An Assessment of Worker Retention & Job Satisfaction in the Canadian Biotechnology Industry

Conseil des ressources humaines en biotechnologie

Biotechnology Human Resource Council

The Biotechnology Human Resource Council (B.H.R.C.) (2002) Benchmark Retention Study

Worker Retention & Job Satisfaction
Summary Highlights & Analysis

General

- Approximately three quarters (76%) of those surveyed indicate they are satisfied overall with their current employment. Specifically, satisfaction is widest amongst business support workers (86%), followed by R&D (75%) and Research Support workers (67%).

- Although slightly more than one-in-ten (12%) say they are dissatisfied with their current jobs, a much larger proportion (27%) reveal they are "looking for, or thinking of accepting a job with another employer". This group has been labeled "the job-seekers". Workers at this stage are considered to exhibit the strongest levels of dissatisfaction, and for this reason, warrant separate analysis.

- When asked to identify which HR Areas are the most important to them, most biotechnology workers feel that Personal Growth and Compensation are their critical concerns at this time. These tendencies are more pronounced amongst those seeking employment elsewhere.

Satisfaction Summary

- Two-thirds or more of participants indicated they were satisfied with a total of eleven of the thirty eight (29%) HR indicators provided. Specifically, four indicators from "work environment", three indicators from "personal growth", and two each from "recognition & feedback" and "compensation" were among the most frequently cited items by workers. None from "vision and purpose" made this list.   The implication from these results is that these are least likely to be the reasons triggering worker dissatisfaction or job-seeking.

- Meanwhile, less than half of all workers are satisfied with their company's handling of four personal growth and two of the performance feedback and recognition items. Of these, it is worth noting that only about one-third of employees say they are satisfied with the following personal growth indicators: "opportunities for career advancement" (29%), "opportunities for formal training/skill development" (34%), and "opportunities for Professional Development (e.g., conferences) (34%)."

Profile of the R&D worker

- Taken together, the results suggest R&D workers are driven by personal objectives achievement. Those satisfied with their jobs understand what is expected from them and do achieve a sense of accomplishment in their work. By contrast, those who are not satisfied with their current jobs are not satisfied with what is expected from them nor with the sense of accomplishment their work provides.

- In light of the importance R&D workers place on personal objectives achievement, it follows that the perceived quality of management is an important predictor of overall satisfaction. A good manager will help the R&D worker derive a sense of accomplishment by setting clear expectations, whereas a poor one will not. Consequently, dimensions relating to confidence in the leadership, supervisor effectiveness and coaching/feedback are each key contributors to distinguishing the satisfied and dissatisfied R&D worker.

- It also follows that a satisfied R&D worker will sense that there are sufficient staff resources/supports available to ensure that the job they have invested in is completed properly. An organization that fails to provide adequate personnel/supports to properly complete any research undertaking is likely responsible for increasing R&D worker dissatisfaction, because understaffing indirectly impedes the sense of accomplishment, which is critical to their overall satisfaction.

- Satisfied R&D workers also have the sense that their constantly evolving personal objectives are being met, if not directly through the challenges provided by their work, then through some other mechanism provided by the organization. Is there evidence of a commitment to continuous improvement? Are there opportunities for career advancement, professional development and training? Dissatisfied workers appear concerned about stagnating in their current jobs, and their organization's failure to manage their personal growth needs is undoubtedly a key contributor to overall job dissatisfaction.

Management tips intended to help retain the R&D worker

R&D workers exhibit the characteristics of the classic knowledge worker. As a result:

- Set challenging, but achievable milestones for all tasks.

- Whenever possible, introduce new tasks, new research opportunities, new ways of doing things. Any new knowledge, learned on the job through efforts at job enrichment or through formal training, will help maintain satisfaction levels. Try documenting and signing off on a schedule of personal objectives for the coming year. Provide sufficient resources as required.

- Many R&D workers would be pleased to receive verbal feedback. The old axiom "if you don't hear anything, you're doing fine" is dated. Even workers in R&D like to hear a regular word of encouragement from the boss or a colleague.

- Feedback couched within the context of the organization's larger vision might serve as a reminder and tacit motivator.

Profile of Research Support Workers:

- When taken together, most of the factors that appear to distinguish the satisfied from the dissatisfied Research Support worker can be traced to an understanding of one's perceived relevance and value-added to the organization.

- Clearly, most satisfied Research Support workers understand their relevance to their organization (i.e., how their department/group objectives fit with the company mission, how their contributions fit with their group, what is expected from them). No doubt this understanding contributes to the sense of accomplishment derived through their work, the extent to which they find their work interesting and their feeling of pride in their employer.

- However, as the data reveal, the consequences from management inaction in this regard can be numerous. Managers are the people responsible for communicating to these workers how their contributions fit; failure to do so will ultimately trigger dissatisfaction on managerial assessments. It follows that these workers would lack confidence in the company management team and that they would not be satisfied with the amount of supervisor encouragement received. Further, this lack of managerial intervention could also contribute to the sense that they receive insufficient levels of peer recognition while carrying an unclear understanding of what is expected from them.

