1 INTRODUCTION
Software projects should be about increasing or protecting the profitability of the organisation, by either increasing or protecting revenue, or reducing costs. Agile development projects aim to do this by focusing on business value, improving communication between stakeholders and reducing unnecessary waste.

Currently the agile methodologies [2,3,6,19,20,21,22] are incomplete because they only focus on the development and project management of individual software systems.

Experience shows that there are a number of barriers to success that are not addressed by the developer or project manager. We believe that an additional role is required to help remove these barriers, namely a business coach. Whereas the XP Coach [2] focuses on the development techniques, the Business Coach focuses on the business value. Like the XP coach, the business coach will be involved with development, however their focus will also be wider than an individual project, and involved at an earlier stage before development starts.

2 BARRIERS

“Quite often, the biggest barrier to adopting lean practices is organizational. As products move from one department to another, a big gap often develops, especially if each department has its own set of performance measurements that are unrelated to the performance measurements of neighboring departments [18].”

There are several barriers which impede successful software development within organisations.

2.1 Organisational barriers.
The use of jargon exists within the business domain as well as within the development team. Business jargon tends to be a harder language to learn and difficult for an outsider to learn.

It is not always possible to get sufficient access to “real” business users. For example, traders are reluctant to leave the desk during trading hours but are very keen to leave when the markets close after a 6.30 a.m. start. They will also expect you to communicate effectively in their business language otherwise they will see you as wasting their time.

Organisational politics, whereby a single person or group tries to gain personal advantage, ultimately at the expense of the organisation, can also impede the success of a project. The business in one area may try to exclude another business area, or prevent their involvement in order to further their own requirements, consequently, vital requirements may be missed.

2.2 Lack of business context:
If the software development team does not understand the full context of the business problem that they are trying to solve, they will not understand the value to the organisation of the system they are developing. As a result, their solution can focus on the wrong aspects of the problem. This is often heightened by the fact that developers may be new to the business domain and not only have to learn new explicit knowledge but also the culture and tacit knowledge of the organisation.
2.3 Organisational inertia:

Although senior management supports a new development, the resistance of the business users to change will jeopardise the success of the project. They may cite small problems with a new system in order to resist taking it on. The customer will often ask for their current process to be automated including all its inefficiencies, or their requirements will be for a new system that behaves exactly as their current system. The business will often resist change because they perceive it as problematic or difficult; some managers may feel they will suffer a loss of status or even their job because they feel that their position is based on their superior knowledge of the current systems and processes. The business will often try to undermine a development by claiming that the system has been built by developers who do not understand the business domain and as a result have made it unusable.

2.4 The wrong goals

Often, the IT development will focus on the wrong goals. This may be in form of producing things that can be measured and marked such as documentation so that an analyst can demonstrate their own worth. The real goal should be developers trained to understand the business problems\(^1\). Parallels of this can be seen in UK’s education system where the focus is increasingly on attainment of grades or league table positions and the merits and rewards of learning in a wider sense can be lost. Both business people and IT developers need to be aware of the broader picture.

2.5 Credibility

The business will often regard the IT development team as having little or no understanding of their problems and similarly the IT team will presume that the users have no understanding of their IT issues. As such, each group lacks credibility with the other.

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\(^1\) See Persig [8] for an insight into the true purpose of learning when grades are withheld.

\(^2\) “Muda” is the Japanese for waste [4]. A Muda evangelist is a scourge of waste.
The business coach should also mentor the business to help them understand how to work best with the developers. Figures 1 and 2 shows the interaction and business domain knowledge levels of the business coach, developer and business. Initially, the business coach, having the knowledge to communicate effectively with the business, engages with the business and learns enough to understand the business problem (1). The business coach then trains and mentors the developer(s) to a level at which they can communicate effectively with the business (2). The business coach may then step out of the loop and let the developer communicate directly with the business, which is the ideal (3).

The “deliverable” for a business coach is a trained developer who understands the business domain. This is a stark contrast to the classic business analysis role that delivers documentation. The business coach may produce some documentation to be used as teaching material, to provide “stickiness” to knowledge [1] or for other reasons. The business coach may produce no documentation at all, choosing to coach through face-to-face discussion and sketching diagrams on a white board. The training or knowledge transfer will depend on the type and quantity of knowledge to be transferred and also the developer’s domain knowledge. The business coach will need to provide much less coaching for someone with a number of years experience in the industry than for someone who is new to the domain. This means that a “one size fits all” approach to documentation is inappropriate because it will provide too much material for someone with experience and not enough for someone without any knowledge of the domain.

The business coach should also take into account the learning style of the developer and as a result may need to prepare more documentation if the developer’s learning style requires it. The business coach should use established adult learning techniques such as Kolb’s circle of learning [10], Gardner’s multiple intelligences [11], Meyers Briggs [12], NLP[13] and VAK[14] (Vision, Auditory, and Kinesthetic) to help determine the best teaching approach for each developer. Where the business coach is training a number of developers at the same time, they should ensure they cater for all learning styles by drawing and explaining diagrams, and using examples and exercises, such as building a small prototype. The business coach should be conscious that their learning style might not necessarily be the style of the developer they are training.

Figure 3 shows how the combination of training from the business coach and XP coach should place a developer’s knowledge in the “sweet spot”.

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3 Examples include the documentation required to satisfy Financial Regulators to explain new systems.
Using Alistair Cockburn’s 3 Levels of Listening

Figure 3

Being able to speak to the business knowledgably at the first meeting will improve the developer’s credibility and will result in improved communication and relationships because the developer will be meeting as an “equal” rather than being regarded as someone to whom the business will need to provide basic training. It will be harder to undermine the development by stating that the developers do not understand the business.

The focus on training ensures that the business coach is committed to the developers instead of handing over documentation and then blaming them for not understanding it when they develop the wrong solution.

