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Selection process

The December 2017 issue of the *International Journal of Interdisciplinary Research (IJIR)* has been the result of a rigorous process in two stages:

- Stage 1: all papers that were submitted to the 2017 IABD conference went through blind reviews, and high quality papers were recommended for presentation at the conference.
- Stage 2: approximately ten percent of the articles which were presented at the conference and one invited manuscripts (originally reviewed by the Chief Editor) were selected for possible publication in *IJIR*, and the respective authors were contacted and asked to resubmit their papers for a second round of reviews. These manuscripts went through a rigorous blind-review process by the editorial board members. In the end, four articles were recommended for publication in the December issue of *IJIR*.

IJIR is listed in *Cabell's* Directory of peer-reviewed publications. The Editorial Board members are committed to maintaining high standards of quality in all manuscripts published in *International Journal of Interdisciplinary Research*.

Ahmad Tootoonchi, Chief Editor

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HOW PERCEPTION DOES NOT EQUAL REALITY IN MANAGEMENT OF AN ACADEMIC DEPARTMENT: A CASE STUDY

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ABSTRACT

The relationship between reality and perception gets tested regularly in the management of any large organization. In the case of an academic department, faculty perceptions often run counter to the realities of daily administration. This case study examines how the structural characteristics of horizontal communication between colleagues and vertical communication between superiors and subordinates influences, and potentially exacerbates the conflict of perceptions between faculty and administrators in a state-sponsored, research university. Issues addressed in this paper include: 1) To what degree does a department chair have latitude in setting or enforcing policy, 2) To what degree do differences in interpretation of policy between faculty and administrators influence departmental management, and 3) How does a department chair serve as both a colleague and a supervisor to other faculty. The analysis of data for the study is based on Barry and Crant's (2000) Attribution/Expectancy Approach.

INTRODUCTION

Academic departments are the seat of knowledge credentialing. Although students receive degrees from universities, the major curricula for those degrees are housed within departments. Knowledge for those degrees may be assessed through testing and measurement, or through evaluation of skills performance. However, it is faculty who transmit the knowledge through their efforts. In this sense, academic departments are organizations whose primary purpose is to transmit knowledge.

Academic departments are comprised of people. People have internal goals and motivations which may not always align with the goals of the department. While this may be true of many organizations, academic departments are unique in that individual members are trained formally to be autonomous actors in knowledge production and transmittal. Put another way, academic departments are full of smart people with their own ideas about how to accomplish goals. In such an organization, individual goals may sometimes conflict with organizational goals. More to the point, perceptions about how to accomplish both individual and organizational goals may differ with each individual organizational member. Conflict occurs when goals among individuals do not match.

Perceptions derive from individual experiences. Individuals process information from their experiences to arrive at or construct meaning. Faculty members, as individuals, may arrive at meaning based on their own experiences, which may differ quite significantly from others in the

department. These differences in perception may lead to conflict between individuals within an organization. Therefore, one goal of a department may be to reduce differences in perceptions.

This study examines how the perceptions of individual faculty members within an academic department may or may not match the requirements of the organization to reach its goals. As faculty may not be truly autonomous actors when working within an academic department, academic departments themselves are housed within larger and larger organizations, with each higher level having its own goals separate and unique from those of the individual actor.

REVIEW OF LITERATURE

Freedom and Responsibility

A draw for many to the life of an academic is a perception of the freedom to pursue the answers to questions that are personally intriguing. Another draw is the perception of freedom to transmit those answers to a willing audience. What draws the individual to this life is what Robert Pirsig (1974) might call the train of knowledge which is always going somewhere.

This perception of freedom to pursue knowledge both drives the autonomy of faculty, and is the justification of the autonomy of faculty. McCroskey (1990) stated that academic freedom allows a teacher to speak the truth as he or she sees fit without fear of losing his or her job. However, knowledge is not pursued for its own sake. The purpose of an academic institution is to transmit that knowledge. Thus, faculty work within the confines of an organization. Indeed, according to Cahn (1994), participation in an academic community requires responsibility to others. These academic relationships present serious moral questions about responsibilities to all community members (Phillips & Merriam, 1990). Andersen (1990) believes that professional educators should be held to standards of conduct and “can be held to those standards by the courts as well as students, parents, teachers and administrators” (p. 462).

Bok (2013) argued that guaranteeing faculty the freedom to speak and write as they choose is an important ingredient in the success of an academic institution. However, faculty concerns regarding the prospects of tenure may serve to restrict academic freedom. This may also hold true for non-tenure track contractual employees. Therefore, any structure for protecting such freedoms should be applied to all members of the community.

Participation

As members of an academic community, faculty are caught in a dialectic tension between following their own purposes and helping the department meet the needs of the community as a whole. In many departments, decisions are arrived at through consensus, though this common approach may not be, by all means, universal. Indeed, some policies may be imposed from larger

units such as the college, the university, the university system, the state, or the federal government. Regardless, many decisions are made at the local level, and community members may even have a sense that most decisions are made at the local level.

Cheney (1999) argued that participation and solidarity are value-laden terms that refer to how community members arrive at these collective decisions. However, Cheney argued that these values are subject to change over time. Organizations which do not take into account the collective wishes of the newest members of the organization are bound to become irrelevant to those members. Regardless, successful departments involve not only strong leadership but continuous faculty engagement (Katzman & Paushter, 2016).

Continued relevancy may be related to perceptions of rationality. According to Nicotera and Cushman (1992), an organization, such as an academic institution, should be held accountable as rational agents. Any policies which do not appear to be rational to community members may be perceived as unimportant to follow. In this sense, management of an academic department with “irrational” rules may become impossible, as members will not “see” solidarity and may choose not to participate. According to Baxter (1993), although a culture of collegiality is important in academic settings, policies are important to combat potential differential treatment based on status differences between members.

Rules and Differential Treatment

Rules in an academic community, therefore, may be designed to protect competing goals of faculty autonomy and freedom, on the one hand, and the purpose of the department to educate its students on the other. To accomplish this, academic departments may have constructed policies and procedures for holding faculty accountable. One such type of policy includes the faculty review policy.

In some circumstances, academic departments might not have leeway in determining faculty review policy, as such policy might be dictated by higher levels of administration. In other circumstances, academic departments might have considerable latitude in determining what counts for appropriate faculty activity. In still other cases, policies might not be set, and faculty accountability is handled by the immediate supervisor, the department chair. Such circumstances may be rare in an age of accountability in higher education. However, such lack of attentiveness to policy-making in an academic department may lead to charges of differential treatment, whether justified or not.

A lack of set policy might lead also to perceptions of differential treatment. Sias (1996) argued that conversations about differential treatment within a department create and reinforce perceptions of differential treatment. Miles, Shepherd, Rose, and Dibben (2015) demonstrated that faculty concerns which impact collegiality include budgets, faculty workload and performance evaluations. With policy in place, the potential for perceptions regarding differential treatment might be reduced, although not necessarily eliminated.

Regardless, some departments may have individuals who perceive that even with policies in place, policies are either designed to favor some members over others, or are overly restrictive and therefore do not apply. Such members may or may not voice their opinions about policies (or enforcement of) they deem inappropriate. Members who do voice their opinions may do so in ways that are constructive or destructive to the department. According to Phillips, Gouran, Kuehn, and Wood (1994), faculty with destructive intent are not to be trusted in telling the truth about what occurs within the department. However, LeBlanc (1996) argued that such attitudes about departmental members actively discourages communication about policies that may have been violated or may be inappropriate. In fact, Miles et al. (2015) found that perceptions of collegiality are based on assessments that others provide both social and professional support, are trustworthy, and do not place personal agendas ahead of the needs of others or the department as a whole.

LeBlanc (1996) argued that differential application of rules leads to unfair treatment of community members within an academic department. An example of rules differentially applied occurs when a manager provides access to information to some members of a department while denying access to the same information to other members of a department at the same level of status. Another example might be when some members are held to a standard that other members at the same level of status do not have to meet.

Role of the Manager

In many, if not most academic departments, the department chair is a faculty member who was elected or appointed to the role of chair from within his or her own department. Thus, the new department chair must transition from one role to another. For example, a faculty member may be annually reviewed by a department chair. Now that the faculty member has been appointed to the role of chair, the chair must review “former” peers.

Chu (2006) described the transition from faculty member to department chair as one of which most faculty members are not prepared. Indeed, as Gonaim (2016) pointed out, the role of the department chair can be both complex and ambiguous, with little to no formalized leadership preparation. The role changes from one of autonomy to one of accountability to multiple individuals, including the faculty being supervised as well as upper administration. Accountability requires effective communication between levels in the organization. LeBlanc (2002) found that lack of effective communication between a manager and individuals in a position to make decisions about the goals of the organization were due to both structural and identity issues.

To be sure, the management of an academic department comes with challenges as many of the actors are highly educated with expectations of autonomy in decision-making. According to Willett (2015), the major goals of a chair include advancing the educational and research missions of the department. However, the decisions needed to achieve these goals cannot be accomplished without participation of faculty. These challenges in decision-making can lead to relational strain between the department chair and a few faculty within the department. In order to investigate this relationship, the following research question is proposed:

- RQ₁ What mechanisms might explain the difficulties encountered in the relationships between a department chair and faculty within the department?

METHOD

To accomplish the analysis of academic department management, a multi-method approach was utilized for obtaining data regarding the organization and its internal communication. Similar to the methods utilized by Barge (2014), narrative descriptions of events which transpired within the course of the department the past six years were “supplemented with reports, letters and emails” (p. 58). First, textual information from participants, including the department chair and several faculty members were utilized. The author gained access to documents including departmental policies and procedures, as well as histories of changes to such policies and procedures and relevant memos. Finally, the author conducted both formal and informal interviews with organizational members over the course of several years. The objective of this data analysis was to describe the connection or disconnection between organizational members’ perceptions of rules and the goals of an academic department.

Case Description

The organization under investigation is an academic department housed in a liberal arts college at a large public research university. The primary purpose of an academic department is to teach students within the confines of a scholarly discipline and tradition. At a research university, some faculty engage in inquiry to build new knowledge, which is then transmitted through learning to a new group of students. All community members are also expected to participate in service activities forwarding the goals of the department, college, university and/or discipline as a whole. The activities of teaching, research, and service are evaluated by members of the academic community. In the department under investigation, those activities are formally reviewed each year by a committee of faculty peers. The committee sends a report of recommendations to the department chair for each faculty member under review. The chair has authority to accept the recommendations or make changes based on his or her own independent review. However, if the chair’s formal review does not match the recommendations forwarded by the committee of faculty peers, the chair is required to send a memo to the committee detailing the differences along with justifications for those differences. The formal review of the faculty member is signed by the department chair to become part of the faculty member’s permanent personnel record.

Annual faculty evaluation policy has been in place in the department for as long as the chair has been a member of the department, over 16 years. The department policy was derived from previously existing college and university policies, but had been annually reviewed and revised as the university moved toward greater research expectations of tenured and tenure-track faculty. In the period of the chair’s tenure, annual evaluation of nontenure-track faculty became increasingly required through changes in university policy related to job descriptions, workload and faculty participation and governance. Consequently, the department revised annual merit policy to include

review of nontenure-track faculty, as well as make changes to departmental bylaws allowing representation of nontenure-track faculty on faculty review committees.

Under University policy, only the department chair's formal review of the faculty member is entered into the faculty member's personnel file. Committee deliberations and report are to be held confidential. If a faculty member disagrees with the findings of the formal review, the faculty member may grieve only the department chair's report, and not the deliberations or recommendations of the faculty review committee. In the department under investigation, such a grievance has been filed twice for two separate annual reviews by the same faculty member.

One purpose of the annual review of faculty is to meet state accountability requirements. A secondary purpose is to provide justification for merit raises, also regulated by state law. Under state law, merit raises are only allowed for faculty who have been evaluated and met certain qualifications. Additionally, merit raises are allowed when approved by the legislature in the bi-annual budgeting process, and when the institution has the resources within its budget to do so. State dollars are not provided for the purpose of merit raises, under state law.

When provided for by the conditions specified under state law described above and the institution has the resources to do so, the university provost calculates a percentage of the overall faculty salary budget left over from lapsed salaries due to retirements or resignations to be set aside for merit raises. This percentage of the salary budget is communicated to the college deans to be distributed to faculty, by department, using formulae provided by the dean. The calculations are performed by the department chairs, then communicated back to the dean, along with justifications for the calculations. The calculations take into consideration each faculty member's current salary and the annual evaluation score determined by annual review.

In the department under investigation, the method by which the merit raises are calculated was inherited by the current chair. The first faculty grievance was filed in reference to the annual evaluation score as it impacted the merit raise calculation. The formal grievance process took approximately six months to complete, involved a university-wide faculty grievance panel, with the findings of the panel forwarded to the dean for final adjudication. The findings of the grievance found no fault in the chair's annual review and subsequent merit calculation of the faculty grievant.

Subsequent to the first annual review of faculty and the faculty grievance described above, the dean, in consultation with all of the department chairs within the college, modified the methods by which merit raises are calculated. The purpose of the modification was to calculate more equitably the distribution of the fixed pool of funds for merit as the calculation required consideration of the faculty member's current salary along with the annual evaluation score. In any given department within the college, faculty salary diverged by status and years of service, so that any calculation based solely on salary and annual evaluation score would exacerbate any differences in salaries by faculty members.