Management tips intended to help retain the Research Support worker :

- Regularly communicate their value in the organization's system. Remind them that the most important thing is that they keep doing what they're doing. Provide encouragement, not isolation.

- Increase their interaction with/exposure to colleagues who might appreciate their contributions.

Profile of Business Support Workers:

- Business Support workers want effective managers who recognize their work. They also want the resources necessary to properly carry out their work, and they want their employer to invest in them through satisfactory pay, opportunities for professional development and formal training. Overall, this group displays the widest levels of overall job satisfaction.

Management tips intended to help retain the Business Support worker:

- Regularly recognize the importance of their contributions to the operation. A blend of formal (e.g. awards) and informal mechanisms (e.g. well-timed verbal complement) would be appropriate.

- Ask them from time-to-time where extra resources could be invested to improve their ability to do their jobs. Get them to build the business case.

- Find out about their career aspirations and allocate some resources to meet their unique needs.

Profile of the Job-seeker:

Managers should be aware that these are the common indicators associated with the group of job-seekers in the sample. Common items suggest that these failings are the "typical" reasons

why biotechnology workers become dissatisfied and seek work elsewhere. These items are widely held as the most important among job-seekers.

- Of the ten items making this list, five are from personal growth. Large majorities of job-seekers are dissatisfied with the opportunities for career advancement (88%), for formal training (80%) and for professional development (also 80%). Comparable numbers deem these items to be very important to them personally.

- Two items from recognition and feedback are also key concerns. Approximately two-thirds are dissatisfied with their understanding of what is expected of them (67%) and the effectiveness of their immediate supervisor (65%). Even larger percentages said these issues are very important to them.

- Two vision and purpose items also made this list. While eighty per cent (80%) said confidence in leadership of their company's management team was very important, nearly two thirds (64%) revealed their dissatisfaction on this measure. The company's commitment to continuous improvement turned up comparable results.

- Base pay was also a widely held concern (75%) and issue of dissatisfaction among many job seekers (60%). As earlier results suggested, no items from work climate made this list.

Management tips intended to help retain the Job Seeker:

- Many small firms, by virtue of their size, are limited in their abilities to ensure an orderly progression up the corporate ladder. As a trade-off to the lack of opportunity for career advancement, lateral transition, or job-enrichment, used in conjunction with other reinforcers (such as an investment in training and development, good pay) can increase satisfaction and nullify the desire to move on.

- Ensure that the immediate supervisor clearly communicates what is expected from the worker. This requires consistent messaging, a focus on the ends, not the means, and so on.

- Provide vivid and regular evidence of the company's commitment to continuous improvement.

Introduction:

Purpose

The purpose of this report is to help managers better appreciate which factors are:

- the most important to workers across functional areas in the biotechnology industry;

- the best predictors of overall satisfaction and dissatisfaction; and,

- most commonly associated with someone seeking employment elsewhere.

These results and the accompanying analysis can be used to assist managers in developing strategies to satisfy and retain their most important resource: their people.

Method:

Overall, 259 people from nine Canadian biotechnology firms, resulting in a 77% response rate participated in this benchmark study. These data were collected using an on-line survey format between July and December 2001.

Operational definitions:

There are some key terms that require clarification in order to understand this report.

"HR Areas"

For purposes of this study, there were five HR Areas. These are: compensation, work environment, recognition and feedback, personal growth and vision and purpose.

"HR Indicators"

Refers to the battery of survey items that "tap into" each of the five HR Areas. The five HR areas are supported by a total of 38 items.

Compensation: the list of eight (8) items includes base salary, health benefits package, vacation/time off, stock options/purchase plan, profit sharing, commissions, bonuses, retirement benefits.

Work environment: the list of nine (9) items includes work space/office surroundings, physical equipment, resources/research funding, work location, physical security/safety of work site, workplace amenities, availability of staff resources/supports, flexible work hours/working arrangements, accommodation of personal and family obligations.

Performance Feedback and Recognition: the list of six (6) items includes understand what is expected of you, regularly scheduled feedback sessions with your supervisor, the effectiveness of your immediate supervisor, recognition from your peers, recognition from supervisors and management, specific awards in recognition of performance.

Personal growth: the list of eight (8) items includes the level of challenge provided in your work, finding your work interesting or fulfilling, achieving a sense of accomplishment with your work, opportunity for collaboration and teamwork, opportunities for professional development, receiving coaching and encouragement from your supervisor, opportunities for formal training and skills development, opportunities for career advancement.

Vision and purpose: the list of seven (7) items includes the company's ability to communicate clearly its mission or purpose, alignment between the company's mission/purpose and your own personal values, understanding how your department/group objectives fit with the company mission/purpose, understanding how your contribution fits with your department/group objectives, confidence in the leadership of your company's management team, having a feeling of personal pride in the company you work for, working for a company that is committed to continuous improvement in the way it does business.

"Functional areas"

In order to simplify the analysis and presentation of the data, we broke down the 10 job categories into three main functional areas:

R&D: this is the only functional area that maintains a classification of its own.

*Scientific Support r*efers to the job categories that assist R&D, namely, clinical research, quality assurance, quality control and regulatory affairs.

