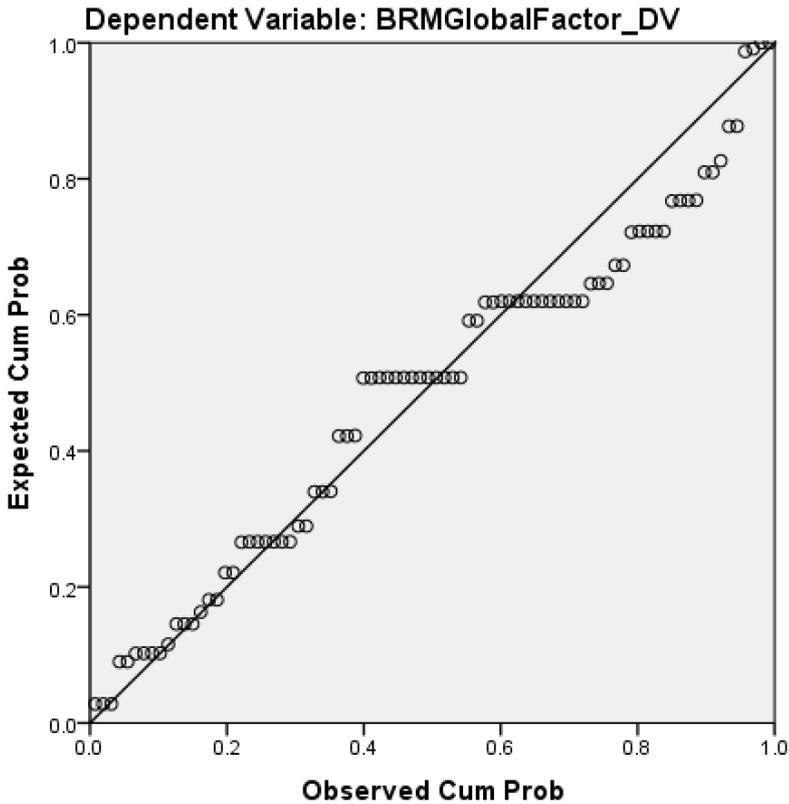
a. Dependent Variable: BRMGlobalFactor_DV

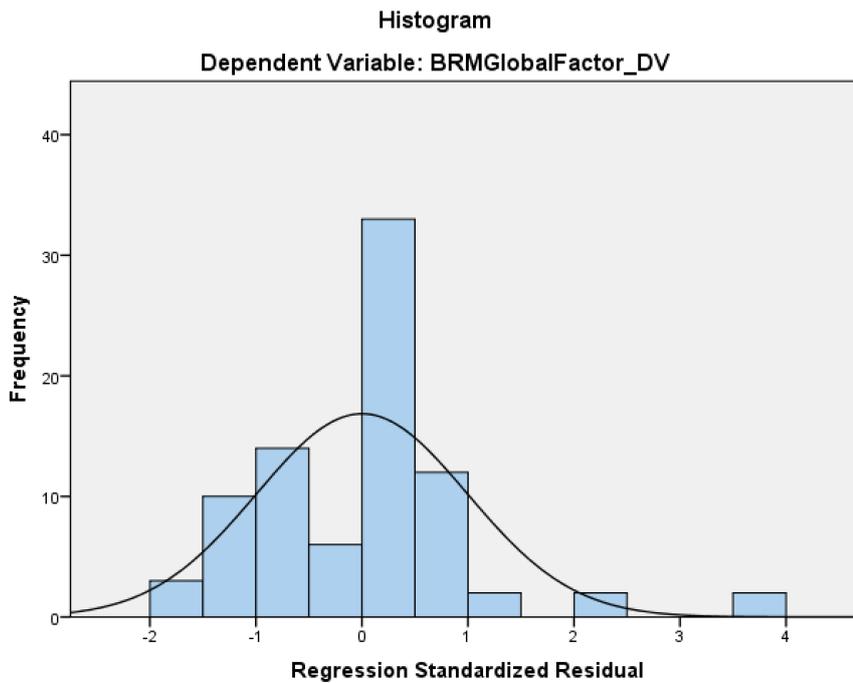
Regression Analysis: Planning Skill vs. BRM Process