Given the nature of the changes, and following the first faculty grievance, the department chair set about writing a detailed description of the process of faculty merit raise calculation based on faculty review, along with details of the formulas used for calculation and the required reporting process for merit raise recommendations to the dean and audited by the provost's office. A copy

of the document, along with sample calculation sheets, was made available to all faculty in the department and forwarded to the dean. Upon review, the dean recommended that the department chair forward a copy of the document to other department chairs within the college and to the provost. No such document had existed in the department before being created by the current chair. However, since its creation, multiple requests for explanation of the complex calculations have come from a few faculty within the department, first by the original grievant, then by two other faculty members in subsequent years.

Department chairs serve at the appointment of the dean and report directly to the dean, as per university and university system policy. Appointments are for 3 year terms, renewable, upon formal review. Initial and subsequent appointments involve department faculty input where the dean requests confidential commentary from faculty, in response to a request from the dean along with the chair's written self-evaluation. College and departmental bylaws allow for votes to remove a department chair with justification. Upon renewal, the dean meets with the department chair to review comments from faculty. The chief complaint from a few faculty members (number of, or names of faculty not provided to the chair), was a lack of transparency in annual review and merit calculation processes.

Subsequent to renewal, the department chair was named in a second grievance by the same faculty member who filed the first grievance. The chief complaint was discrimination in annual review and merit raise calculation. The department chair was required to respond to complaints and provide justification for actions to the university's Equal Opportunity Services office, under the university's legal affairs office. The second grievance took approximately six months to complete with the findings of the panel forwarded to the dean for final adjudication. The findings found no fault in the chair's treatment of the faculty grievant. Consequent to the second grievance, the university administration acknowledged that although the faculty have a right to grieve the actions of a supervisor, supervisors have limited protections against unhappy faculty members who wish to file unjustified grievances.

In the current case, the author contends that the department chair has a different perception on issues related to faculty review and merit raise calculation than at least a few members of the faculty, and in particular the faculty member who has filed grievances. First, some faculty members seem to believe that the department chair has latitude in both setting and enforcing review and merit policy. In the case of both annual evaluation policy and merit calculation policy, both policies were created by individuals other than the department chair. Annual evaluation policy is specified by state law, university system policy, university policy, and college and departmental bylaws. Annual evaluation policy was in place before the current chair was appointed to a first term. The departmental annual evaluation policy is revised by faculty committee, on which the faculty who have questioned the chair's role in setting policy have served. During the first term, the chair edited the annual evaluation policy to include footnotes to relevant regulations and rules outside the department, on which the departmental policy was based. Relatedly, and as noted above, the current chair inherited the merit calculation policy which was revised by college committee during the chair's first term. Thus, the chair has little latitude in setting policy.

Second, the department chair is responsible, by university system rules, to communicate concerns of the faculty to administration and communicate administration policy to faculty at the behest of

the college dean. Faculty are hired by the dean. Thus, the dean relies on department chairs to manage departments which may include reporting to the dean any issues the chair has with faculty not following policy. Differences in interpretation of policy between faculty members and administration, including department chairs, have resulted in conflict within the department, and in particular between the department chair and faculty who file complaints related to faculty review with the university. Multiple complaints have resulted in relational strain between the chair and one faculty member in particular. The relational strain has led to the need for mediation between the department chair and a faculty member through the university ombudsperson.

Third, although the chair currently serves as the supervisor of faculty within the department, the chair was appointed from among members of the faculty within the department, as allowed for under university system, university, college and departmental rules. According to these rules, faculty appointments to chair are made by the dean through recommendations initially forwarded to the dean by an elected faculty committee. In the department under investigation, the current chair served as a faculty member within the department for nine years prior to his appointment to department chair. Prior to becoming chair, as a faculty member, the author served on many of the departmental committees charged with setting departmental policy. Faculty vote on departmental policy changes as well as committee appointments on an annual basis. Under current bylaws, the department chair is only allowed to participate in faculty votes in the case of a tie.

ANALYSIS

The current case describes issues which can contribute to relational strain between a department chair and faculty. This relational strain is exacerbated primarily by the department chair's role as a supervisor over "previously" defined colleagues, his or her role as the official "interpreter" of policy, and his or her role as the "enforcer" of policy. To answer the research question, the characteristics of this case were submitted to analysis based on Barry and Crant's Attribution/Expectancy approach to organizational dyads.

According to Barry and Crant (2000) instrumental attributions occur within an organization "when the parties are seen as motivated to maintain the relationship to fulfill role demands, meet organizational obligations, or otherwise make progress toward organizationally relevant goals" (p. 654). The author offers three Barry and Crant propositions relevant for the current study: a) Instrumental attributions are negatively related to favorable relational perceptions, b) an individual's attribution about the other party's instrumental motivation shifts from external to internal causes when the individual perceives the other as disconfirming his or her own goals, and c) hierarchical organizational roles inhibit relational content. Barry and Crant hypothesize that divergence of instrumental attributions influence relational development.

The nature of the department chair's role in annual evaluation and merit raise calculation presents a potential conflict between the chair and faculty when chair's evaluation of a faculty member does not match the faculty member's perception of his or her effort to meet individual and/or organizational goals. The distinction between individual and organizational goals is important as it is possible that the two goals may or may not be similar. It is also possible that the individual perceives the goals to be similar when they may not be. For example, faculty may have the goal

of producing research, which is also an organizational goal. Faculty may perceive their efforts of producing research to be in concert with the organizational goals. However, the effort to produce research by a faculty member in a given year may not reach the standards provided for through faculty-developed policy. When it is the responsibility of the department chair to determine if the faculty member has met the standard, an evaluation that concludes those activities fell short of meeting that standard may be viewed by as disconfirming by the faculty member. An example of this might occur when for a given year the faculty member has presented papers but not published an article. When the standard is publication, any number of presentations cannot be counted as being equivalent to publication.

In the current case, in the second year of the first term, the department chair's evaluation of the faculty member's productivity did not meet the faculty member's perception of the faculty member's productivity. As a consequence, the faculty member filed a grievance with the university. A primary claim within the grievance was that the department chair did not consider the faculty review committee's recommendation, and instead acted in violation of policy. The university grievance committee found in favor of the department chair. Although previously the department chair perceived the relationship between himself and the faculty member was healthy, subsequently over the next several years the relationship had become more strained. The next several years were followed by a series of complaints from the faculty member, culminating in a second formal grievance filed by the faculty member against the department chair. In the second grievance, the faculty member listed a substantial number of perceived slights and wrongdoing by the department chair over a period of five years.

Given Barry and Crant's propositions, it appears likely that the faculty member's attributions of the department chair's internal motivations differed from what the faculty member perceived the instrumental goals of the department should be. In fact, in the second complaint, the faculty member claimed that the department chair was out to directly and intentional obstruct her ability to progress in her academic career, in conflict with the departmental goals of supporting research productivity. Relational communication between the department chair and the faculty member in particular, and with a few other faculty members following a series of complaints with the first faculty member, became strained.

Over the course of several years, communication between the initial complainant and two other faculty members within the department, specifically related to annual evaluation and merit raise calculation, became apparent in conversations the department chair had individually with the other two faculty members. Additionally, conversations between these three faculty members regarding these conflicts were more numerous than those between the individual faculty members and the department chair as derived by chair conversations with the faculty and reviews of emails.

DISCUSSION AND CONCLUSION

These observations of internal departmental conflict between the department chair and one faculty member in particular, and two others to a lesser degree, seems to support Barry and Crant's hypothesis that divergence of instrumental attributions influences relational development. A difference in perception of the department chair's role in setting and enforcing annual evaluation

and merit calculation policy set forward a chain of events that led to a strain in the relationship between the department chair and faculty. Although the department chair perceives his relationship to be relatively healthy with the faculty, with one exception, the strain in the relationship with one faculty member may have affected the department as a whole.

From a relational perspective, the trust that one faculty member may have had with the department chair, from the perspective of the faculty member, may have been broken. It is unclear to the department chair how or when this may have occurred. It is possible that the initiation of relational issues may have begun when the chair transitioned from colleague to supervisor in the initial appointment. Bylaws require that the department faculty committee forward two names to the dean for consideration. In the case of this department, the two names that were forwarded to the dean for the term beginning Fall 2010 included the current chair and the faculty member who has filed grievances against the current chair.

Following the findings of the first grievance, it would appear that a negative spiral of distrust has pervaded the attributions of the faculty member toward the department chair. Relational scholars suggest that when trust is broken, it is often very difficult if not impossible to repair. It is also possible that the lone faculty member in this case may begin to feel more and more isolated from other faculty members within the department if attempts to create coalitions against the department chair on grounds of unfair treatment fail.

What the department chair and faculty members within the department perceive to be appropriate interpretation of policies, as well as the department chair's ability to set or enforce policies, may not match the reality of department management within this specific organization. To be sure, faculty within the department are trained at different institutions which may have quite different expectations than the department they have joined. Additionally, expectations of academic freedom and faculty governance inform a sense of autonomy at odds with accountability to others. As Higgerson and Joyce (2007) point out, department chairs must "manage" the conflict of individual and department goals. An important role of the academic department manager includes leading the faculty to the conclusion that all members of the department, including the department chair, are responsible for meeting the organizational goals as well as the protection of faculty rights.

Universities are comprised of departments within colleges, each level of the organization with its own set of goals within the context of a larger organization. Department chairs then also have the responsibility of furthering the departmental goals within the college, while deans have the responsibility of furthering college goals within the university. Future studies might investigate similar role conflict among academic chairs and deans.

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IMPROVING INDIAN-GERMAN BUSINESS CO-OPERATION BY ANALYZING THE GAP IN MANAGERS' PERSON PERCEPTION

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ABSTRACT

Culture influences perception, perception influences behavior and behavior affects the success of a business collaboration. This article focuses on person perception, with regard to Germany and India. Differences in person perception are a key risk factor when conducting business in or with India and can lead to conflicts and misunderstandings for the individuals involved. Running a successful Indian-German co-operation requires managers who possess a high degree of awareness about each other's person perception. Managers who possess this awareness can anticipate reactions better and avoid such conflicts and misunderstandings, thus maximizing business performance. This article intends to help German and Indian managers in creating successful co-operations and bridging cultural differences by pinpointing areas with perception gaps and explaining why they occur.

INTRODUCTION

International business activity is often fraught with difficulties (Lewis, 2000). If one looks at the high failure rate of Indian-German enterprises and the fact that many German managers regard India as one of the most difficult markets, there is a call for new approaches towards intercultural understanding. Culture is the basic "uncommon ground" on which German and Indian managers operate. It is essential for managers to understand themselves and their business partners' behavior and way of thinking – in other words, their own culture and that of their partner. Otherwise, misunderstandings and conflicts can appear. Particularly between Indians and Germans, there are a few, seemingly irreconcilable, cultural differences, including the conception of time or the idea of truth (Hall, 1990; Lewis, 2000).

In times where multinational companies are on the rise, managers have to become bridge builders between cultures. It is vital for them to recognize their own and the counterparty's culture-bound

behavior and mindset. Only when a manager is unbiased can he or she see that India is one extreme and Germany is the other, for there is no culture that can be regarded as the “norm” (Bierstedt, 1963). It takes more than fluency in the English language and lessons in mannerism to comprehend the underlying motives of our foreign business partner, one can barely observe in their selves (Palazzo, 2002). This is where person perception becomes relevant. “Cultural awareness, then, is understanding states of mind, your own and those of the people you meet” (Trompenaars & Hampden-Turner, 2000, p. 196).

To make the most of business opportunities between Indian and German companies, highly adapted managers are needed on both ends who are able to create synergies where unprepared entrepreneurs fail.

Indian-German Business Co-operation

More and more multinational corporations want to profit from India’s immense market. In order to enter the market, they seek collaborators in India. Indian-German business co-operations can have many forms, e.g. joint ventures, foreign direct investment, trade contracts, strategic alliances. The following section demonstrates that bilateral business co-operation is not just a transitory trend for German and Indian businesses, but a far-reaching reality, with a vast effect on both the countries’ economies. As soon as two different nations come together, one must then look at culture as a factor in business co-operation (Ferraro, 2006).

Bilateral relations between the Republic of India and the Federal Republic of Germany are traditionally strong and amicable due to economic, cultural and strategic collaboration. There are more than 1600 Indian-German collaborations and over 600 Indian-German Joint Ventures. Germany is India's largest trading partner in Europe. Germany has continuously been among India's top ten global trade partners. India ranked 25th in Germany's global trade in 2015. Bilateral trade in 2015 was valued at EUR 17.29 billion. Apart from traditional sectors, knowledge-driven sectors hold good potential for collaboration. There is considerable scope for co-operation in the fields of IT, biotechnology, renewable energy, green technology, urban mobility & development and the entertainment industry (Embassy of India, 2016).

Since the beginning of the Indian reform policy in 1990, the bilateral trade volume has risen from EUR 2.7 billion to EUR 16 billion in 2014. In the first 7 months of 2015, the bilateral trade volume compared to the previous year rose by 13%. German exports rose by 17.5%, while imports from India rose by 8.1%. The German trade surplus of around EUR 1.9 billion in 2014 is based on a high demand for German capital goods, including machinery that amounts to a third of German exports to India, as well as electronic technology, metal ware, chemicals, automobiles and automotive parts. Indian exports to Germany consist mainly of textiles, chemicals, electronic technology, metal ware, leather and food (German Missions in India, 2016).

It is no recent development that Germany has been among the top ten foreign direct investors in India. Germany ranks number seven, after Mauritius, Singapore, the United Kingdom, Japan, the Netherlands and the United States. The investments amount to more than 8 billion USD since April

2000. Direct investments are mainly confined to the transport, electrical and metal sectors. Over the past few years, a new sector has emerged for foreign direct investment, which is the insurance sector. This sector has now a share of 26% and is followed by the construction and automotive industries (Federal Foreign Office of Germany, 2016).