Business Support: refers to the categories related to operating the business, and it includes administration (accounting, HR, investor relations, legal, finance), information systems and sales and marketing positions.

A.   INTRODUCTION: OVERALL SUMMARIES

There are two key findings emerging from this section:

- "Overall job satisfaction" is high across all functional areas; and,
- Personal growth and compensation are the most important areas.

"Overall Satisfaction Spans Across All Functional Areas"

Are workers in some functional areas more likely to be satisfied with their jobs than those in other areas?

Table 1: Measures of overall job satisfaction, by functional area

Overall Indicators	Res. & Develop. (N=117)	Research Support (N=49)	Business Support (N=51)	Overall Avg (N=217)
Job Satisfaction Indicators				
% Overall "satisfied" with their current job	75	67	86	76%
% not looking for a job elsewhere	66	76	73	70%
Job Dissatisfaction Indicators				
% Overall "dissatisfied" with their current job	12	18	8	12%
% looking for a job elsewhere	30	22	25	27%

Table 1 Highlights

- We relied on two survey items to serve as indicators of overall job satisfaction. One of these variables measures a worker's attitude ("overall satisfied with your current job"), while the other measures participant behavior ("looking for, or thinking of accepting a job with another employer.")

- Overall, when these two measures are examined together, they reveal that a large number of workers across all functional areas are satisfied with their current jobs (76%). But the behavioral measure, although more subtle, suggests a wider level of dissatisfaction (27%) among workers.

- Using the attitudinal measure, the proportion of those satisfied with their job (76%) outnumbers those who are dissatisfied (12%) by approximately a 6:1 ratio. As a group, business support workers are most likely to be satisfied (86%), research support the least (67%).

- Although not shown in the table above, approximately one-quarter of those sampled (27%) specifically indicated that they are "very satisfied" with their current job.

- The behavioral measure appears to be a more sensitive measure of job satisfaction. On average, while only twelve per cent (12%) indicate they are dissatisfied with their jobs, more than twice as many (27%) indicate they are currently seeking employment elsewhere. This

ratio is even more striking, approximately 3:1, among R&D workers (30% versus 12%) and Business Support workers (25% versus 8%).

Analysis

Why did so many more workers say they are looking for work elsewhere (27%) than indicate they are dissatisfied with their current jobs (12%)? We posit three explanations for the discrepancy between the behavioral and attitudinal measure results:

- One possibility is that approximately 15% of workers have not yet resolved the attitude-behavior discrepancy (cognitive dissonance): they are satisfied with their jobs but for some reason (or reasons) are still seeking employment elsewhere.

- Another consideration is demand characteristics - perhaps this group of respondents is simply saying they are satisfied because they believe that is what their employer wants to hear. Or looked at another way, these people might prefer to say that although they are satisfied with their job, when specifically asked they will admit to seeking employment elsewhere.

- Yet another possibility is the result of a systematic error in the survey instrument. The middle option on the five point scale is "neither satisfied/dissatisfied". The percentage of respondents selecting this option on the attitudinal question is approximately 12% (the remainder from the 76% saying they are satisfied and the 12% saying they are not). It could be that these respondents interpreted this option as a safe way of expressing job dissatisfaction, given that approximately this number revealed they are seeking employment elsewhere.

No matter what the actual reason, the data support merging those selecting the "neither satisfied/ dissatisfied" option with the "dissatisfied" group on the attitudinal measure for purposes of this analysis. Further, given the between group differences and the elaboration of explanations for these results, the behavioral item (the one that invokes job-seeking), is viewed as the more reliable of the two items tapping real overall satisfaction. From time to time throughout this analysis, various sections, such as the next one, will compare the attitudes and opinions of job seekers to those staying on.

"Personal Growth and Compensation are the Most Important HR Areas"

How important are the various HR Areas to participants?

Table 2: Percent indicating each HR area is "very important" a comparison between job seekers and those staying on

HR Area	Staying On (%) (N=68)	Job Seeker (%) (N=178)
Personal Growth	83	87
Work Climate	82	75
Compensation	70	69
Feedback & Recognition	70	68
Vision & Purpose	59	62

Table 2 Highlights

- Overall, a total of 68 (26% of) respondents indicated they are currently looking for, or thinking of accepting a job with another employer. All were asked to assess how important they felt each of the five HR Areas is to them personally.

- When comparing those intending to stay on with those indicating they are looking for another job, the proportions from each group who consider these areas to be "very important" is strikingly similar.

- Although personal growth is seen to be "very important" to the widest numbers of those participating, large majorities feel that each of these HR Areas is very important.

Participants were specifically asked: Among these five HR areas, which one is of greatest importance to you at this particular moment? Which is next most important?