Linear Regression Assumption Check for Planning Skill vs. BRM Process



Normal P-P Plot of Regression Standardized Residual





Linear Regression Results (Planning Skill vs BRM Process)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.784
	PlanSkillFactor	.784	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000
	PlanSkillFactor	.000	
N	BRMGlobalFactor_DV	84	84
	PlanSkillFactor	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PlanSkillFactor ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.784 ^a	.614	.609	7.00255	1.940

a. Predictors: (Constant), PlanSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6395.395	1	6395.395	130.423	.000 ^b
	Residual	4020.926	82	49.036		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), PlanSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.346	2.059		.654	.515	-2.749	5.442
	PlanSkillFactor	4.506	.395	.784	11.420	.000	3.721	5.291

a. Dependent Variable: BRMGlobalFactor_DV

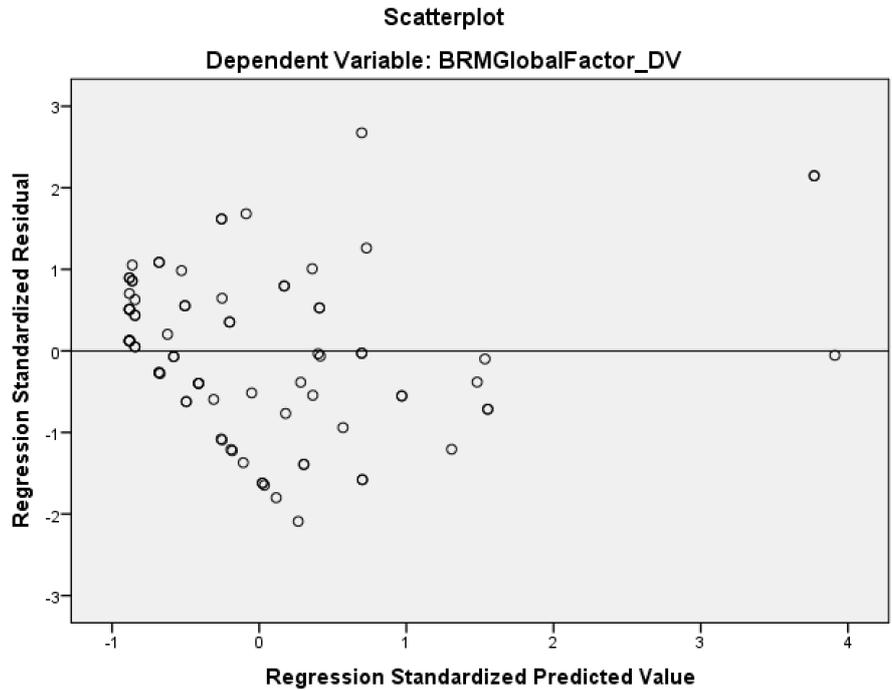
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.8640	55.4176	23.1786	8.77798	84
Residual	-13.38187	25.59432	.00000	6.96024	84
Std. Predicted Value	-.947	3.673	.000	1.000	84
Std. Residual	-1.911	3.655	.000	.994	84

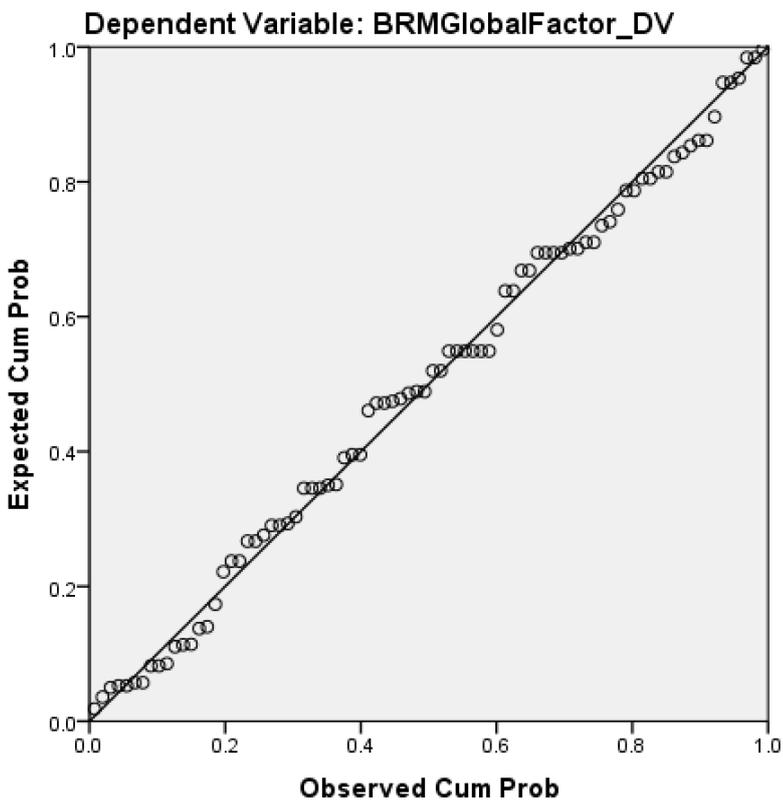
a. Dependent Variable: BRMGlobalFactor_DV