Another important aspect of Indian-German relations is the development co-operation. Despite India's economic boom, it is still a nation of extreme economic and social disparities and has the largest number of people living in absolute poverty worldwide. 800 million Indians live on two USD a day and 450 million people live on less than 1.25 USD a day. Germany is India's second largest bilateral donor, after Japan (Federal Foreign Office of Germany, 2016).

Indian investments in Germany have also shown a remarkable increase in the last few years. A number of Indian companies such as Suzlon, Bharat Forge, Samtel, Mahindra & Mahindra etc., have made substantial investments in Germany. A study by Hamburg Technical University estimates that Indian corporate entities invested over USD 6.1 billion (EUR 4.7 billion) in Germany up to September 2012. More than 215 Indian companies operate in Germany. While India is growing in significance as a trading partner for Germany each year, there is still more potential for growth.

The most important products that India imports from Germany include auto equipment, electrical generation equipment, gear equipment, measurement and control equipment, bearings, primary chemical equipment, synthetic material, machine tools, primary chemical products, complete fabrication plants, aircrafts, etc. (Ministry of External Affairs, Government of India, 2013).

Perception

“As long as we stay in our native culture we don't really get the chance to examine our perceptions and the extent to which they are culturally conditioned, because we share them with most of our fellow citizens. We become aware of that only when we work with people from different cultural backgrounds which most often does not work out as smoothly as working together with members of the own culture” (Adler & Gundersen, 2008, p. 80).

As soon as a manager steps out of the “comfort-zone” of the home culture, he or she will experience situation and meet colleagues that seem to be not unintelligible from the manager's perspective. This often results in judgement and negative emotions. Hofstede describes that usually when expats are sent abroad they first go through a phase of euphoria in which excitement and curiosity cause positive emotions. Right after that the expat probably experiences a culture shock that comes along with negative emotions. Only when acculturation sets in the expat gets over the initial culture shock. The expats mental condition then improves and stabilizes (Hofstede & Hofstede, 2005). The manager has to recall the fact that “all behavior is rational and logical from the perspective of the behavior” (Harris, Moran, & Moran, 2005, p. 57) What makes them feel like the behavior acts irrational is their own cultural conditioned perspective.

“When you are doing business with different cultures, there will almost certainly be a gap, of some kind or another, between your perceptions and theirs. This need not stop you from presenting a united front. The key to success is to acknowledge that there is a gap and to make genuine attempts to bridge it” (Carté & Fox, 2004, p. 21). In order to improve the collaboration between Indian and German managers, each individual involved has to become aware about how they perceive their business partner and how they perceive themselves. This will allow them to reduce the unintelligible incidents and create more synergies in cross-cultural co-operation.

The term “perception” can be defined as the process in which the individual selects, organizes, evaluates and internalizes external stimuli. Perception is never objective, nor absolute. Perception patterns are selective, learned and dependent on family and culture (Legewie & Ehlers, 1994). Most of the time, they are long-dated and inexact. Perception is closely related to one’s cultural background. As with culture, perception is learned and consistent. Furthermore, perception is selective, meaning that the conscious mind only perceives selected stimuli and information. Moreover, perception is inaccurate because what we perceive depends on our cultural conditioning, which might be different for different people (Adler & Gundersen, 2008).

Perception is not objective, nor absolute. There are certain filters and biases that each person has and which cause misinterpretations. This can happen when a German manager interprets the behavior of an Indian manager or vice versa. The perception functions and is interpreted according to the own cultural norms. Two persons that are exposed to the same perception target may perceive it differently (Williams, 2016). The reason for that is that different people have different perceptual filters and biases, namely, “each individual selects, organizes and interprets information gained from their senses and internal awareness differently” (Otara, 2011, p. 22).

Person perception consists of self-perception and social perception. Self-perception is a set of attitudes and assumptions about oneself, in other words, a concept about oneself. The attitudes and assumptions about the self of another individual is called social perception (Zucha, 2001).

Members of German culture perceive their environment differently than members of Indian culture. The most important objects of perception, however, are other persons (Schachtel, 2001). Oftentimes, people from a different cultural background are perceived negatively, because their behavior is judged by the subject’s cultural norms. This can lead to misconceptions about the other person and subsequently to an inappropriate reaction.

In this study, the observed target of perception is a group of individuals, namely “the Indian managers”. The surveyed German managers are subjects and were asked how they perceive the object, Indian managers. The surveyed Indian managers are both perceiver (subject) and target (object) when they were asked about their self-perception. A number of factors influences both, social and self-perception. They can originate from either the perceiver, the situation or the object. Their own attitudes, motives, interests, experience and expectations influence the perception of the target. The objects’ characteristics, such as the familiarity, size, and similarity will affect how it is perceived. Furthermore, the situation, mainly the time, familiarity and work or social setting, affect attention and interpretation (Jones & George, 2008).

RESEARCH METHODOLOGY

The research was subdivided into four steps: to understand German managers' perspective on India and Indian managers and vice versa, expert interviews were conducted. A recapitulatory qualitative content analysis was used to evaluate the interviews (Mayring, 2016). Secondly, a quantitative questionnaire for German managers was developed, based on these interviews and relevant literature, in order to measure the social perception towards Indian managers. The exact same set of questions was translated into English and used to measure Indian self-perception. It was of utmost importance to keep the scales and question types same to ensure the comparability of the survey results. Therefore, that standardized approach was maintained for both surveys, even though the used scale might be understood and used in differing ways in diverse cultures (Lee, McCauley, & Draguns, 1999). To minimize errors in the use of the rating scale, a short explanation on how to give the answers was provided for each question. Thirdly, the results from both surveys were compared and analyzed. As a fourth and last step another round of expert interviews was conducted in order to discuss the results of the survey with them and find out if the hypothesis holds true.

RESULTS

The research findings suggest that measuring a foreign person with one's own standards will lead to misperception, misinterpretation and the wrong choice of action and reaction. This, in turn, increases the probability of conflict. The study found a positive correlation between the gap in perception and the perceived level of conflict.

Three of the seven topics that were researched in the study will be discussed here: what motivates Indian managers, their character traits and the perceived level of conflict in Indian-German business collaborations.

Gap in Perception of Motivational Factors

The first closed question read, "How important are the following goals for typical Indian managers?" Twelve motivational factors were ranked by the respondents according to their importance. The ranking scale ranges from one, very important, to seven, very unimportant. The Indian rating places more importance on different motivational factors.



FIGURE 1: MOTIVATIONAL FACTORS OF INDIAN MANAGERS

The factor prestige is an exception here, because there is a negative connotation that comes with prestige as motivational factor. The German managers have ranked the motivational factors between 1.4 and 4.6 while the Indian managers ranked the motivational factors between a range of 1.7 to 3.4. Both the groups ranked the motivational factor salary similarly.

There is an interesting gap in the ranking of certain other factors namely, leisure time, which has the biggest gap, followed by harmony, challenging tasks and secure work. This means that the importance placed on these factors by both sets of managers differs. The importance placed by the Indian managers on the motivational factors of harmony and challenging tasks is far more important than it is for the German managers.

Both sets of managers place importance on salary as a motivational factor but the Indian managers have placed it after the motivational factors of prestige, which has a mean of 1.70, and develop and learn, which has a mean of 1.72. This means that salary comes in third as an important motivational factor for Indian managers while the German managers ranked salary (a mean of 1.8) after prestige (a mean of 1.4).

Although the rating is much higher in Indian perception, both subject groups ranked leisure time as number twelve out of twelve. This is congruent with expert views of Indian managers. Given that leisure time can be seen as the opposite of work time and thus salary, it is not surprising that the relative importance is perceived as low.

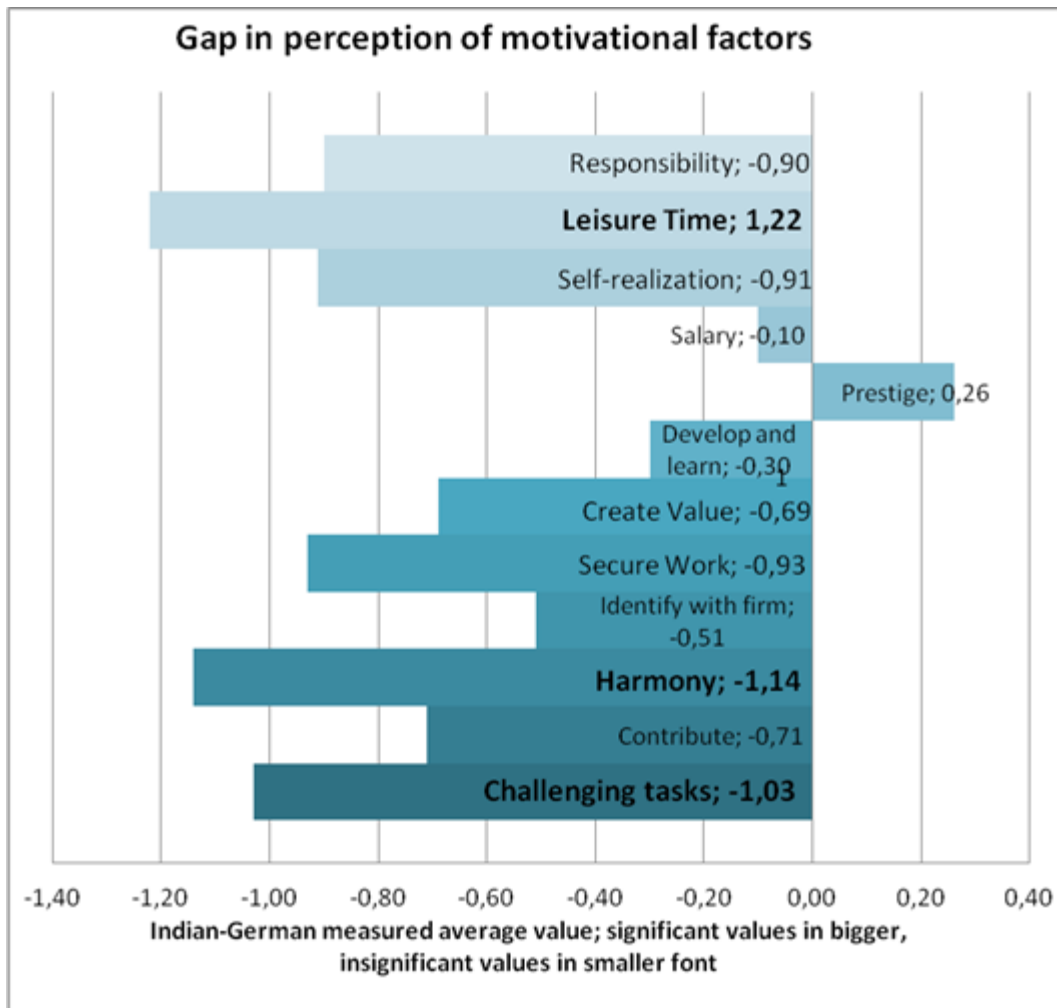


FIGURE 2: GAP IN PERCEPTION OF MOTIVATIONAL FACTORS

Figure 2 shows the gaps in perception. For the calculation, the Indian ratings were taken as the base value and the German ratings were subtracted from the Indian ones. The x-axis has a range from negative to positive. Any bar on the negative side stands for an underestimation of German managers, meaning that Indian managers perceive the statement to be more applicable than the German managers do. On the contrary, bars on the positive side of the x-axis resemble an overestimation on the part of the German managers.

The German managers have underestimated certain motivational factors, such as leisure time with a gap of -1.2 and harmony with a gap of -1.1. The Indian managers attached a higher level of importance to leisure time as a motivational factor (a mean of 3.46) than German managers did (a mean of 4.68). In India, a working day can be in excess of 12 hours, therefore, workers or managers are entitled to longer lunch and tea breaks. In India, succeeding in the work place and receiving a promotion is given a lot of importance and, therefore, people do not hesitate to work longer hours, provided that there are more frequent and longer breaks. In addition, most of the private workforce has to report to work on Saturday and only have Sundays off, while in Germany standard working

hours are eight hours a day with weekends off. Both target groups gave leisure time the least importance, yet there is the biggest gap in perception.

On the other hand, the German managers over-estimated prestige as a motivational factor with a quite small positive gap of 0.26. Nonetheless, the German managers seem to understand that status plays an important part in the life of Indians and, therefore, prestige as a motivational factor is ranked very high.

Gap in Perception of Character Traits

This part of the questionnaire dealt with to what degree a particular character trait applies to Indian managers. A scale of one to seven was used, one indicates that a trait applies completely and seven indicates that a trait is completely inapplicable.