Table 3: Ranking importance of the five HR areas a comparison between job seekers and those staying on

HR AREA	STAYING ON			JOB SEEKER		
	% Ranking Item as ...		**Combined Totals**	% Ranking Item as…		**Combined Totals**
	Most Important	Second Most Important		Most Important	Second Most Important	
Personal Growth	32%	27%	**59%**	37%	37%	**74%**
Compensation	22	30	**52**	26	35	**61**
Work Environment	29	19	**48**	14	14	**28**
Feedback & Recognition	11	17	**28**	17	11	**28**
Vision & Purpose	6	7	**13**	6	3	**9**
TOTALS	100%	100%	-	100%	100%	-

Table 3 Highlights

- Anticipating that many would indicate all five HR Areas are "very important" (see Table 2, above), participants were asked to identify which one area is of greatest importance to them at this time. As a follow-up, they were also asked which of the remaining four areas is next most important to them.

- Personal growth is the area viewed as either the "most" or "second most" important among a majority of both job seekers (74%) and those intending to stay on (59%). Compensation was also among the top issues for a majority of both job seekers (60%) and those intending to stay on (52%).

- The biggest split between the groups occurred on the question of the work environment. Work environment was one of the two most important issues for approximately half of those intending to stay on (48%), but this was the case for only about one quarter (28%) of job seekers.

- The combined totals regarding feedback and recognition (28% for each group) and vision and purpose (13% for those staying compared with 9% among job seekers) were similar.

B. ANALYSIS ACROSS FUNCTIONAL AREAS

The purpose of this section is to determine whether there are any similarities or differences regarding overall job satisfaction and dissatisfaction amongst workers in each of the three functional areas.

The following are examined in this section:
- indicators receiving the widest and least levels of satisfaction;
- a summary of the largest satisfaction differences between the functional groups; and,
- key indices of overall job satisfaction & dissatisfaction for R&D workers, Research Support Workers and Business Support Workers.

Taken together, the data suggest that there are different indicators of satisfaction and dissatisfaction for each of the three functional groups.

"Satisfaction is Widespread for Some Items..."

Let's begin with the good news! There are numerous factors that account for why workers are satisfied with their jobs.   Put another way, Table 4 identifies the indicators that most workers are not likely to cite as reasons for changing jobs.

Table 4: Indicators receiving the widest overall satisfaction across biotech firm functional areas

HR Area	Indicator	Res. & Develop. (N=117)	Research Support (N=49)	Business Support (N=51)	Weighted Average N/217
Personal Growth	Finding your work interesting or fulfilling	81	55	86	76
Work Environment	Physical Security/safety of work site	78	67	78	76
Personal Growth	Level of challenge provided in your work	80	69	65	74
Compensation	Health Benefits	75	70	66	72
Work Environment	Work Location	68	76	76	72
Work Environment	Physical Equipment (quality/avail of labs, computers)	74	65	73	72
Personal Growth	Achieving a sense of accomplishment with your work	71	61	82	71
Recognition & Feedback	Regularly scheduled feedback sessions with supervisor	75	67	67	71
Work Environment	Work space/office surroundings	65	76	76	71
Recog & Feedback	Recognition from peers at work	71	61	67	68
Compensation	Vacation	68	55	75	67

Table 4 Highlights

- Overall, a solid majority (at least two-thirds or more) of workers are "very" or "somewhat" satisfied with eleven of the thirty-eight items provided in the questionnaire However, looked at another way, these results also provide *prime facie* evidence that there are several indicators where a majority of workers is simply indifferent towards or not satisfied with certain aspects of their current jobs.

- Specifically, four indicators from "work environment", three indicators from "personal growth", and two each from "recognition & feedback" and "compensation" were among the most frequently cited items by workers. None from "vision and purpose" made this list.

- Large numbers of R&D employees are satisfied with two personal growth indicators: how fulfilling they find their work (81%) and the level of challenge it provides them (80%). On this latter indicator, R&D employees compare favorably to the other functional groups. However, they are less likely to be satisfied with two work environment measures: work location and work space/office surroundings.

- Similar to their R&D colleagues, those in Business Support roles demonstrated the widest satisfaction for two personal growth indicators: how interesting they find their work (86%) and achieving a sense of accomplishment with their work (82%). Business Support workers deviate from their colleagues in other functional groups along three dimensions: on the one hand, they are more likely to achieve a sense of accomplishment with their work and to be satisfied with their vacation time. On the other hand, they are less likely to be satisfied with the level of challenge their work offers them.

- By contrast, those in the research support roles differed markedly in both their job satisfaction levels and indicators as a group. Along nearly all dimensions, the range of those in the research support functions indicating they are satisfied with these indicators is among the lowest of the three functional groups. For example, on the upper end of the range, equal proportions are very satisfied with two aspects of their work environment: about three-quarters are very satisfied with their work location (76%) and work space/office surroundings (76%). Compared with the wide satisfaction levels of their R&D and business support colleagues, just over one-half (55%) in research support are satisfied with the level of fulfillment their work gives them. Also on the lower end was the proportion satisfied with their vacation time (55%).

"… and Quite Thin for Others."

There is a handful of measures which garner thin overall levels of satisfaction. Whether or not these results translate into overall job dissatisfaction is unknown at this point. But given the importance of personal growth related items to so many workers, some of these issues are undoubtedly on their minds.