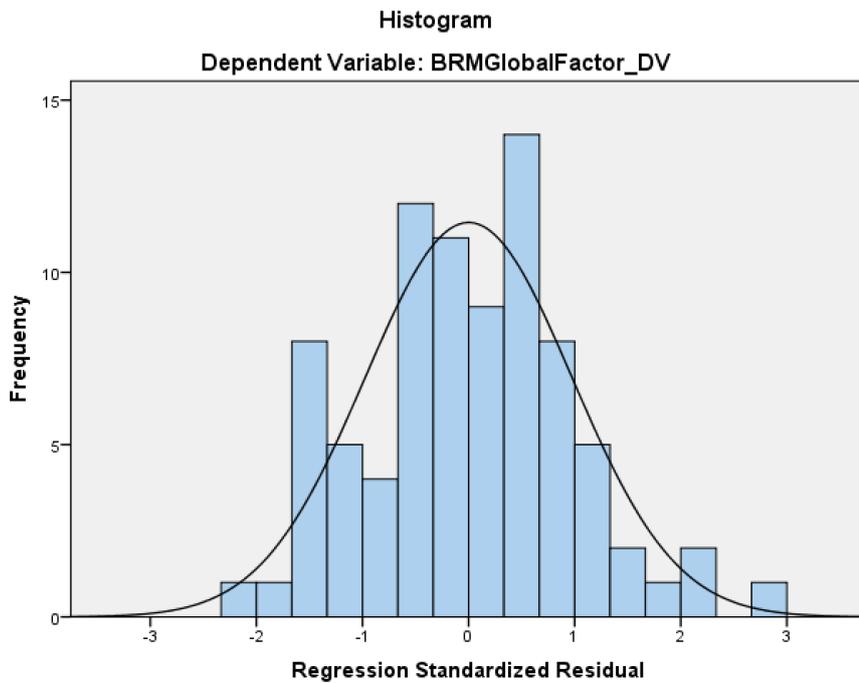
Regression Analysis: Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor

Linear Regression Assumption Check for Soft Skills (IV) Global Factor vs. BRM Process (DV) Global Factor



Normal P-P Plot of Regression Standardized Residual





Linear Regression Results (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
SoftSkillGlobalFactor_IV	24.2143	9.57918	84

Correlations

		BRMGlobalFactor_DV	SoftSkillGlobalFactor_IV
Pearson Correlation	BRMGlobalFactor_DV	1.000	.882
	SoftSkillGlobalFactor_IV	.882	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV		.000
	SoftSkillGlobalFactor_IV	.000	
N	BRMGlobalFactor_DV	84	84
	SoftSkillGlobalFactor_IV	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SoftSkillGlobalFactor_IV ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.882 ^a	.779	.776	5.30435	1.796

a. Predictors: (Constant), SoftSkillGlobalFactor_IV

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8109.159	1	8109.159	288.212	.000 ^b
	Residual	2307.162	82	28.136		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), SoftSkillGlobalFactor_IV

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.807	1.581		-1.143	.256	-4.953	1.339
	SoftSkillGlobalFactor_IV	1.032	.061	.882	16.977	.000	.911	1.153

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	13.6707	63.2000	23.1786	9.88437	84
Residual	-12.08490	14.85139	.00000	5.27230	84
Std. Predicted Value	-.962	4.049	.000	1.000	84
Std. Residual	-2.278	2.800	.000	.994	84

a. Dependent Variable: BRMGlobalFactor_DV

Multiple Linear Regression Results (Soft Skills IV Global Factors vs. BRM Process DV Global Factor)

Linear Regression Results (Soft Skills IV Global Factor vs. BRM Process DV Global Factor)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84
LeadershipSkillFactor	7.5000	3.70119	84
ChangeManagementSkillFactor	6.3690	2.54492	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor	LeadershipSkillFactor	ChangeManagementSkillFactor	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742	.829	.813	.784
	CommunicationSkillFactor	.742	1.000	.734	.764	.781
	LeadershipSkillFactor	.829	.734	1.000	.695	.656
	ChangeManagementSkillFactor	.813	.764	.695	1.000	.967
	PlanSkillFactor	.784	.781	.656	.967	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000	.000	.000	.000
	CommunicationSkillFactor	.000	.	.000	.000	.000
	LeadershipSkillFactor	.000	.000	.	.000	.000
	ChangeManagementSkillFactor	.000	.000	.000	.	.000
	PlanSkillFactor	.000	.000	.000	.000	.
N	BRMGlobalFactor_DV	84	84	84	84	84
	CommunicationSkillFactor	84	84	84	84	84
	LeadershipSkillFactor	84	84	84	84	84
	ChangeManagementSkillFactor	84	84	84	84	84
	PlanSkillFactor	84	84	84	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor ^b		Enter

a. Dependent Variable: BRMGlobalFactor_DV

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.892 ^a	.796	.786	5.18040	1.721

a. Predictors: (Constant), PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor

b. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8296.232	4	2074.058	77.285	.000 ^b
	Residual	2120.089	79	26.837		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), PlanSkillFactor, LeadershipSkillFactor, CommunicationSkillFactor, ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-1.421	1.571		-.904	.369	-4.547	1.706
	CommunicationSkillFactor	.191	.430	.041	.444	.658	-.665	1.047
	LeadershipSkillFactor	1.502	.244	.496	6.154	.000	1.016	1.988
	ChangeManagementSkillFactor	1.655	.926	.376	1.788	.078	-.188	3.498
	PlanSkillFactor	.359	1.211	.062	.296	.768	-2.052	2.770

a. Dependent Variable: BRMGlobalFactor_DV

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.3617	62.2812	23.1786	9.99773	84
Residual	-10.82802	13.85607	.00000	5.05403	84
Std. Predicted Value	-.882	3.911	.000	1.000	84
Std. Residual	-2.090	2.675	.000	.976	84

a. Dependent Variable: BRMGlobalFactor_DV

Multiple Linear Stepwise Regression Results (Soft Skills IV Global Factors vs. BRM Process DV Global Factor)

Descriptive Statistics

	Mean	Std. Deviation	N
BRMGlobalFactor_DV	23.1786	11.20258	84
CommunicationSkillFactor	5.5000	2.41232	84
LeadershipSkillFactor	7.5000	3.70119	84
ChangeManagementSkillFactor	6.3690	2.54492	84
PlanSkillFactor	4.8452	1.94809	84

Correlations

		BRMGlobalFactor_DV	CommunicationSkillFactor	LeadershipSkillFactor	ChangeManagementSkillFactor	PlanSkillFactor
Pearson Correlation	BRMGlobalFactor_DV	1.000	.742	.829	.813	.784
	CommunicationSkillFactor	.742	1.000	.734	.764	.781
	LeadershipSkillFactor	.829	.734	1.000	.695	.656
	ChangeManagementSkillFactor	.813	.764	.695	1.000	.967
	PlanSkillFactor	.784	.781	.656	.967	1.000
Sig. (1-tailed)	BRMGlobalFactor_DV	.	.000	.000	.000	.000
	CommunicationSkillFactor	.000	.	.000	.000	.000
	LeadershipSkillFactor	.000	.000	.	.000	.000
	ChangeManagementSkillFactor	.000	.000	.000	.	.000
	PlanSkillFactor	.000	.000	.000	.000	.
N	BRMGlobalFactor_DV	84	84	84	84	84
	CommunicationSkillFactor	84	84	84	84	84
	LeadershipSkillFactor	84	84	84	84	84
	ChangeManagementSkillFactor	84	84	84	84	84
	PlanSkillFactor	84	84	84	84	84

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LeadershipSkillFactor		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	ChangeManagementSkillFactor		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: BRMGlobalFactor_DV

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.829 ^a	.687	.683	6.30523	
2	.892 ^b	.795	.790	5.12945	1.721

a. Predictors: (Constant), LeadershipSkillFactor

b. Predictors: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

c. Dependent Variable: BRMGlobalFactor_DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7156.338	1	7156.338	180.007	.000 ^b
	Residual	3259.983	82	39.756		
	Total	10416.321	83			
2	Regression	8285.105	2	4142.553	157.444	.000 ^c
	Residual	2131.216	81	26.311		
	Total	10416.321	83			

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors: (Constant), LeadershipSkillFactor

c. Predictors: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.363	1.562		2.793	.007	1.255	7.470
	LeadershipSkillFactor	2.509	.187	.829	13.417	.000	2.137	2.881
2	(Constant)	-1.250	1.533		-.815	.417	-4.299	1.800
	LeadershipSkillFactor	1.545	.212	.511	7.301	.000	1.124	1.966
	ChangeManagementSkillFactor	2.016	.308	.458	6.550	.000	1.404	2.628

a. Dependent Variable: BRMGlobalFactor_DV

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CommunicationSkillFactor	.289 ^b	3.369	.001	.351	.461
	ChangeManagementSkillFactor	.458 ^b	6.550	.000	.588	.517
	PlanSkillFactor	.421 ^b	6.214	.000	.568	.570
2	CommunicationSkillFactor	.050 ^c	.575	.567	.064	.336
	PlanSkillFactor	.093 ^c	.469	.641	.052	.065

a. Dependent Variable: BRMGlobalFactor_DV

b. Predictors in the Model: (Constant), LeadershipSkillFactor

c. Predictors in the Model: (Constant), LeadershipSkillFactor, ChangeManagementSkillFactor

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.5399	61.9082	23.1786	9.99102	84
Residual	-10.69381	13.67067	.00000	5.06728	84
Std. Predicted Value	-.865	3.876	.000	1.000	84
Std. Residual	-2.085	2.665	.000	.988	84

a. Dependent Variable: BRMGlobalFactor_DV