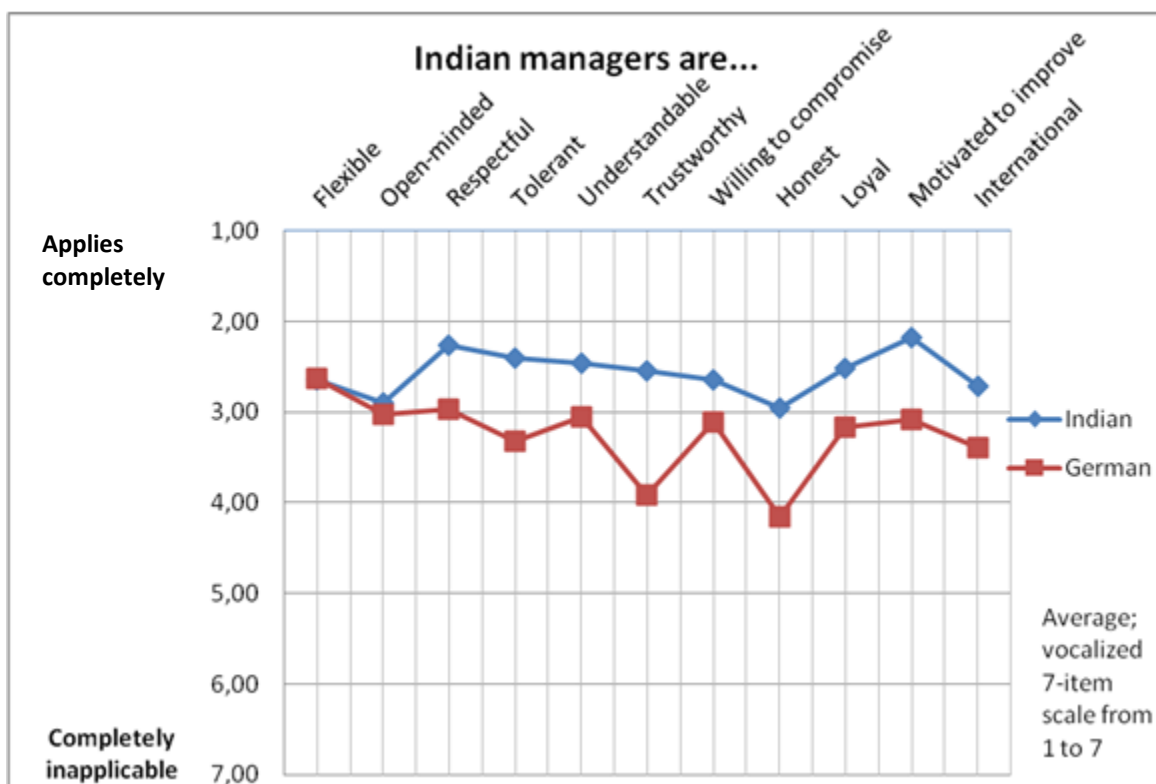


FIGURE 3: CHARACTER TRAITS OF INDIAN MANAGERS

In general, the Indian respondents ranked themselves higher for each characteristic, except for the trait flexible, which they ranked the same as the German managers.

On one hand, Indian managers perceive themselves as best motivated to constantly improve their knowledge and skills, and to be respectful and tolerant to other people and cultures. German

managers agree that Indian managers are respectful to other people and cultures by ranking it second, but rank the other two traits as number five and eight respectively.

On the other hand, German managers perceive Indian managers as highly flexible, respectful and open-minded.

There are only two character traits i.e. flexible and open-minded where the German managers and Indian managers have mutual thinking. There are major gaps in perception of what German managers perceive about Indian managers for the characteristics trustworthy, honest and tolerant.

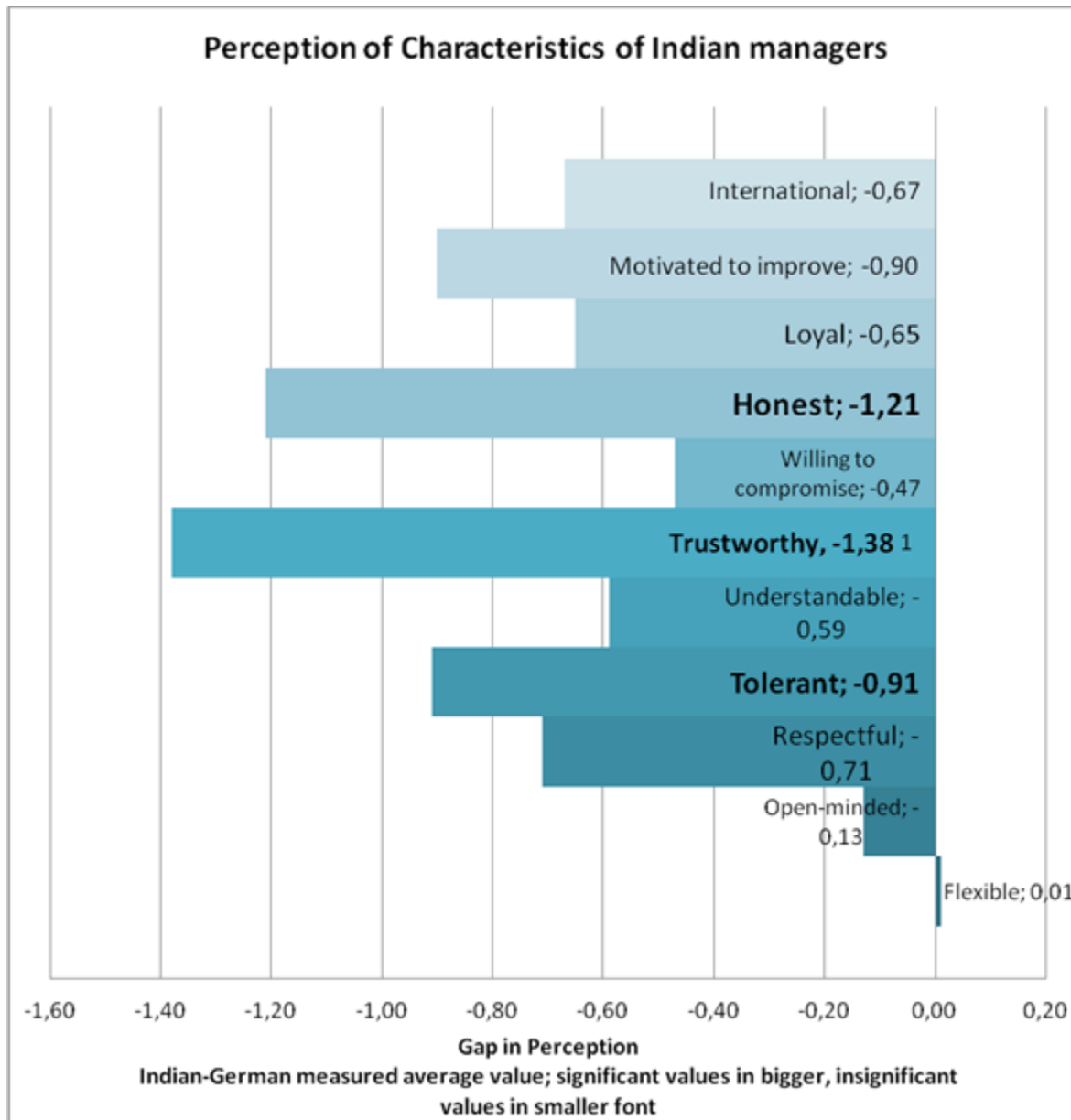


FIGURE 4: GAP IN PERSON PERCEPTION OF CHARACTER TRAITS

Figure 4 reveals that German managers have clearly underestimated the importance of most of the character traits to the Indian managers, except one i.e. flexible. The biggest underestimation by the German managers are for the statements trustworthy and honest, which implies that they think that Indian managers are less trustworthy in daily business and are dishonest in their communication. This perception can really hamper Indian-German trade relations. The fact that German managers perceive Indians as less trustworthy and honest is also confirmed by the interviewed experts. One expert stated, for example, “The Germans often complain about honesty, because Germans are ‘yes-no-believers,’ whereas in India different versions of yes and no exist. Germans mostly have difficulties in properly interpreting these statements” (personal communication, 2016).

Level of Conflict

Indian and German managers were asked about expected troubles, misunderstanding and problems that they perceive in different areas of co-operation. A scale of one to seven was used, one indicates that a conflict occurs very often and a seven indicates that there is never a conflict.

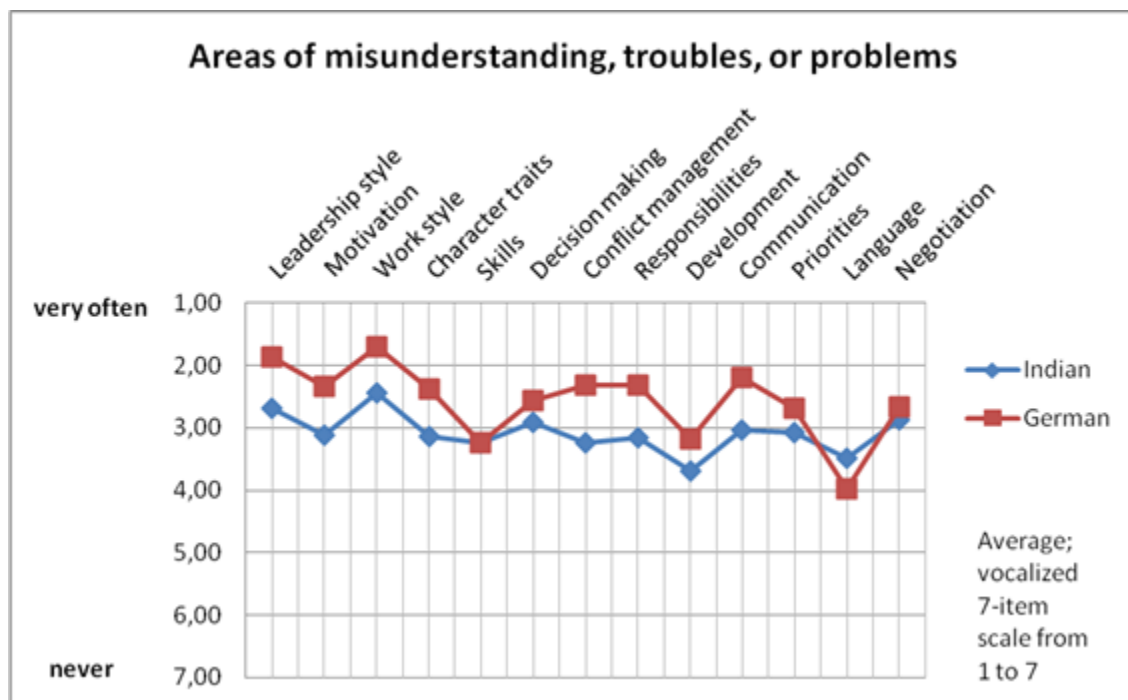


FIGURE 5: LEVEL OF CONFLICT WHEN INDIAN MANAGERS CO-OPERATE WITH GERMAN MANAGERS

Figure 5 shows that the Indian and German Managers experience a high degree of conflict in their relationship. Both groups of respondents gave their answers in a range from 3.97, “sometimes”, to 1.71, “often”. The Indian and German managers both ranked working style or processes and leadership style as the top two areas of misunderstanding, troubles or problems. The German

managers ranked manner and style of communication third as another area of conflict while Indian managers ranked manner and style of negotiation third.

German managers consider that the probability of conflict is lowest in language comprehension. It is very important that German managers become aware of their underestimation of this area of conflict. One expert spoke of communication barriers in co-operation, which are attributed to the English speaking skills of German managers, “Their interpretation is a little bit complicated, from my experience, and it’s very hard for them to understand when you speak fast English” (personal communication 2016).

Indian managers think the least conflict prone area is development of the organisation respectively the managers and employees.

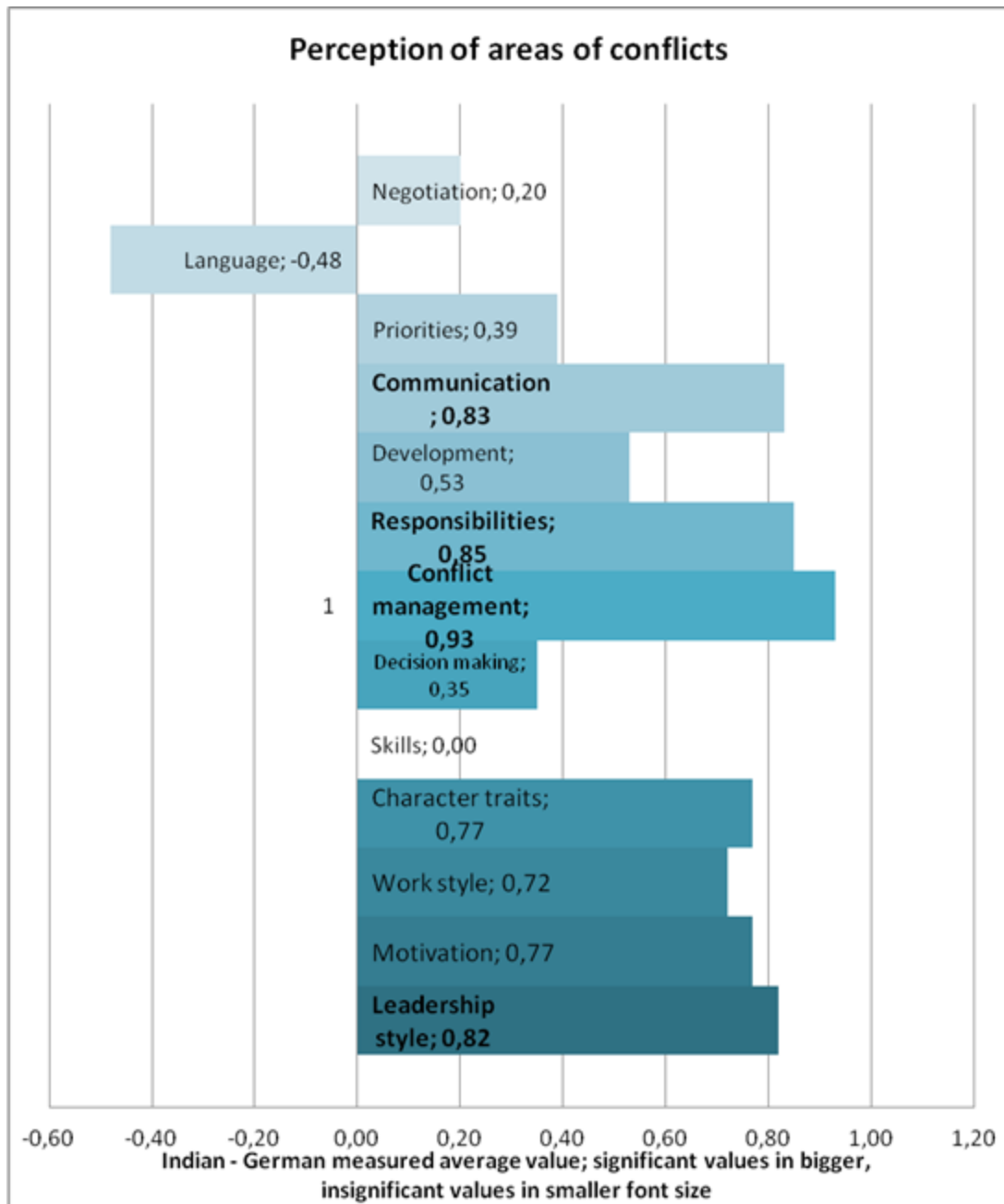


FIGURE 6: GAPS IN PERCEPTION ON THE LEVEL OF CONFLICT

From Figure 6, it can be stated that German managers have underestimated the conflict probability related to language comprehension, as compared to the Indian managers' perception. Both groups agreed that the skills of managers is the lowest critical conflict area. With the exception of these two statements, all other areas were overestimated by German managers. The most risky conflict areas perceived by German managers are handling of conflicts, interpretation of responsibilities, manner and style of communication and leadership style. Both sets of managers rated "Skills" identically thus, this is the only aspect where there is a gap of 0.00 in the quantitative study.