Table 5: Indicators with the least overall satisfaction across biotech firm functional areas

Area	HR Indicator	Res. & Develop. (N=117)	Research Support (N=49)	Business Support (N=51)	Weighted Average N/217
Personal Growth	Opportunities for career advancement	30	25	31	29
Personal Growth	Opportunities for formal training/skill development	34	31	37	34
Personal Growth	Opportunities for Professional Development (e.g., conferences)	30	33	42	34
Recognition & Feedback	Specific awards in recognition and performance	43	39	49	43
Personal Growth	Receiving coaching/encouragement from your supervisor	55	41	39	48
Recognition & Feedback	Effectiveness of immediate supervisor	52	47	39	48

Table 5 Highlights

- Table 5 identifies the indicators with which less than half of all biotech workers sampled indicate they are satisfied. There were a total of six indicators emerging, four from personal growth and two from recognition and feedback.

- Few R&D workers, approximately three-in-ten, are satisfied with various indicators of personal growth offered by their existing organizations. These include the personal opportunity for career advancement (30%), opportunities for professional development (also 30%) and opportunities for formal training (34%).

- Similar patterns emerge among research support workers. For example, only one quarter is satisfied with the opportunities for career advancement offered by their firm. Approximately one-third are satisfied with the opportunities for formal training (31%) or professional development (33%) made available to them.

- Those in business support exhibit similar proportions on these indicators. But what is noteworthy is the degree to which they differ from their R&D colleagues on a couple of the other measures. While a slight majority of R&D workers is satisfied with the coaching/encouragement received from their supervisors (55%) and the effectiveness of their immediate supervisor (52%), approximately four-in-ten business support workers share these sentiments.

"On Other Measures, there is a large discrepancy Between the three functional areas"

Having reviewed the areas of common satisfaction and dissatisfaction, Table 6 begins to look at the indicators where the largest between group differences emerge. If anything, these results reveal that business support workers are satisfied with so many elements of their jobs, while research support workers are decidedly mixed.

Table 6: Summary of the largest satisfaction differences between functions

HR Area	HR Indicator	Res. & Develop. (N=117)	Research Support (N=49)	Business Support (N=51)	Range
Work Environment	Resources/research funding	**68**	57	**35**	33
Personal Growth	Finding your work interesting or fulfilling	81	**55**	**86**	31
Vision & Purpose	Have a feeling of personal pride in the company	62	**51**	**76**	25
Personal Growth	Opportunity for collaboration and teamwork within your group	60	**49**	**73**	24
Work Environment	Accommodation of personal and family obligations	**61**	65	**84**	23
Personal Growth	Achieving a sense of accomplishment with your work	71	**61**	**82**	21
Personal Growth	Level of challenge provided in your work	**80**	69	**65**	15
	Functional Averages	**69**	**58**	**72**	

Table 6 Highlights

- In Table 6, we pinpoint the indicators where members of the three job functions displayed the largest between group differences. There are seven indicators where the between group difference was fifteen per cent (15%) or greater. The highest and lowest percentages are bolded for each indicator.

- The Business Support group was at an extreme end of the range for all seven indicators. Along five of the dimensions, they are the group displaying the widest level of satisfaction, for the remaining two, the least.

- Average support for these seven indicators was widest among business support (72%) and lowest among the research support group (58%).

- There were four indicators where the greatest differences emerged between the research support and business support groups. In each of these cases, it is members of the business support group revealing the wider levels of satisfaction. These indicators were "finding your work interesting or fulfilling" (31% difference); "having a feeling of personal pride in the company" (25%); "opportunity for collaboration and teamwork" (24%); and "achieving a sense of accomplishment with your work" (21%).

- On three indicators, the business support group satisfaction levels contrasted most widely with the R&D group. And in two instances it was the R&D group that appeared comparatively more satisfied. In particular, by almost a two-to-one margin, those in R&D expressed satisfaction with the level of resources/research funding available to them. This indicator produced the widest satisfaction range that occurred between any two groups, a difference of 33 per cent.

- On the flip side, more Business Support workers were inclined to indicate they are satisfied with their firm's willingness to accommodate their personal and family schedules, when compared with those in R&D (a 23% difference).

If anything, these tables suggest that an examination of the key satisfaction predictors for each functional area is warranted. We turn to these tables now.

"There are Unique Satisfaction Predictors for Workers in Each Functional Area"

The decision calculus that guides workers in their job satisfaction assessments is undoubtedly complex. It is obvious that some predictors of overall satisfaction or dissatisfaction will vary in importance. But are there some factors that are consistent for members within certain functional areas?

Our analysis does detect some unique consistencies within each functional group.

But the key is in the interpretation. In interpreting these results, we carefully examine each of the key indicators on their own and in conjunction with the others in order to contextualize patterns that may emerge.

Below is a high-level summary of findings:

- The richest set of data, in part based on their sample size, in part based on their consistency as a group, emerges from the R&D group. The data suggest R&D workers are driven by personal objectives achievement.

- When taken together, most of the factors that appear to distinguish the satisfied from the dissatisfied Research Support worker can be traced to an understanding of one's perceived relevance and value-added to the organization.