The role of coach diminishes as the team matures [2].

3.2 Establishing the Business Problem

The business coach should help the business to understand the business problem, and assist in defining the SCOPE of the IT solution as shown in Figure 4.

New business processes, organisational restructuring and cultural changes may be needed as well as an IT system to provide a comprehensive solution to the business problem. For example, implementing a new system for managing customer complaints at a call centre is part of the solution, the business will also need to centralise all the call centre staff and possibly construct a new building to house them.

It is essential that the business coach should have a cross-business view and not be focused on one system or project that is part of the overall solution.

Quite often the business will express their problem or requirements in the form of a solution rather than a problem. The business coach should help the business to identify where the real problem lies and not where they perceive it to be. An illustration of the importance of the lateral thinking needed is shown in the riddle of a man who walks into a bar, asks for a glass of water only to have the barman pull a gun on him. The man says thank you and leaves.

The man had hiccoughs and wanted a cure.

The business coach should understand the business needs a cure for hiccoughs, not a glass of water.

The business coach may not necessarily have as much in-depth knowledge as the business (e.g. the market knowledge of the trader or knowledge of individual counterparts settlement issues), but they should certainly have an understanding of the business across (and outside) of the organization at a level where they can discuss, and argue if necessary, with all
the relevant areas of the business as shown in Figure 5.

![Figure 5](image)

The business coach ‘may’ [15] produce analysis artefacts, although they are used to aid knowledge transfer.

The business coach’s broad domain knowledge (figure 5) is important at this early stage to help tease out the project scope. The business coach plays a key role by asking questions, such as ‘Is this system only for the UK or for many countries?’

Answering these questions (Issue Resolution in the traditional business analysis role) does not need to be performed by the business coach and it may be more effective if done by the developer or business representatives as shown in step 3 of figure 1.

The business coach should challenge any decisions that they consider to be political and ensure that these are ‘known’. The business coach can protect the development from organisational politics by ensuring that the parameters of the project are made clear to the business departments, for example, where a business department has been excluded from the scope of a project by another business department.

This means that any political discussions about scope occur between the business users rather than with the development team in the middle.

3.3 Effective Relationships

Currently the Agile movement focuses on the importance of effective communication. We take this further and believe that a key role of the business coach is to form good relationships between the business and the IT development team. If a good relationship exists between the development team and the business, the business will care more and provide much more quality assistance. The business will be prepared to give more time to the developers and will be more forgiving if they have a good relationship, regardless of the level of communication between them [9].

Just as the XP coach is responsible for the relationships within the development team, the business coach has a responsibility for the relationship between the development team and
the business. As such, the business coach should be adept at identifying and resolving conflicts
[16].

The business coach can help establish the credibility of the IT development team with the business, and vice versa, although they can only do this if they are credible with both groups.

By focusing on building relationships, the business coach will attempt to identify barriers to communication and hopefully reduce politics between the business and the development team.

3.4 Establishing a common language

One of the key ways that the business coach can assist in the communication between the development team and the business, and also between different areas of the business is to establish a common language. Often the business will use their own jargon, and will lack the precision in their descriptions that the IT developers need; the same word can have different meanings according to context and different words can have the same meaning. The business coach will attempt to understand the true meaning of business jargon; the difference between what something means and what it is called [7].

For example, in investment banking, the term “book” can be used interchangeably with “Trader Book”, “Portfolio”, “System Book” or “Trader”. Depending upon the context, these may have the same or different meaning. The business coach will help the business to qualify and clarify their use of language for greater efficiency.

One of the most effective ways to establish a common use of language is to develop a business model. A business model is a simplified entity-relationship or object model. It should be regarded as providing an accurate dictionary of terms. The complexity and subtlety of the business language and the domain knowledge of the developers will determine whether the business coach decides to produce a model.

3.5 Mentoring the business

Often the business people involved in an IT project do not have experience of the type of project being undertaken. As a result, they do not understand how to best work with the development team. The business coach can train the business to get the best out of the development team. The business coach can help the business understand how their role impacts on the project and to focus their efforts on those activities most beneficial to the project. This is particularly key on an agile project that needs more active involvement by the business.

Mentoring the business also improves the relationship between them and IT as they get to understand the issues that IT face and understand why they are sometimes unable to be as responsive as the business would like.

3.6 “Muda” evangelists

“Muda” is Japanese for waste. The word has come to be associated with the abolition of waste, and to refer to activities performed that do not add value and may be regarded as wasteful [4]. The business coach should be “evangelical” about identifying and eliminating “muda” within a project, working with the business and development team to determine tasks that do not add value and remove them.

They should always be looking at ways to improve the business process and encouraging the business to introduce the concept of ‘retrospectives’ following each delivery [17].

4 CONCLUSION

Currently, the agile methodologies are incomplete because they only focus on the development and project management of individual software systems. In order to solve business problems effectively and ensure that the software solution solves key aspects of the business problem, a business coach is required.

The business coach seeks to overcome the many barriers within organisations that threaten the success of a development project. The business coach will ensure that the development team focuses on the correct business goals.

In order to do this, the business coach will need a business perspective across a number of systems rather than purely viewing a system or
project in isolation. The business coach will be someone who is both able to learn and teach, facilitating the transfer of IT knowledge to the business and vice versa in a drive for the greater profitability and efficiency of the organisation as a whole.

The business coach will need to be adept at building positive relationships between departments and at developing the most effective styles of learning and communication, taking into account the peculiar strengths, limitations and requirements of different groups.

The business coach will be solely focused on those tasks that add value to the business and a scourge to waste.

“*The measure of a good coach is how few technical (nee, business) decisions he or she makes: the job is to get everybody else making good decisions*” [2].

REFERENCES