RESEARCH LIMITATIONS

Concerning the sample size of the quantitative study, it is clear that a sample size of 41 German and 46 Indian managers is hardly sufficient to make a definitive statement applying to all German and Indian managers respectively. The requirements for both groups of respondents were very specific and non-eligible candidates were filtered out making the sample size rather small.

Even in a comparatively small country like Germany, there are noticeable differences in culture depending on the region. Most of the respondents were from the south or west of Germany. People from the eastern part of Germany may have a different perception, because of slight differences in culture. In India, this is even more so. Most of the Indian respondents were from Goa and Maharashtra. 12 out of 29 Indian states remain uncovered by this study.

Additionally, economic strength varies greatly among the states in India, which makes it hard to reach international managers that fulfill the study requirements in certain states. However, the intention is to point out tendencies with this study. Therefore, the sample sizes are regarded as sufficient. They are not big enough for in-depth statistical analyses. If the sample sizes were larger, more meaningful statistical analyses could be made and the results would be more significant.

The number of interviewed experts can also be seen as a limitation. For the first round of interviews, there were five experts participating. Even though the first round of the qualitative study was for “exploration and orientation”, there were strict criteria for the eligibility of experts. The same applies to the second round of interviews, which were conducted after the quantitative study was completed.

Another limitation can be found in the definition of the research object as “the typical Indian manager.” It is almost impossible to make general statements about “the typical Indian manager.” Given the size of the country and its many ethnicities, one can assume that managers from different regions of India are also differing in their cultural conditioning and thus perceive things in another way. There is not only the rural, urban, classic, and folkloric Indian perception. Depending on the religious and caste affiliation, the linguistic and geographical identity within India, the social status, professional identity, etc., there are diverse Indian perceptions (Ganeshan, 2001). However, this study consciously generalizes the term “the Indian manager” in order to make the study practicable and to ensure a more general validity.

This study focuses on the management level in organizations. Employees in lower positions were not considered in the research. Here, one has to bear in mind that organizational subcultures exist. This means that employees in lower positions would probably give different answers to the questionnaire than those in managerial positions (Hofstede, 2009).

Behind every study is a human being with inherent biases. Even though the biases derived from the researcher’s cultural conditioning may not consciously influence the course of the study, they do affect scholarly work (Srivastava, Guglielmo, & Beer, 2010). Rwegoshora claims that “this may be reflected in the way the research is conducted, for example the way observations and interviews are made and the way data are recorded and analyzed” (Rwegoshora, 2006). The

interview and questionnaire stage was conducted by a researcher with a German cultural background, a highly linear-active culture, which most certainly affected the study as a whole to some extent.

Intercultural studies are often a focus of criticism because they assume that ideas and formulations can be transferred from one culture to another (Pervin, 1999). The same could be criticized for the implementation of similar questionnaires for Indian and German managers. Even though the questionnaires were carefully formulated and translated into English, it is possible that misinterpretations and misunderstandings of the respondents occurred.

The topic solely covers the social perception of German managers regarding Indian managers and Indian managers' self-perception. What has not been studied is the self-perception of German managers and the social perception of Indian managers regarding German managers. This would open up more possibilities for analyses, but could not be conducted within the limited scope of this study.

IMPLICATIONS AND CONCLUSIONS

On the level of Indian managers' personal motivation, their character traits and Indian companies' objectives, all three areas highlighted significant gaps in perception and thus might be a potential source of conflict for a co-operative relationship.

German managers have to be more aware of the diverse objectives of their Indian business partner. While money is a strong motivator, Indian managers' self-perception shows that it is not necessarily the most important motivator. The strive for self-advancement, self-development and self-realization of Indians needs to be taken seriously, to strengthen manager-subordinate relationships (no matter if a German or Indian manager is the subordinate) and thus improve the cooperation efficiency. Working together, Indian and German managers can address this difference in perception to narrow the gap. Indian managers, for example, should speak more openly about their own goals. German managers would benefit from observing their Indian colleagues more closely to find the motivators for each individual manager. In this way, motivational rewards can be distributed more efficiently to make managers more effective.

Gap in Perception of Motivational Factors

As seen from the results, there is a gap in perception of motivational factors. Harmony, challenging tasks and secure work are far more important to Indian managers than what German managers perceive.

Indian managers give more importance to harmony, as generally they do not like to decline any task being offered to them, and do not want to get into a conflict of interest situation.

Indian managers give more importance to challenging tasks, because Indian managers like to face a challenge even though they may not know the immediate solution to the problem. Hence, they tend to delay the process of completion, as they may not be aware of a solution. Nevertheless, they give importance to a challenging task, and want to complete the task at the risk of more time being spent in doing so.

This is contrary to the German mindset, of why someone would accept a challenging task when there are time constraints and when the road ahead may not be clearly chalked out. Hence, the gap in perception arises, as accepting a challenging task is not a standalone factor, it is also to maintain harmony at work, as one does not want to say no to a challenge and promote a certain underlying disharmony. Accepting a challenge also leads to security at work. While the German manager feels these may not be important motivating factors, the underlying assumptions of the Indian perspective are different. This also explains them giving importance to secure work, as they know if they are able to satisfactorily fulfill challenging tasks, they will be secure in the work they do.

Indian managers readily say yes to tasks given to them, without accurately incorporating the time involved for completion of the task. Hence, in a business context, this gap in perception must be clarified through project timelines, so that there is a clear understanding from both sides regarding the time permissible for the completion of the project. Transparency from both sides regarding time allotted for completion will promote timely completion. It will thus reduce the perception gap between the two cultures.

Gap in Perception of Character Traits

When considering the character traits of Indian managers, the gap in perception of honesty and trustworthiness is a serious problem, since both characteristics are needed to build long-term business relationships. If one party does not trust the other and believes information to be wrong, their behavior will be cautious, reserved and protective, which will limit communication. Without this, knowledge exchange and synergies cannot be built. Given that these are the main reasons for forming a strategic collaboration, the German skepticism can put a strain on the Indian-German business relationships. However, one also has to recognize that neither the German nor the Indian perception is correct and objective but rather they represent two different interpretations of a situation or behavior.

The underestimation by the German managers regarding trustworthiness and honesty can hamper business relations. These assumptions arise from the fact that German managers are very direct in their communication and expect the same from their Indian counterparts.

Indians are indirect in their communication when faced with an ambiguous situation, but intentions are not to harm the outcome, but to try their best and not to give up at the very outset. They do not prefer yes and no, but rather a yes which means, they will try to get the task done. This attitude is also due to the fact that Indian managers are tolerant of ambiguous situations and do not prefer to say a direct “no” when faced with such situations. This is often misconstrued as lack of trust, honesty and tolerance by the German counterpart.

Therefore, the Indian response technically may not be right, but it is more a response to a situation rather than a character trait. Hence, the German manager should try to perceive this behaviour as not lack of honesty or trustworthiness, but a response to perform to the best of their ability and maybe an overestimation of one's ability on the Indian manager's part.

One can thus attribute this gap in perception to perceptual filters and biases. What might be a behavior that evokes trust in Indian managers might not be seen as one from a German perspective – and vice versa. Thus, German managers have to be more aware of their perceptual biases and adjust interpretation of behavior to the Indian way of thinking and acting. Indian managers, on the other hand, should learn what kind of behavior is seen as trustworthy and honest from a German perspective so they can adapt their behavior.

Level of Conflict

The most risky conflict areas perceived by German managers are handling of conflicts, interpretation of responsibilities, manner and style of communication and leadership style.

Indians do not like conflicts and do not like to handle conflicts at the work place, as one has to take a yes/no decision in this case, which interferes with their normal manner and style of communication and leadership style.

Interpretation of responsibilities is also a reason for conflict, as the German counterpart is not clear whether the Indian manager has interpreted the same in the required manner. This again leads us to the primary cause of ambiguity in communication from the Indian counterpart.

When the German business counterpart wants a precise response, the Indian response of clarity with undertones of uncertainty is not right, and the Indian counterpart needs to work basing his/her communication on the foundation of a global culture, which is clarity and transparency as this would avoid conflicts at the workplace.

The findings of this study suggest that the perception of managers from Germany and India will influence the level of conflict and thereby the working relationship in Indian-German business co-operations. Managers, therefore, have to be more sensitive with how they perceive their own culture, beliefs and biases, to minimize the gap in perception, or at least the way in which they react to their perception of a given situation. The first step can be taken by trying to take the others' perspective. Taking perspective is "the process of imagining the world from another's vantage point or imagining one-self in another's shoes" (Ku, Wang, & Galinsky, 2010, p. 793). Ideally, both sides adapt in an authentic and appropriate way to their partners (Moodian, 2009, p. 209). Only after taking perspective, it is possible to adapt ones behaviors and responses to the perspective of the other person.

Over time, individuals who are able to successfully adapt their behavior to the perspective of their business partner take on a bicultural identity, which occurs when an individual successfully creates

an identity in both cultures, through their absolute integration. Through doing this, they have the cultural sensitivity to understand the reason, purpose and meaning of specific actions, underpinned by cultural values, expectations and beliefs. Such bicultural persons have the ability to look at intercultural matters in an unbiased way (Gutter, 2003, p. 157).

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WAR: A PREDICTOR OF MLB TEAM'S SALARY AND SUCCESS

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ABSTRACT

This research explores the differences between two Wins Above Replacement (WAR) metrics as predictors of the expected baseball team salaries and overall team win percentage. The two different metrics calculate a different value for an individual player's WAR score, which is used to evaluate a player's total contribution to their team's success. Utilizing data from 1996 through 2015 from a popular baseball database, simple regression model results indicate that both the bWAR from Baseball-reference.com and fWAR from FanGraphs.com metrics significantly predict both team salaries and team performance. The research found that the fWAR metric was a better predictor of team performance.

INTRODUCTION

Major League Baseball (MLB) teams are always vying for a competitive advantage based on the combination of individual players on their payroll. In order to do so MLB team managers are seeking ways to spend money wisely on recruiting best players that will provide high chances of winning games on a tight budget. The more games a team wins, the better chance they have at qualifying for playoffs – a stepwise tournament that eventually determines the champion of the league. In order to evaluate individual player's overall contribution to the team, statistics are used to predict how well a player will perform, and in turn, how many wins a team can expect in a given season by utilizing such players in the team. Individual player's performance is evaluated using Baseball Sabermetrics, which is an empirical analysis of baseball statistics that measures players' in-game activity (Costa, Huber, & Saccoman, 2008).

Team managements have been under pressure to form the best possible sports teams. They seek to form successful teams while minimizing the total team players costs and they are increasingly turning to the field of analytics strategically select the best possible combination of good players that are affordable (Lewis, 2003). The approach of utilizing individual player's statistics as a way

of evaluating players has defined a new culture. Major league baseball teams have followed suit by ramping up their advance scouting departments to evaluate players for draft and trade (Keener, 2014). In these departments, various metrics and statistics are analyzed to ensure that a team receives the highest value for its best players on the field, thus ensuring the highest chances at success (Koning & Albert, 2007). One such metric, Wins Above Replacement (WAR) explains how much better a player is in regards to statistically measured accumulated individual wins versus a minor league equivalent if that player had been playing on the major league team instead of the minor league team (www.baseball-reference.com/about/war_explained.shtml; www.fangraphs.com/library/misc/war/). Individual performances enhance or detract from the team's WAR depending on how successful a player is at batting, fielding, and/or pitching. All these aspects of play are taken into account when it comes to calculating the WAR metric. Players accumulate their own individual WAR scores, which indicate their personal contribution to the team's WAR score. In this paper, the team's WAR score is defined as the summation of the WAR scores of all individual players playing for the team.

Statistics and metrics used in management practices within the MLB have changed the landscape of the game over the past fifteen years (Schumaker, Solieman, & Chen, 2010). While each individual franchise has its own philosophy on the best use of salary spendings, this paper explores whether the WAR metrics are valid measures that can be utilized to determine whether salary dollars have a direct effect on overall team performance and team success (Schumaker et al., 2010).

Two professional baseball organizations measure the WAR metric in different ways. Baseball-reference.com uses bWAR while FanGraphs.com utilizes fWAR. Each of these organizations compile various factors that dictate their WAR score. These factors are used to project the number of wins by a particular team (www.baseball-reference.com/about/war_explained_comparison.shtml). Additionally, when teams trade for a different player with a higher WAR score, these individual WAR metrics can be used to evaluate potential improvements to the overall team performance.