- Business support worker job satisfaction is widest of the three functional groups. As a result, it is very difficult to pinpoint specific areas of satisfaction and dissatisfaction. Nevertheless, Business Support workers satisfaction, or a lack of it, appears strongly related to effective management who recognizes their work.

Tables 7, 8 and 9, below, provide a summary of findings followed by in-depth analysis for each of the three functional groups.

Table 7: R&D Workers[1] key indices of overall job satisfaction & dissatisfaction

Area	HR Indicator	% Satisfied with Job & with HR Indicator (N=88)	% Dissatisfied with Job* & with HR Indicator (N=29)
Strong Predictors			
Personal Growth	Achieving a sense of accomplishment at work	84	66
Feedback & Recognition	Understand what is expected of you	68	83
Moderate Predictors			
Compensation	Base Salary	73	66
Vision & Purpose	Commitment to continuous improvement	69	72
Vision & Purpose	Confidence in leadership of company's management team	67	72
Work environment	Availability of staff resources/ support	68	69
Feedback & Recognition	Effectiveness of immediate supervisor	61	72
Personal Growth	Receiving coaching and encouragement from your supervisor	62	65
Personal Growth	Opportunities for career advancement	40	97
Personal Growth	Opportunities for formal training	43	90
Personal Growth	Opportunities for professional development	37	90

* those selecting the "neither satisfied nor dissatisfied" option (N=15) were included in these numbers in order to increase the size of the cell number for comparison purposes.

Table 7 Highlights

- This table shows how certain predictors are widely viewed as "satisfactory or better" among those satisfied with their jobs, while simultaneously being viewed as a "unsatisfactory or worse" among large numbers of those who are currently not satisfied with their jobs.

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[1] The data in this table identifies strong and moderate predictors of satisfaction/dissatisfaction simultaneously. First, it divides the R&D sample into those who are satisfied with their jobs from those who are not. Among those who are satisfied with their jobs, we sought the largest numbers who are satisfied with each of the thirty-eight indicators. At the same time, among those who are dissatisfied with their jobs, we wanted to identify those indicators where the largest numbers are dissatisfied with each measure. This is logic of co-relation analysis. For indicators where the combined percentages of the two columns is 150 or greater, then that indicator is considered a strong predictor of whether someone in the functional area is job satisfied or not. A level of 150 or greater would suggest that, on average, 75% of satisfied and 75% of dissatisfied workers are satisfied or dissatisfied with that measure respectively (unweighted). A moderate predictor was defined as the combined percentages of the two columns falling between 125-149. The weighted averages of all indicators included in this analysis is at least 50%, meaning that at least half of all R&D workers fall into one of these two categories. Because those who are satisfied outnumber those who are dissatisfied with their jobs by nearly a 3:1 margin, indicators are presented in order of their weighted outcomes, not simply the combined numeric totals of the values present in table. The ratio of satisfied to dissatisfied is much larger for the other functional areas. Given their smaller sizes, this makes comparison difficult. For these reasons, the numeric results are not emphasized in the table highlight bullets written beneath. The rules described above govern the treatment of the data in Table 8 (Research Support) & Table 9 (Business Support) as well.

- There are two strong predictors of job satisfaction among R&D workers. "Achieving a sense of accomplishment at work" and "understanding what is expected of you" distinguished the largest numbers of satisfied and dissatisfied R&D workers.

- Those who feel that their personal and organizational objectives are being met are also satisfied with their pay and their jobs. Those who feel these are not being met are also not satisfied with their base salary nor their current jobs.

- Three of the top six moderate predictors relate to management assessments. Those satisfied with their jobs are more likely to have confidence in the leadership of the management team, more likely to find their immediate supervisor effective, and receive the necessary coaching and encouragement from their supervisors. On each of these three measures, those who are not satisfied with their jobs would also indicate they are not satisfied with each of these three dimensions.

- Stagnating is another theme that seems to distinguish the satisfied form the dissatisfied R&D worker. A commitment to continuous improvement, opportunities for career advancement, training and professional development are, in particular, key predictors of job dissatisfaction.

- R&D worker satisfaction is also strongly related to the availability of staff resources/supports.

Analysis

- Taken together, the strong predictors suggest R&D workers are driven by personal objectives achievement. Those satisfied with their jobs understand what is expected from them and do achieve a sense of accomplishment in their work. By contrast, those who are not satisfied with their current jobs are not satisfied with what is expected from them nor with the sense of accomplishment achieved from their work.

- In light of the importance R&D workers place on personal objectives achievement, it follows that the perceived quality of management is an important predictor of overall satisfaction. A good manager will help the R&D worker derive a sense of accomplishment by setting clear expectations, whereas, in their minds, a poor one will not. Consequently, dimensions relating to confidence in the leadership, supervisor effectiveness and coaching/feedback are each key contributors to distinguishing the satisfied and dissatisfied R&D worker.

- It also follows that a satisfied worker will sense that there are sufficient staff resources/supports available to ensure that the job they have invested in is completed properly. An organization that fails to provide adequate personnel/supports to properly complete any research undertaking is likely responsible for increasing R&D worker dissatisfaction. Why? Because understaffing indirectly impedes the sense of accomplishment, which is critical to their overall satisfaction.

- Satisfied R&D workers also have the sense that their constantly evolving personal objectives are being met, if not directly through the challenges provided by their work, then in some other form provided by the organization. Is there evidence of a commitment to continuous improvement? Are there opportunities for career advancement, professional development and training? Dissatisfied workers, in particular, appear concerned about stagnating in their current jobs, and their organization's failure to manage their personal growth needs is undoubtedly a key contributor to their overall job dissatisfaction..

- And the ultimate measure? Base salary. For those who feel that their current job is meeting their needs, their pay is satisfactory. However, for those who are dissatisfied, likely for the reasons enumerated above, pay is but another cause of dissatisfaction.

Table 8: Research support workers key indices of overall job satisfaction & dissatisfaction

Area	HR Indicator	Satisfied with Job & with HR Indicator (N=34)	Dissatisfied With Job* & with HR Indicator (N=15)
Strong Predictors			
Vision & Purpose	Understand how your department/group objectives fit with the company mission	82	73
Personal Growth	Achieving a sense of accomplishment with your work	79	73
Vision & Purpose	Understand how your contribution fits with your group's objectives	79	73
Vision & Purpose	Feeling of personal pride in the company you work for	70	86
Moderate Predictors			
Feedback & Recog	Recognition from peers at work	76	66
Feedback & Recog.	Understand what is expected of you	70	73
Personal Growth	Finding your work interesting or fulfilling	70	73
Vision & Purpose	Confidence in the leadership of your company's management team	67	73
Compensation	Vacation/time off	66	67
Personal Growth	Receiving coaching and encouragement from your supervisor	55	87
Personal Growth	Opportunities for career advancement	33	93

* those selecting the "neither satisfied nor dissatisfied" option (N=6) were included in these numbers in order to increase the size of the cell number for comparison purposes.

Table 8 Highlights

- This table shows how certain predictors are widely viewed as "satisfactory or better" among those satisfied with their jobs. At the same time, it highlights indicators being viewed as a "unsatisfactory or worse" among large numbers of those who are currently not satisfied with their jobs.

- Three of the four top predictors are from vision & purpose.   "Personal pride", and understanding how they fit are important predictors of satisfaction to the Research Support worker (measured by either how their work contributes to their group, or how the group's work contributes to the company's mission).   Undoubtedly these interact with the remaining variable, the sense of accomplishment felt through their work.

- Two feedback & recognition items are leading moderate predictors of satisfaction. These are "recognition from peers at work" and "understand what is expected of you."

- Three personal growth indicators also made this list: "Finding your work interesting or fulfilling","coaching and encouragement from supervisor" and opportunities for career advancement".

- There was also confidence in the leadership of management and one compensation measure, vacation/time off.

Analysis

- When taken together, most of the factors that appear to distinguish the satisfied from the dissatisfied Research Support worker can be traced to an understanding of one's perceived relevance and value-added to the organization.

- Clearly, most satisfied Research Support workers understand their relevance to their organization (i.e., how their department/group objectives fit with the company mission, how their contributions fit with their group, what is expected from them). No doubt this understanding contributes to the sense of accomplishment derived through their work, the extent to which they find their work interesting and their feeling of pride in their employer.

- However, as the data reveal, the consequences from management inaction in this regard can be numerous. Managers are the people responsible for communicating to these workers how their contributions fit; failure to do so will ultimately trigger dissatisfaction on managerial assessments. It follows that these workers would lack confidence in the company management team and that they would not be satisfied with the amount of supervisor encouragement received. Further, this lack of managerial intervention could also contribute to the sense that they receive insufficient levels of peer recognition while carrying an unclear understanding of what is expected from them.

Table 9: Business support workers key indices of overall job satisfaction & dissatisfaction

Area	HR Indicator	Satisfied with Job & Indicator (N=44)	Dissatisfied* With Job & Indicator (N=7)
Strong Predictors			
Feedback & Recognition	Recognition from your peers at work	77	86
Vision & Purpose	Confidence in leadership of management team	71	86
Compensation	Base salary	66	100
Feedback & Recognition	Understand what is expected of you in your job	61	100
Moderate Predictors			
Feedback & Recognition	Specific awards in recognition of performance	56	86
Personal Growth	Opportunities for professional development	49	100
Personal Growth	Receiving coaching/encouragement from supervisor	46	100
Feedback &	Effectiveness of immediate supervisor	43	86

Recognition			
Personal Growth	Opportunities for formal training/skills development	41	100
Work Environment	Resources/research funding	41	86

* those selecting the "neither satisfied nor dissatisfied" option (N=3) were included in these numbers in order to increase the size of the cell number for comparison purposes.

Table 9 highlights:

- Business support worker job satisfaction is widest of the three functional groups. As a result, it is very difficult to pinpoint specific areas of satisfaction.

- Six of the top ten indicators of business support worker satisfaction revolve around either management assessments or recognition for their input.   Those satisfied with their jobs have confidence in the leadership of the management team, understand what is expected of them, receive coaching from supervisors and find their immediate supervisors effective. They are also satisfied with the level of peer recognition and formal awards in recognition of performance.