WAR metrics have not been used to predict either team wins or team salaries in any sport management practice. Precisely predicting team salaries is important for developing an accurate budget for the season. Also correctly predicting the team percent wins is equally important, as that can determine the team's chances of winning the title. Since the WAR metric tracks individual player's performance statistics and could be used as an indicator of overall team performance, it may serve as a good predictor of team salaries and overall team winning percentage. This short overview leads to the following two research questions:

RQ1: Which of the two performance metrics (i.e. bWAR and fWAR) used to assess individual team player's performance is a better predictor of the overall team salaries.

RQ2: Which of the two performance metrics (i.e., bWAR and fWAR) used to assess individual team player's performance better explains the overall team winning percentage.

The rest of the paper is organized as follows: Next section provides a brief review of the literature on the WAR metrics. This is followed by the section that briefly explains the model and data

collection techniques. The results are presented in next subsequent section, while the last section discusses conclusions and directions for future research.

LITERATURE REVIEW

The following literature review explores the ideas of predicting overall expected team performance along with causality between player compensation and performance. One of the most popular models for predicting overall team success in practical use is the Pythagorean Win-Loss Formula (Dayaratna & Miller, 2012; Miller, 2007), which has been derived from James's (1983) original model for predicting team success based on runs scored compared to runs allowed in a season. Luo and Miller (2014) revisited the model with the inclusion of a linear Weibull distribution to improve the predictability of team success. Bukiet, Harold, and Palacios (1997) explored a Markov Chain approach to run production based on outcomes for players of different abilities. Koop (2002) performed a similar study that considered offensive production output based on the number of times a batter was able to reach base by hit or walk.

A number of studies have utilized expectancy theory and player compensation, only focusing on "non-pitchers" (Ahlstrom, Si, & Kennelly, 1999; Duchon & Jago, 1981; Martin, Eggleston, Seymour, & Lecrom, 2011). Dinerstein (2007) offered insight on how often MLB players should be compensated, suggesting annual compensation to ensure that the teams are getting their best value by opting for individual players. Kleinbard (2014) explained that money spent on salaries in professional baseball is not the most valuable factor for team success and concluded that the Win Buying Index explains some of the variability in team salary. Hall, Szymanski, and Zimbalist (2002) tested the causality between team salary and team win percentage in both English Soccer and MLB. They found no statistical significance between team spending relative to the average team salary over a fifteen-year time span (1980-1994), but did observe high causality for one season in 1995. This study in particular has spurred intellectual curiosity that salary may be correlated to team winning percentage.

RESEARCH METHODOLOGY

It is important to accurately predict team salaries for a given season as that may help the management to generate an accurate budget. An accurate budget can help the management to control various resources better, communicate decisions across management levels, evaluate performance of players, and provide more visibility into team's overall performances. Team budgets can run in millions of dollars and a small deviation from the estimated budget could have a profound impact on the overall budget.

Another factor that is important for the team management is to have a high team win percentage. If MLB teams win more games, they may have a better chance at the playoffs. Winning more games may also help improve the team's overall performance ratings across all metrics, and allow players to demand higher salaries. This may also help the teams in attracting superior players that

may further strengthen the teams' competitive position. fWAR and bWAR are two competing metrics that have been used historically to judge team performances. fWAR and bWAR metrics are to a certain extent similar, yet very different from each other when it comes to the various parameters that go into them to formulate the score. They are both composed of pitching and batting scores. These scores take into account the fielding statistics. This research specifically explores which of these two metrics is a better predictor of team salaries and team percent wins (Martin, 2016). To address these research objectives, simple regression technique is used with team salaries and team percent wins as dependent variables (DVs), and fWAR and bWAR metrics as independent variables (IVs).

This study utilizes data from *Lahman's Baseball Database* (<http://www.seanlahman.com/>), which collects a variety of historical data throughout MLB history. This study utilizes data from 1996 to 2015 MLB seasons, producing 596 individual team season records. The study utilizes both bWAR and fWAR scores for individual teams. Due to the twenty-season span of data, this study standardizes the team salaries for each season to ensure fair comparisons between team salaries across all the seasons over time. Standard team salary is calculated for each season “*i*” by utilizing the following formula:

$$\frac{TEAMSALARY_i - \mu(TEAMSALARY_i)}{\sigma(TEAMSALARY_i)}$$

Using standardized salary as the DV, the study performs two separate simple linear regressions using bWAR and fWAR scores as IVs. This may help us understand as to which of the two metrics explains more variation in the standardized team salary in a statistically significant way.

For the second research question, the study examines whether there is a difference in predicting the team win percentage based on the team fWAR and bWAR team scores. Since these two metrics tend to use different values based on the factors they possess, the study seeks to explore which of the two metrics is a better predictor of the actual team wins. This is important because the team management can form a team with either fWAR or bWAR score to ensure the type of outcome they believe is needed to be successful as a team. Further, we perform two separate simple regressions with team percentage win as DV and both fWAR and bWAR scores as IVs.

RESULTS

As stated in the above section, this study aims to explore if there is a difference in predicting team salary using fWAR and bWAR scores. The study first standardizes the team salary followed by two separate simple linear regressions to test the relationship between different WAR metrics and standardized team salary. The results for simple regression using the fWAR metric as an explanatory variable and standardized team salary as a DV are presented in Table 1. The regression model indicates a significant relationship between fWAR and standardized team salary. It is interesting to note that the adjusted r-square value is 0.154, which indicates that fWAR score explains about 15.4% of the variation in the standardized team salary.

The overall regression equation is given as follows:

$$STDSalary = -1.253 + 0.038fWAR$$

The regression equation shows the extent to which the salary deviates from the mean standardized salary per unit change in fWAR score. As can be seen from the above regression equation, the regression coefficient is 0.038. Although the regression coefficient is small, the impact on the overall team salary can be quite substantial as the team salaries are specified in millions of dollars.

TABLE 1: USING FWAR TO PREDICT TEAM SALARY

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.394 ^a	.155	.154	.9206734091 41781

a. Predictors: (Constant), Total fWAR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.502	1	92.502	109.129	.000 ^b
	Residual	503.498	594	.848		
	Total	596.000	595			

a. DV: STD Salary

b. Predictors: (Constant), Total fWAR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.253	.126		-9.966	.000
	Total fWAR	.038	.004	.394	10.446	.000

a. DV: STD Salary

Next, simple regression is performed with the bWAR metric as an IV and standardized team salary as a DV. The results are presented in Table 2. The results indicate that the overall regression model is found to be significant. The adjusted r-square is found to be 0.122, indicating that bWAR score explains about 12.2% of the variation in standardized team salary. The regression equation observed is as follows:

$$STDSalary = -0.977 + 0.03bWAR$$

TABLE 2: USING BWAR TO PREDICT TEAM SALARY**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.351 ^a	.123	.122	.9379623976 99851

a. Predictors: (Constant), Total bWAR

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	73.415	1	73.415	83.447	.000 ^b
Residual	522.585	594	.880		
Total	596.000	595			

a. DV: STD Salary

b. Predictors: (Constant), Total bWAR

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.977	.114		-8.597	.000
Total bWAR	.030	.003	.351	9.135	.000

a. DV: STD Salary

Since the r-square value for the fWAR is approximately 3% higher than that of bWAR, we conclude that fWAR is a better predictor of team salary. Although this deviation of 3% in the standardized team salary may sound small, it could account for large sums of money as team salaries are stated in millions of dollars. Such useful information may assist baseball general managers in generating more accurate budget for team salaries.

Next, the impact of bWAR and fWAR metrics on team win percentage is examined. Two separate simple linear regressions are performed with bWAR and fWAR variables as predictor variables and team win percentage as a response variable.

Table 3 presents the results for simple regression with bWAR as IV. The results show that the regression model is significant, and indicates a significant positive relationship between bWAR scores and team win percentages. The adjusted R-square is 0.575, which indicates that 57.5% of the variability in team percent wins by a particular team can be explained by the bWAR score. The regression equation is as follows:

$$WINPCT = 0.352 + 0.005bWAR$$

The regression equation shows that for each unit increase in the bWAR score, the team win percentage increases by 0.005%.

TABLE 3: USING BWAR TO PREDICT TEAM WIN PERCENTAGE

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759 ^a	.576	.575	.045881

a. Predictors: (Constant), Total bWAR

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.696	1	1.696	805.611	.000 ^b
	Residual	1.250	594	.002		
	Total	2.946	595			

a. DV: WINPCT

b. Predictors: (Constant), Total bWAR

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.352	.006		63.235	.000
	Total bWAR	.005	.000	.759	28.383	.000

a. Dependent Variable: WINPCT

Further, we perform a simple regression with fWAR score as a predictor variable and team win percentage as a DV. Table 4, which presents these results, shows that the overall regression model is significant, indicating a positive relationship between fWAR score and team win percentage. The adjusted R-square is found to be 0.685, which means 68.5% of the variability in the team win percentage can be explained by fWAR score. This constitutes an 11% higher variation explained compared to the regression model in which the bWAR score is used as the IV, suggesting that fWAR is a better metric in explaining the team success compared to the bWAR metric.

TABLE 4: USING FWAR TO PREDICT TEAM WIN PERCENTAGE

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.828 ^a	.686	.685	.039471

a. Predictors: (Constant), Total fWAR

The regression equation used is:

$$WINPCT = 0.315 + 0.006fWAR$$

The regression equation shows that for each unit increase in fWAR score, the team percent wins go up by 0.006%.

Historically, a majority of the industry relied on bWAR statistic to measure the team success. This research however proved by employing a series of simple linear regression models that the fWAR statistic is a better predictor of team success as it explained much more variation in comparison with the bWAR statistic. From a holistic standpoint, this can help team management to put together a better team that has higher chances of winning games. This can positively affect the team budget and help demand a higher overall team salary, and in particular a higher player salary.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2.021	1	2.021	1297.107	.000 ^b
Residual	.925	594	.002		
Total	2.946	595			

a. DV: PCT

b. Predictors: (Constant), Total fWAR

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.315	.005		58.397	.000
Total fWAR	.006	.000	.828	36.015	.000

a. Dependent Variable: WINPCT

CONCLUSION & FUTURE RESEARCH

The use of bWAR and fWAR metrics to predict team performance success have been helpful in forming a successful team to ensure overall team success. This can be valuable in decision making in sports management in terms of ensuring that roster or personnel changes are made strategically. This study finds that fWAR metric is a superior predictor of overall team salary and team percent wins compared to the bWAR metric as the fWAR metric explains comparatively more variation in the team salary and the percentage of games teams win.

Some of the limitations of this study include not accounting for any in-season trades or acquisitions made by teams while determining team salary. While such in-season players' trade-ins or

acquisitions are taken into account in the team WAR calculations, salary restraints make it difficult to distinguish which team paid the player's salary, which makes it difficult to accurately evaluate the team salary. The performance of the traded player is calculated for their tenure with each individual team. Another limitation of this study is that the salaries are available for players who are active at the beginning of the season, which may vary due to outright release or injuries. This is not taken into account in the current study.

Future research may explore the factors that constitute the fWAR and bWAR scores in more detail. This could help understand which particular factors in fWAR score make it a better predictor of team success compared to bWAR score. Each metric includes similar yet different aspects, which could attribute to the variability in their values. Future studies may also explore the relationship between individual players' level of contribution to the overall team's success compared to the salary they are receiving. This may help the management in strategic decision making in the process of player selection, and could help ensure better alignment between teams' success and players' salaries. While these measurements were a summative value of teams' success, the reasons for winning an individual game may not be due to statistical success, but rather an incidental occurrence. Furthermore, bWAR and fWAR have become an accurate predictor of how well a baseball team will perform in a given season, and its accuracy can be utilized to determine to a very high degree of success on the field.

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ADAPTING THE AGILE FRAMEWORK TO THE MANAGEMENT OF NON-IT KNOWLEDGE WORKERS

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ABSTRACT

Agile software development describes a set of software engineering management methodologies in which solutions evolve through collaboration between self-organizing, cross-functional teams. It promotes adaptive planning, evolutionary development, early delivery, continuous improvement and encourages rapid and flexible response to change (Beck et al., 2001a). The Agile Manifesto specifies four key value propositions for the agile development framework. Since development of the Agile Manifesto, the use of agile methods has moved into other areas such as project management and marketing.

The authors compare extant management, quality, and knowledge worker literature with the Agile Manifesto to build the case for using components of the agile framework in managing non-IT knowledge workers, from finance to health care professionals and beyond. This paper examines each concept and describe how each relates to traditional management thought, with a special emphasis on leadership in the agile framework. Using traditional management language, the authors create a new Knowledge Worker Manifesto, utilizing agile but applying it more broadly to all knowledge workers. The paper proposes leadership as a significant moderating variable to the earlier manifesto concepts.

INTRODUCTION

Agile development refers to the concepts of collaborative, iterative software engineering recorded in the Agile Manifesto (Beck et al., 2001a). The philosophy evolved from a group of software development methods that used self-organizing, cross-functional teams to promote adaptive planning, evolutionary development, early delivery, and continuous improvement while encouraging rapid and flexible response to change.

The roots of agile software development go back to the mid-1980s at Dupont and the works of James Martin and James Kern, proponents of Rapid Application Development and original signatories of the manifesto. Software development at the end of the 20th century had a collection of methods including competitive engineering, evolutionary project management and other incremental development methods (Larman & Basili, 2003). These methods grew into a collection of so called *lightweight* software development methods including unified process and dynamic systems development method, Scrum, crystal clear and extreme programming (Newkirk & Martin, 2001), as well as adaptive software development and feature-driven development. These methods predate the Agile Manifesto in 2001 and are collectively viewed as agile methods. The Agile Manifesto itself is a document that specifies how to complete software development projects productively.