- Most of those satisfied with their jobs are also content with their current base salary. Nearly half are satisfied with the opportunities for professional development and formal training provided.

Analysis

- Business Support workers want effective managers who recognize their work. They also want the resources necessary to properly carry out their work, and they want their employer to invest in them through satisfactory pay, opportunities for professional development and formal training.

C. PROFILE OF THE JOB SEEKER

Is there a relationship between the importance of an HR Area and whether someone will stay on or not?

When people rank issues in terms of their relative importance, the question then becomes how satisfied they are with the way their priority needs are met. If they are generally satisfied with the way their most important concerns are being handled, it is likely they are overall quite satisfied with their current job.

However, the opposite should also tend to hold: those not satisfied with the issues they consider to be the most important are more likely to be dissatisfied with their jobs overall.

We examine this relationship on an aggregate level in Table 10, below.

Table 10: A comparison between job seekers and those staying on. The relationship between importance and satisfaction levels of support

Importance Ranking Based on Breadth of Support	HR Area	Staying On (% Very Satisfied)	Job Seeker (% Very Satisfied)	Difference
#1	Personal Growth	68	41	27
#2	Compensation	63	37	26
#3	Work Environment	87	66	21
#4	Feedback & Recognition	63	38	25
#5	Vision & Purpose	70	38	32
Overall Job Satisfaction		**86**	**46**	**40**

Table 10 Highlights

- Table 10 compares job seekers with those intending to stay on who are very satisfied with the various HR Areas. The results for each HR Area are presented in descending order, based on the overall importance rankings emerging from Table 3.

- While almost nine-in-ten (86%) of those staying on are also very satisfied with their existing employment, only about half of those seeking employment elsewhere (46%) also indicate they are very satisfied with their current jobs.

- In spite of their intentions to move on, typically about four-in-ten job seekers are still very satisfied with at least one of the five HR areas. However, among those staying on, about seven in ten are very satisfied with each of the HR Areas on average.

- Personal growth and compensation issues are not only very important to much larger percentages of those seeking employment elsewhere, but these areas are also among those with the greatest differences in support between the two groups. Apart from vision & purpose, which netted a 32% difference, the largest differences in support were in personal growth (27%) and compensation (26%).

- Work environment is not only very important to a disproportionate number of those intending to stay on in their jobs, but it is the area where the widest numbers are very satisfied (87%) as well.

Analysis

- It is readily apparent that, for the most part, biotechnology workers are quite satisfied with their current jobs. Many managers have obviously been able to identify the most important needs of their workers and have done enough, at least at this time, to satisfy those personal requirements.

- As Table 4 earlier underscored, we learn very little by focusing on the causes of employee satisfaction, because we know that the majority of workers view each of them as very important, and that most are generally satisfied with their jobs and the various HR areas. In short, whichever factors these workers deem important are also those which management is doing satisfactory on.

However, there may be some insight gained by examining those who are not satisfied with the status quo - that is, by isolating the job-seekers and by pinpointing factors they deem important, yet are generally not satisfied with.

Table 11: Items combining greatest importance and widest dissatisfaction among those seeking work elsewhere (N=68)

HR Area	HR Indicator	Dissatisfied with Item (%)	Yet the item is "Very Important" to … (%)
Personal Growth	Opportunities for career advancement	88	85
Rec. & Feedback	Understand what is expected of you	67	91
Personal Growth	Opportunities for formal training/skill dev	80	74
Personal Growth	Opportunities for Professional Development (e.g., conferences)	80	68
Vision & Purpose	Confidence in leadership of your company's management team	64	80
Rec. & Feedback	Effectiveness of your immediate supervisor	65	77
Compensation	Base Salary	60	75
Personal Growth	Finding your work interesting or fulfilling	43	90
Personal Growth	Receiving coaching/encouragement from your supervisor	70	60
Vision & purpose	Committed to continuous improvement in the way it does business	62	66

Table 11 Highlights

- By concentrating on job-seekers as a group, we can find out what is important to them and where managers are failing to satisfy their needs. Common items among them would suggest that these failings are the "typical" reasons why biotechnology workers become dissatisfied and seek work elsewhere. Items whose combined support is 125 or greater were included in the above table. The higher the combined score, the greater the probability of overlap (and overall predictability)

- Of the ten items making this list, five are from personal growth. Large majorities of job-seekers are dissatisfied with the opportunities for career advancement (88%), for formal training (80%) and for professional development (also 80%). Comparable numbers deem these items to be very important to them personally.

- Two items from recognition and feedback are also key concerns. Approximately two-thirds are dissatisfied with their understanding of what is expected of them (67%) and the effectiveness of their immediate supervisor (65%). Even larger percentages said these issues are very important to them.

- Two vision and purpose items also made this list. While eighty per cent said confidence in leadership of their company's management team was very important, nearly two thirds (64%) revealed their dissatisfaction on this measure. The company's commitment to continuous improvement turned up comparable results.

- Base pay was also a widely held concern (75%) and issue of dissatisfaction among many job seekers (60%). As earlier results suggested, no items from work climate made this list.