Specifically, agile software development proposes to value:

- Individuals and interactions (over processes and tools),
- Working software (over comprehensive documentation),
- Customer collaboration (over contract negotiation), and
- Responding to change (over following a plan).

Beck et al. (2001b) further advocated twelve principles for agile software development:

1. Satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even in late development.
3. Deliver working software frequently (in weeks rather than months).
4. Close, daily cooperation between business people and developers.
5. Build projects around motivated individuals, who should be trusted.
6. Face-to-face conversation is the best form of communication (co-location).
7. Working software is the primary measure of progress.
8. Sustainable development, able to be maintained a constant pace.
9. Continuous attention to technical excellence and good design.
10. Simplicity—the art of maximizing the amount of work not done—is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. Regularly, the team reflects on how to become more effective, and adjusts accordingly.

In the 16 years since the original publication of the Agile Manifesto, the use of agile has moved from software development into other management fields. Project Management has been the area of management literature that has most aggressively pursued agile since 2001, but by connecting the concepts of agile to the foundational management literature and broadening the concepts to include knowledge workers across multiple industries, leaders in other knowledge-intensive organizations can benefit from the thoughtful application of components of the agile framework to teams in their own fields.

BACKGROUND

Software developers and engineers commonly prefer agile methodologies to more traditional SDLC (software development life cycle) methodologies. The most traditional and basic alternative

to agile in the coding world is the waterfall model in which heavily documented user specifications are slowly converted into finished applications over periods ranging from months to years. The primary argument against the waterfall model was that the gap between the customer's desires and programmers' product diverged, predictably, over time, resulting in costly rework and cumbersome change requests, to which the Agile Manifesto offered a more customer-focused alternative. There is broad understanding within the software development industry that while agile is routinely preferred, the full implementation of agile development methods can be much more difficult than one might expect.

In the following sections, we will dissect each of the four guiding concepts in the Agile Manifesto, and provide an analysis of how each concept applies more broadly to knowledge workers beyond software development using the traditional language of quality. We will suggest that the Agile Manifesto's difficulties with implementation are linked to two problems. The first is that the Manifesto does not recognize its ties to extant management literature. The quality literature provides insight into potential implementation problems at least as early as 1970. Edward Deming (1986) famously provided his fourteen points in the book titled *Out of the Crisis*. In that seminal text, Deming explains the quality program that revolutionized Japan's economic approach. The values of employee empowerment, continuous improvement, customer-focus, and change management are all identified in Deming's work as crucial to the implementation of a quality program.

The Agile Manifesto highlights these four concepts in a different and interesting way. The Manifesto itself would benefit by recognizing this link. Second, the Manifesto does not incorporate leadership into its proposal. Deming and others writing about quality spend a great amount of time recognizing the importance of leadership. We suggest that the leadership gap that exists in the original Agile Manifesto should be acknowledged. When the Manifesto is adjusted with quality language, and the moderating variable of leadership is added, the result is a new manifesto more appropriate for all knowledge workers. This broadening of the Manifesto has implications for both practitioners and academics.

CONCEPT 1: INDIVIDUALS AND INTERACTIONS OVER PROCESSES AND TOOLS

The first concept in the manifesto focuses on the individual worker and their interactions with other team members, software and customers. According to Layton (2012), by focusing on the value of an individual and their interaction with a given project versus the processes and tools available, he states that productivity increases compared to traditional project management methodologies as there is less focus on conforming to existing processes and tools and more effort placed on new ideas and innovation. To support this concept and juxtapose agile project management with traditional project management methods, in interviews with 31 project managers from 10 different industries, Collyer, Warren, Hemsley and Stevens (2010) found that managers who used traditional project management methodology had difficulty in dynamic environments with three types of change including changes in materials, resources, and tools. Focusing more on individuals and interactions in the case of agile project management would help alleviate difficulty in these types of dynamic environments.

In addition to the benefits mentioned above in productivity and dealing with dynamic environments, there is a third improvement noted by researchers. Programming aptitude tends to define the success of a given project more so than the processes and tools used. According to Gnambs (2015), individuals that are more conscientious, open and introverted tend to have greater programming aptitude. Agile's focus on the individual allows for a closer, more intimate work experience and many supporters of agile focus here. Ironically, the coding world where agile originates was renowned for loners and introverts. The coder receives a job to do and months later would emerge with a completed piece of software.

The authors of the Agile Manifesto provide limited definition to how this value, as well as the remaining three values, are applied (Conforto, Salum, Amaral, da Silva, & Magnanini de Almeida, 2014), however they do provide some guidance utilizing the additional *12 Principles behind the Agile Manifesto* (Beck et al., 2001b). Principle 5 most clearly demonstrates the concept of valuing individuals and interactions over processes and tools: "Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done" (Beck et al., 2001b). Though this principle provides some understanding of the value of individual workers, it does not define how this principle relates to the uses of processes and tools.

The focus of the first concept is simply a version of employee empowerment. Deming and others have championed it. Focused teams require it. Managers repeat, in mantra-like fashion, that "our people are our most important asset." With knowledge workers, that fact appears multiplied. Japanese executives in the 1980s were known for how they empowered their people to solve problems. Perhaps the best example of employee empowerment is found in the Toyota production system. This was identified at the time as a crucial difference in Eastern and Western management thought. Historically, employee empowerment is a traditional element of most quality programs over the last 30 years.

CONCEPT 2: WORKING SOFTWARE OVER COMPREHENSIVE DOCUMENTATION

It seems obvious, in software engineering, that a working piece of software would be better than documentation. The struggle here is with bureaucracy. It is difficult to support the idea of comprehensive documentation. The nature of documentation requires less than complete and comprehensive contracts. All sides agree that there is a point beyond which more documentation is useless and in fact is utterly wasteful. The essence of the manifesto is to remove waste.

The second value statement, "working software over comprehensive documentation" (Beck et al., 2001a), alludes to the iterative, incremental nature of agile software development. The *Principles* document states, "Working software is the primary measure of progress" (Beck et al., 2001b). In fact, these small, frequent deliverables in the form of working code help to enable the other three agile values. Producing working prototypes every few weeks enables developers to better collaborate with the customer; demonstrating proposed functionality in tangible form empowers both parties to provide more effective feedback more often. It is this rapid prototyping cycle that promotes the value of individuals and interactions, while providing a built-in mechanism for

responding to change. Working software is more useful than presenting documents to clients in meetings.

If the essence of the manifesto is to reduce waste, and therefore add value, it reminds one of the academic manufacturing concept of JIT (Just in Time)/lean. JIT/lean, broadly defined, is the elimination of waste. A key aspect to eliminating waste is to add value in all that you do. It is clear that working software has value, even if it does not fully solve the customers' problems. The idea of iteratively refining working products, adding new features through multiple beta-testing cycles, has been used successfully in software engineering for decades. Reducing paper requirements is recognized as a superb method for adding value while staying on track, and has been in the management literature for decades, as well (Deming, 1986).

The iterative nature of the agile software development process can be compared to the concept of the minimum viable product (MVP), a term coined by Frank Robinson in 2001, concurrent with the development of the Agile Manifesto, and made popular in books like *The Lean Startup* (Ries, 2011). A minimum viable product is one that "maximizes return on risk for both the vendor and the customer" (Robinson, 2001), by iteratively delivering the product that meets the customer's most immediate needs at each iteration. An MVP has just enough features to satisfy early adopters and provide a working beta product capable of eliciting feedback for future product development. The MVP form of iterative development mirrors traditional JIT/lean reduction of waste, as each iteration includes the minimum acceptable deliverable from the customer's perspective and maximizes productivity on the part of the knowledge worker.

For a knowledge worker, waste could be defined as time and effort devoted to products or features that do not meet the customer's most pressing needs. Distinct from Deming's quality paradigm, knowledge workers typically do not produce physical products, but information goods and services. Any time, effort, or focus by a knowledge worker that does not contribute to a next or near-term iteration of a minimum viable product could be considered waste just like overproduction or material waste in the manufacturing analogue. By focusing on the next iterative cycle's MVP, agile knowledge worker management embraces both the concept of a "working," minimum viable product in the new information age, and the waste reduction of traditional JIT/lean approaches.

A further key element to producing working, minimum viable products at each iteration cycle is the inclusion of quality assurance (QA) testers, preferably embedded in the agile team (Payne & Stretch, 2016). This aspect of modern agile teams borrows both from Deming and from Smith and Harry's Six Sigma, developed at Motorola in the early 1990's (Tennant, 2001). Embedded QA professionals in a knowledge worker team both test functionality and design test simulations for use by knowledge workers themselves in automating QA processes to ensure security, functionality, and user experience in information products and deliverables. While traditional QA teams can provide much of the same support, the adoption of embedded QA provides the more immediate, even continuous, feedback required in agile and Scrum environments that may be ideal for knowledge worker teams.

CONCEPT 3: CUSTOMER COLLABORATION OVER CONTRACT NEGOTIATION

Contract negotiation is another bureaucratic annoyance for the coder that is reduced by the implementation of this agile concept. However, it also seems similar to the customer focus required for high quality outputs. Requirements for the software development cycle require repetitive customer or stakeholder involvement. It is impossible to have a full understanding of the customer's needs without such involvement and yet prior to the mid-to-late 20th century, stakeholder involvement was not common practice (Lindborg, 2013).

The knowledge worker, in this case the computer programmer, is in the perfect position within the company to meet customer needs. Customer focus has a long management history, cited by many academicians over the years, notably by Deming (1986). Furthermore, it remains a major element in most quality programs (Heizer & Render, 2016). Programming prior to agile did not concern itself with customers until the time arrived for the contract to be fulfilled. At that point, they often found that they had created something that would not meet the customers' needs. Frequently, significant gaps resulted between customers' desires, needs and the programmers' interpretations of these needs. The primary reason for this was either there was a misunderstanding at the beginning of a given project as to what the customer expected, or the customer's needs had changed during the project. If a customer was not in consistent collaboration with the programmer or project manager, the end deliverable would fall short of his or her needs.

While software developers have always included customer input, it typically occurred, pre-agile, at the beginning of the project during the initial contract. This presented many problems and reduced productivity. For instance, the international web development firm Macronimous utilizes a more traditional development approach. In describing their eight-step "systematic development process," the majority of customer input takes place in only the first step. Additional feedback opportunities for the customer is only available at the end of each of the remaining steps (Benny, 2007).

This process cycle (receiving customer feedback, completing a section of the given project, sharing the completed section of the project to the client for additional feedback, address concerns, repeat) is a functional strategy, however there are also consequences. According to Ambler (2014), "traditional software developers will often adopt change management processes which are designed to prevent/reduce scope creep, but when you think about it these are really change prevention processes, not change management processes." Many software developers view scope creep as a tactic to maintain customer satisfaction without significantly altering the budget or contract with the client. However, additional variables including time, cost, personnel and their experience level, use case and defect counts can influence customer satisfaction (Madhuri, Rao, & V, 2013) dependent on industry and customer needs. Scope creep alone can cause significant and unforeseen budget changes. Lack of direct contact between the customer and team participants causes scope creep (Larson & Larson, 2009).

Agile software development requires up front planning (Coram & Bohner, 2005). Similar to other traditional methodologies, however, communication with the customer helps ensure that the first software release meets the needs of the customer (Serrador & Pinto, 2015). According to Hoda,

Noble, and Marshall (2011), lack of customer involvement in the agile process was one of the largest challenges agile teams face. Agile project management demands customer involvement to ensure success. A lack of customer collaboration results in adverse consequences both on the confidence of self-organizing teams, as well as the customer's satisfaction with the final product.

Whether it is utilizing predictive analytics to increase customer satisfaction (Hair, 2007) or developing a strategic approach to customer satisfaction through corporate culture development, distinctive customer value propositions and community development (Power, 2011), all of these efforts are equal to or more important than simple customer collaboration. Knowledge workers should have a more strategic approach to customers than just the tactic of collaboration. Customer collaboration requires a strategic approach, which, in turn, requires leadership.

CONCEPT 4: RESPONDING TO CHANGE OVER FOLLOWING A PLAN

For all business, one issue revolves around change and how the firm should respond to it. Following a plan has value, but agile argues that there is more value in responding to change, especially in the case of changing customer requirements. The final value statement, "responding to change over following a plan" (Beck et al., 2001a) is perhaps the foundational element of agile development, and it is likely the quality that differentiates the agile methodology most distinctly from the frameworks that preceded it.

Beck suggests that welcoming change is critical "for the customer's competitive advantage" (Beck et al., 2001b). Older software development methodologies, like the much-maligned waterfall method (Bell & Thayer, 1976), had rigid, sequential steps like *system requirements*, *detailed design*, *implementation*, *testing*, and *maintenance*, with each step proceeding only when the previous step was completed.

Proponents of such methodologies cite the need for heavy documentation up front because of the disproportionately higher cost of making significant changes late in the development process, as noted by Bell and Thayer (1976). However, agile enthusiasts entertain the notion that, perhaps, this strict adherence to early documentation and linear separation of procedures contributes significantly to the high cost of change later in the project. It may be that following a flawed plan (or one that misunderstood the customer's need, or that documented it so long ago that the customer's needs have since changed) is what makes the rather common, predictable need for change so costly. While older methodologies penalized "scope creep," as customer change requests were known, the agile framework reduces the cost of change through the rapid, iterative, incremental development and frequent feedback, enabling the customer to respond to changes in understanding, in technology, or in the business environment. As Fowler and Highsmith note, "facilitating change is more effective than attempting to prevent it" (2001).

Planning is a critical management function. Good planning is essential to successful programming outputs. It is also essential to respond to change. It is an essential value whenever one has two elements contending for supremacy. To value one over the other is difficult and sometimes counterproductive. Proper response to change enhances your project's success immeasurably.

Respond too much or too little and you quickly lose efficiency. Therefore, the implementation phase requires the next element that was completely lacking in the original Agile Manifesto.

LEADERSHIP, THE MISSING ELEMENT

“That is, while there is value in the items on the right, we value the items on the left more.”
(Agile Manifesto, 2001)

The problem with the assertion by proponents of agile that the “items on the left” of each of the four agile principle statements (individuals and interactions, working software, customer collaboration, and responding to change) are more valuable than the “items on the right” is that it might be true most of the time, but it simply cannot be true all the time. If there is value in anything on the right (processes and tools, comprehensive documentation, contract negotiation, and following a plan) then there must be times when those values take priority for the team over the canonical agile elements on the left. The authors propose that leadership, an essential function of good management (Deming, 1986), is the variable missing in the original Agile Manifesto as documented.

Leadership is the element that balances these concepts, and has the opportunity to reduce frustration and remove friction between elements. While much of the agile and Scrum literature discusses the impact of the "Highest Paid Person's Opinion", otherwise known as (HiPPO), and the negative impact of group thinking and the creation of nonexistent boundary conditions and expectations (Seelochan, 2015), self-organizing teams within the agile Scrum framework contain leadership in different roles such as Scrum Master and Product Owner.

In Schwaber and Sutherland's *Scrum Guide* (2016), the role of each team member in a Scrum team is clearly outlined. It is understood that the Product Owner serves as the team member assigned to managing the Product Backlog and ordering and creating the lists of tasks to be completed in order to achieve the goals and missions put before the team. This role can be considered a leadership role as they are responsible for presenting the tasks for completion. This, in and of itself, is a function of leadership, however it is not acknowledged as necessary within the original Agile Manifesto. Scrum, while considered one of the most successful implementations of agile, adds the crucial element of leadership back into the self-organizing team dynamic.

Another role that acknowledges the importance of leadership on a Scrum team is that of the Scrum Master. The Scrum Master's role on the team is focused on adherence to the Scrum process, responsibility that all tasks at hand are understood and that no impediments are placed in the way of those on the development team. This role can be viewed as that of a servant leader. In Greenleaf's famous work *The Servant as Leader* (1991), he stated that servant leaders “make sure that other people's highest-priority needs are being served.” Scrum Masters serve in this role as many times impediments may include meeting fundamental hierarchical needs in order to ensure tasks may be completed. It is not unusual for a Scrum Master to deliver medication to an ill team member, address conflict within the team, or address resource issues (Overeem, 2016) so that the other team members may focus on the tasks at hand rather than issues that may prevent progress.

Of particular interest in our leadership research for managers in knowledge worker industries is the concept of the Daily Scrum meeting. The Daily Scrum is an intentionally brief (usually 15 minutes), stand-up meeting in which all team members answer three questions:

1. What did you do yesterday?
2. What will you do today?
3. Are there any impediments in your way?

All team members are required to attend the Daily Scrum, all team members must participate, and the Scrum Master is charged with ensuring that the meeting adheres to the Scrum methodology. No cell phone conversations (voice or text) are allowed during the meetings, everyone must arrive on time (with only 15 minutes, punctuality is especially important), stand for the full meeting, and participate meaningfully by answering the three questions. In most cases, the Daily Scrum is held in the same room and at the same time each day, ideally in the morning, as it helps set the context for that day's work. It also serves as a point of accountability, as each team member commits to the work they plan to do each day, and the following day they report on whether they accomplished that work.

One item worth noting is that only team members may speak in the Daily Scrum, but anyone else who wants to hear updates is allowed to attend. This may include department managers, VPs, salespeople, or developers from other projects, but they are only allowed to listen, not to speak or interfere in the meeting, and the Scrum Master is authorized and expected to maintain this rule, even if that means letting a VP know that they may voice concerns after the meeting one-on-one, but that the VP is not allowed to derail the meeting or interfere with the team's progress during the Daily Scrum. This level of employee empowerment, and commensurate employee accountability, is a hallmark of the Scrum implementation of agile principles, and the Daily Scrum meeting facilitates relevant, focused communication and trust among team members and the Scrum Master, especially as the Scrum Master resolves impediments holding team members back from delivering their work products.

The Scrum Master and Product Owner roles are the key leadership components missing from the original Agile Manifesto, and including this type of leadership in an agile framework for the management of modern knowledge workers is a crucial factor for success. Both the Scrum Master and Product Owner are committed, participating members of a team, and the Scrum Master further embodies the characteristic traits of a servant leader, as evidenced above – the Scrum Master keeps everything moving forward both by ensuring that the team and outsiders (including senior management not directly committed to the project) adhere to the Scrum framework, and by removing impediments to maximize their team members' productivity and time-on-task. Further, the Scrum Master must demonstrate agile, high-level adaptive and situational leadership, managing self-organizing teams of independent workers, each of whom has a significant impact on the overall team performance when developing daily work products that build upon one another's teammates' products. This is especially the case in highly knowledge-intensive industries, including the financial and healthcare sectors, an area of particular interest to the authors.

When incorporated in a balanced way, using all experience gained, the leadership roles on an agile team result in a higher success rate when judged against the quality variables in the original manifesto. As an example, let us inspect the concept of the value of “responding to change versus the value of following a plan”, the fourth element of the manifesto. It seems a reasonable assertion that both of these elements are important. Most would agree that if you had to choose between the two, responding to change would be more important. However, we also could agree that there are times when following the plan takes precedent over responding to change.

It is precisely at this point that leadership, a concept absent from the original manifesto, becomes the most important element of all. The purpose of a leader on any team would be to identify which of these concepts would dominate at a particular time and space. Therefore, the leader directs and monitors the team as it makes choices between “following the plan” and “responding to change.” Thus, the four concepts on the left are more valued, and leadership should recognize that. The four concepts on the right are also valued at times, depending on the situation, and the high-level, situational leader should recognize and respond to that as well. This contingency approach to leadership has a long history in the management literature. The observations above suggest a new manifesto for knowledge workers proposed in the next section.

PROPOSAL: A KNOWLEDGE WORKER MANIFESTO

A Knowledge Worker Manifesto

We are uncovering better ways of delivering value as knowledge workers. We have come to value:

- I. **Employee Empowerment** over *Processes and Tools*
- II. **Iterative Added Value** over *Comprehensive Documentation*
- III. **Customer Focus** over *Contract Negotiation*
- IV. **Responding to Change** over *Following a Plan*

We value the items on the left more, but recognize that the items on the right have value, as well.

LEADERSHIP is the element that balances these concepts.

FIGURE 1: A KNOWLEDGE WORKER MANIFESTO

Employee Empowerment over Processes and Tools

Giving knowledge workers more autonomy, specifying what is to be done, not how it is to be done, and emphasizing collaboration are hallmarks of employee empowerment.

Iterative Added Value over Comprehensive Documentation

Reducing waste and focusing on iteratively developing the minimum viable product for each stage of the larger product development cycle leads to better deliverables.

Customer Focus over Contract Negotiation

Customer engagement and interaction are crucial in developing and testing each deliverable, providing valuable feedback and input at each stage in the development of a knowledge product.

Responding to Change over Following a Plan

The customer's needs, the team's capabilities, and the business environment can change rapidly in a knowledge worker environment, and teams and their leaders need the flexibility to respond to those changes.

Leadership: The Crucial Element

Product Owners and Scrum Masters in an agile/Scrum knowledge worker environment provide the critical leadership necessary to focus the team on the deliverables for each day and each sprint cycle, to remove obstacles and impediments that might hinder teammates from accomplishing daily goals, and to interact with both customers and team members to ensure that features are being developed that support the customer's needs, even as those needs evolve.

CONCLUSION

The essence of agile relates to a focus on managerial concepts that have existed for a long time. Specifically, employee empowerment, added value or waste reduction, customer focus, and change management. What makes agile unique is twofold. First is the focus on elements that are clearly important while attempting to identify competing elements that are not as important. Second is the

collection of these concepts together as a manifesto. This collection's value for programmers lies in the synergy among these concepts for those whose task is to use knowledge to create a product or service that serves someone else. The creative, highly educated individual in such organizations more often than not prefers management that minimizes bureaucracy, while giving him or her access to the customer in a time sensitive manner, all the while recognizing the contribution he or she makes.

One aspect of this approach that seems missing is motivational, effective leadership. When two concepts are set against each other as in the manifesto the pressure on leadership is obvious. Much of knowledge work in today's world revolves around multifunctional teams. A parallel exists with software developers where the Agile Manifesto was first developed. The team is responsible to create a product that will meet and exceed the customers' needs. The accomplishing of this task requires the balancing of the agile concepts against one another. For example, in the first concept we find, "individuals and interactions over processes and tools." The assertion is made that both sides of this equation are valued, but the one on the left, "individuals and actions", is valued more. If both sides have value and one side is more valuable than the other it requires leadership to choose. In agile teams, this conundrum must come up again and again as a project moves forward. Clearly, this requires a hands-on style of leadership that inspires and directs, yet without micromanaging, while minimizing the impact of paperwork and bureaucracy.

The Agile Manifesto does that better for teams of software developers and their management than any collection of management concepts to date. However, this group of concepts sometimes brings difficulty in implementation. Our suggestion is that a stronger connection with the literature preceding it, coupled with the addition of leadership as a moderating variable would allow for improved implementation and an extension to all knowledge workers. We find that over the last sixteen years since the publishing of the Agile Manifesto a gradual move into the management literature has occurred, first into project management and then progressing into other knowledge management fields including marketing, real estate, and others. The present work could pave the way for more applications among different knowledge worker groups. Also, we believe that further research may also be needed into the varying roles on a Scrum team and the leadership roles found within all three primary roles: Product Owner, Scrum Master and the team itself.

Programmers see this group of concepts and are immediately enamored with them. However, their experience finds quickly that while almost all programming work is under the auspices of agile, programmers still frequently find themselves bogged down in meetings that do not seem agile at all. Frequently they find themselves hampered with poor implementation despite agile talk. Implementation is the job of management leadership and is obvious when not viewed as part of the solution. One programmer said during an interview about agile, "Every meeting and project that I have is agile, but none are!" Leadership is the missing element allowing for successful implementation of agile techniques and methods.

Academics see this group of concepts and are immediately enamored with them. However, they are frustrated by the use of management concepts without recognizing the roots and the extensive research about how these concepts function. They are also frustrated by the ignoring of leadership that seems to exist with the first Agile Manifesto. The frustrations of both practitioners and academics would be lessened by a new manifesto – A Knowledge Worker Manifesto.

FUTURE WORK

We see particular promise in the practical application of the principles of the proposed Knowledge Worker Manifesto to knowledge workers in financial professions and in the health care industry, as well as other knowledge-intensive fields. Our plan is first to survey professionals in both the financial and health care sector who consider themselves to be knowledge workers to determine the extent to which agile knowledge worker concepts are already being implemented in workplaces in both industries.

The next stage of research would be, based on expected gaps found between the survey results and the agile knowledge worker concepts presented here, to provide training and leadership development workshops for mid-level managers in knowledge-intensive industries, beginning with financial sector and healthcare leaders. Our focus is on mid-level managers due to their direct ability to impact teams of knowledge workers, as well as their immediate ability to change the perceived work environment in these industries. Low-level and mid-level managers that directly interact with teams could benefit from training in agile/Scrum methodologies, and from evaluating which components of agile/Scrum development could be incorporated in their own functional working teams. Of chief interest to our research is the adoption of the Daily Scrum stand-up meeting, with each team participant providing the answers to the three questions: what they accomplished yesterday, what they'll accomplish today, and what impediments they have encountered or anticipate that impact their ability to deliver the work they've committed to do. Above and beyond the Daily Scrum meeting itself, the adaptation by agile leaders to assume the role of a true servant leader in the style of the Scrum Master, removing obstacles and resolving impediments to their team's progress – "clearing a path" for their team to maximize each team member's productivity and time-on-task – will be a key research focus. Particularly, two proposed research questions include: "Does the Daily Scrum meeting activity and the assumed role of a Scrum Master by a knowledge worker team leader or manager positively impact the perceived and actual productivity of the team members?", and, "Do these components of agile knowledge worker management positively impact employee engagement and employee satisfaction in knowledge-intensive organizations?"

In addition to further work in management, quality and operations research, the implications of employee empowerment, iterative added value, customer focus, responding to change, and agile leadership reach could reach far beyond these boundaries – for example, recent cybersecurity research suggests that low employee engagement is a significant factor in predicting insider computer crime (Willison & Warkentin, 2013). So-called lean startups based on iterative added value have spawned an entire subculture in entrepreneurship circles. Customer focus and responding to change are well-developed concepts in business disciplines from management to marketing and beyond, and the term "agile" has begun to be applied more frequently to leadership research in the past eight to ten years. The authors propose that the particular matter of preparing leaders in knowledge-intensive organizations to adopt the agile components of employee empowerment (to include self-organizing teams, and particularly the agile/Scrum practices of the short Daily Scrum stand-up meeting) and iterative added value could be the most impactful, and significant additional work is needed in the application of this approach in knowledge worker management.

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APPENDIX A: MANIFESTO FOR AGILE SOFTWARE DEVELOPMENT

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FIGURE 2: MANIFESTO FOR AGILE SOFTWARE DEVELOPMENT (2001)

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